Connecting the Dots:

Data Use in Afterschool Systems

Julie Spielberger

Jennifer Axelrod

Denali Dasgupta

Christine Cerven

Angeline Spain

Amelia Kohm

Nicholas Mader

ChapinHall
at the University of Chicago

Commissioned by:

The Wallace Foundation®

Connecting the Dots:

Data Use in Afterschool Systems

Table of Contents

List of Figures

List of Tables

EXECUTIVE SUMMARY

Afterschool programs—programs for children and youth that happen regularly after school on weekdays, weekends, and during the summer—aim to keep young people safe and to foster skills needed to succeed in school and life. As concerns about children's well-being and the quality of education in low-income communities have mounted, cities are increasingly implementing strategies to ensure that afterschool programs are high quality and widely available. To this end, a growing number of cities have invested in afterschool systems to coordinate disparate programs and funding streams. A primary function of most afterschool systems is to develop and maintain a data system, which allows the afterschool system to collect, analyze, and apply data to accomplish its goals.

With support from The Wallace Foundation, nine cities across the country are participating in the Next Generation Afterschool System-Building Initiative, a multi-year effort to strengthen the systems that support access to and participation in high-quality afterschool programs for low-income youth.

The nine cities were selected in part because they already had a solid foundation for an afterschool system that included strong city leadership and mayoral commitment. This interim report documents how these cities used data to inform and improve their afterschool systems over a two-year period from 2012 through 2014. It is important to note that these system-building and data system development efforts are continuing, and the findings presented here are current as of the end of 2014. A second report will be produced at the end of the study in 2017.

Information for the report was drawn from an analysis of city documents, site visits, and interviews with key stakeholders, observations of selected trainings and meetings related to data use, and attendance at three, cross-city grantee meetings in fall 2013, spring 2014, and fall 2014. Over the first two years of the study, the nine cities engaged in a wide variety of activities to develop their capacity to use data. They did this primarily through investments in three components that make up a data system: people, processes, and technology. The current study is guided by the overarching idea that data use is a meaning-making activity that involves people and processes as well as technology.

To date, research on data use in afterschool systems has focused more on implementation of technology; that is, management information systems (MIS)[1] and the purposes for which those systems were used, rather than on what it takes to develop and sustain effective data use. The current study focuses especially on the people and processes that intersect with technology in a data system and the nature of the relationships among these three aspects in the development of the capacity for data use.

This report discusses the current capacity of city afterschool systems to collect and use data to inform their decisions and system-building activities.

It also describes the common strategies system stakeholders have used to develop that capacity, the contextual factors that affect data use, and perceptions of the value of data use to improve afterschool program quality, access, systems, and youth outcomes. The report highlights some of the challenges the cities have encountered as well as the progress they have made in choosing outcomes for their data systems; designing the technology to help manage, collect, and analyze data; and engaging stakeholders in the process.

Key Findings

Developing the capacity to use data depends as much on people and processes as it does on technology. Consistent with prior research, the nine cities in this study recognize the value of system building as a way to improve program quality and increase access to and participation in high-quality programs among low-income youth. They also recognize the need for information about whom they are serving and whether specific strategies are resulting in better program quality and more equitable access to high-quality programs. To address that need, the cities in this study have invested significant resources in data systems to support the improvement of their afterschool systems and programs.

At the time of this report, these cities were in various stages of collecting and using data to inform their afterschool system building, improve program quality, and make decisions about the allocation of resources. They viewed the development of the capacity for data use as an important part of their system building, but they were still developing their capacity. Efforts to identify what data are needed, how to collect and organize these data, how to build or obtain the human capital or expertise to develop the system, and how to develop and sustain effective ways to apply these data to real world challenges, have been complex and challenging.

---

1. MIS refers to both a management information system and systems.

- The purposes for investing in these data systems are similar across cities. City afterschool systems particularly seek data about program supply and demand, characteristics of participating youth, program quality, and program effects on youth. They use data to manage programs, to fulfill accountability and contract requirements, to make decisions about how to improve program quality, to improve the allocation of resources and availability of services in underserved communities, and to identify children and youth who might need additional services that afterschool programs can provide.

- Although the purposes for data are similar to those in earlier research, the context for data use is constantly changing. City afterschool data systems are continuing to evolve in response to new knowledge and technology, new priorities for cities and their afterschool systems, renewed focus on performance management and the use of data to drive decisions, and transitions in city and school leaders who support the afterschool system.

- In selecting indicators and outcome measures for their data systems, city afterschool leaders wanted them to be useful and actionable for multiple stakeholders, including providers, school staff, and city leaders. Some of the nine cities were making progress towards developing and supporting a "culture of data use" through training in data visualizations, data interpretation, and quality improvement cycles. However, even cities further along in the development of their data systems were still learning how to present the data in formats that can be understood broadly and applied to improve program quality and youth outcomes.

- Stakeholders in all nine cities have invested in processes to improve program quality. At the end of 2014, six of the nine were collecting data about program quality using formal assessments designed for that purpose. Five of the nine afterschool systems were beginning to use data as part of a continuous improvement cycle by helping providers interpret the data to support change at the program level. However, there was little evidence of the use of data as part of a continuous cycle of inquiry to improve the afterschool system as a whole.

- City afterschool systems are still developing and refining their measurement strategies to accurately reflect their effects and outcomes. Stakeholders in more than half of the cities expressed interest in collecting social-emotional indicators as well as, or instead of, academic measures, and most viewed such indicators as more appropriate to the expected outcomes of afterschool programs. In some instances, because measures of social-emotional competencies were still being developed and did not easily align with the outcomes sought by school districts or city leaders, it was challenging to incorporate these indicators into their systems.

- Building the capacity to use data is not an easy or a straightforward process and requires time, patience, persistence, and flexibility. Most of the study cities found that they were shifting course several times during the processes of selecting data elements and technology for collecting and managing the data. They also experienced common challenges of outdated technology that was inadequate to meet their data needs or too costly to replace or upgrade. Other challenges came with changes in city or system leadership and goals, the availability of new technology, or turnover in key personnel. These challenges indicate that a data system, much like the afterschool system itself, needs the ability to accommodate and adapt to change.

Emerging Strategies

Although it is premature to specify strategies that have worked especially well across this group of afterschool systems, there were similar themes in how they approached the development of their data systems.

- Earlier stages of development focused on identifying purposes for data use and designing and implementing management information systems (MIS) technology, followed by the development of training and other processes around that technology. From there, at least in five cities, evidence showed that the use of data for learning and improvement as part of a cycle of inquiry was starting to deepen the commitment to a data-driven approach and guide the growth of the data system.

- One theme in the activities of a number of cities was to intentionally start small with a limited set of goals for data collection and use, and/or a limited set of

providers piloting a new data system, with plans to scale up gradually.

- Research and data expertise was essential to developing data systems. Expertise came from within as well as outside the intermediary organization coordinating the initiative. Three cities contracted with outside research partners through all phases of the development of their data systems, from establishing an MIS to producing reports. Three other cities did so for more limited purposes, primarily the analysis and reporting of data collected by providers. There was some indication that cities in which research partners played more wide-ranging roles in establishing their data systems and assisting in the analysis and use of data made more progress than cities in which research partners had more limited roles. We will be following this theme in the next phase of the study.

Conclusion

The Next Generation cities have many purposes for their data systems and varied strategies for achieving them based on available people, processes, and technology resources of their afterschool system. They assessed needs for data based on the goals of system partners and a broader city agenda. In selecting data to be collected, they were attentive to the goals and information needs of a diverse group of providers and other stakeholder groups, and they complied with the requirements of federal privacy laws governing the use of data when partnering with school districts, while choosing measures and indicators to capture the potential outcomes of a heterogeneous group of afterschool programs in their cities. They evaluated their existing data systems and identified limitations, costs, and tradeoffs to make decisions about technology that would give users of various levels access to meet their needs. They established policies, practices, and structures such

as working groups and committees to support access to data and effective data handling. The cities sought to hire qualified staff with both technical expertise and the ability to communicate the value of—and expectations for—data use to various audiences, including but not limited to, front line staff, agency directors, and funders. They invested in training and professional development to improve the capacity to analyze and interpret data. Based on these findings, we hypothesize that as important as technology is to system building, most of the factors that appear to facilitate or inhibit data use in city afterschool systems— norms and routines, partner relationships, leadership and coordination, and technical knowledge—hinge on the people and process components of a data system. As this study continues, we look forward to learning more about what it takes to develop these aspects of a data system and the value of the resulting data use for system building.

1. INTRODUCTION

"Collecting and having the ability to analyze data citywide will allow us as a city, as a group of stakeholders, to make informed decisions, set priorities, solve problems and reach a consensus on a citywide strategic plan for out-of-school time. Data drives everything." —Fort Worth stakeholder

KEY POINTS

- Research has shown that high-quality afterschool programs have a positive influence on youth development.

- Nine cities invested in efforts to build afterschool systems to improve quality, impacts, and access to programming for youth.

- To inform their system building, the cities invested in people, processes, and technology to develop their capacity to use data.

- This interim report highlights the initial accomplishments and challenges of the cities in developing the capacity to use data throughout the afterschool system.

Afterschool programs for children and youth that happen regularly after school on weekdays, weekends, and during the summer, aim to foster personal, social, and occupational skills young people will need to succeed in school and life. Interest in these goals, as well as in keeping children safe during out-of-school time, has increased dramatically over the past two decades as concerns mounted about children's well-being and the quality of education, particularly in low-income communities. Research on the impact of afterschool programs also has increased. Studies indicate that afterschool programs can have a positive influence on young people's self-confidence, social behaviors, grades, and test scores if they are of high quality and engage young people on a regular basis.[2] Research has also added to our understanding of what makes for a quality program that will positively affect the academic, physical, social, and emotional well-being of participating youth. Generally speaking, the following characteristics of afterschool programs are associated with positive outcomes for youth who participate on a regular basis: (1) settings that provide opportunities to develop supportive relationships with adults and peers, (2) engaging and varied hands-on learning experiences, and (3) appropriate structures to facilitate these interactions and learning.[3]

Cities are increasingly implementing strategies to coordinate afterschool programs, although the degree of coordination varies widely.[4] Ensuring that afterschool programs are high quality and widely available requires a high level of coordination among disparate programs and funding streams. These efforts are often led by coordinating bodies that bring together diverse perspectives, advocate for financial and political support for the afterschool field, coordinate funding, develop common quality standards, and link programs with supports and services.[5] When we refer to "system building" in this report, we mean efforts to develop, implement, and maintain an afterschool system.

---

2. Bodilly et al. 2010. Gardner, Roth, and Brooks-Gunn 2009. Halpern 2003a, b. Little et al. 2008. Larson 2000. Russell, Mielke, and Reisner 2009. Vandell, Reisner, and Pierce 2007. Larson et al. 2004. Durlak and Weissberg 2011. SAFE (http://www.expandinglearning.org). Mahoney, Parente, and Zigler 2009. Halpern 2002. Little, Wimer, and Weiss 2008.
3. Durlak et al. 2010. Eccles and Gootman 2002. Larson 2000. Little, Wimer, and Weiss 2008. Mahoney, Parente, and Zigler 2009. Smith 2013.
4. Simkin et al. 2013.
5. See, for example: Bodilly et al. 2010. Halpern, Spielberger, and Robb 2001. Little, Wimer, and Weiss 2008. Johnson, Rothstein, and Gajdosik 2004. The Wallace Foundation 2013. Yohalem, Wilson-Ahlstrom, and Yu 2005.

There is no template or model for building effective collectives such as afterschool systems. However, we are learning from cities engaged in system building that key elements for developing and sustaining an afterschool system include strong leadership, coordination, effective use of data, and a comprehensive approach to quality.[6] Effective afterschool systems use data to identify community needs, advocate for funding, distribute limited resources, develop and monitor quality standards, and create shared accountability.[7]

We also are learning that cities face particular challenges in their efforts to collect and use data to their fullest potential.[8] Indeed, a recent study found that of cities with populations above 100,000 that were implementing some type of afterschool coordinating structure, only 34 percent had common data systems.[9] It is challenging to gain access to data from multiple organizations, overcome privacy concerns, learn to use and interpret data, and select the right data to assess quality and impact. Moreover, many organizations and institutions in afterschool systems tend to view data mainly as a tool for monitoring and compliance rather than as part of a cycle of inquiry to support continuous improvement (see Box 1).

This report presents interim findings from a study of how afterschool systems develop the capacity to use data to its fullest potential and how the people, processes, and technology that form the data system affect the development of this capacity. The study, which began in the summer of 2013 and will conclude in the spring of 2017, is taking place in nine cities participating in the Next Generation Afterschool System-Building Initiative, funded by The Wallace Foundation.

Box 1.
The Purpose of Data in Afterschool Systems

Kingsley describes three main frameworks for data use in afterschool systems: compliance, accountability, and continuous improvement.[10] He argues that data use for compliance is the weakest way to make use of data because the data may never be analyzed or connected to decision making about programming. In an accountability framework, systems analyze and use data to measure performance on specific outcomes for which providers are held accountable. Further, Smith notes that data use for accountability can have "high" or "low" stakes, in terms of whether information on performance is the basis for funding decisions.[11] But this performance information is still not explicitly integrated into decision making about programming. Data use for continuous improvement starts to happen when data are used as part of a cycle of learning and improvement, regardless of whether they are also used for compliance or accountability.

Gerstein suggests that the compliance framework currently dominates the use of data in youth-serving organizations, as opposed to using data to ask questions, measure performance, solve problems, develop strategy, and make decisions.[12] She views data use as a continuum of three phases that span from what might be considered the simplest form, reporting data for compliance (phase 1), to connecting data to strategy (phase 2), to what might be the most complex form, using data for learning and improvement (phase 3). These phases are not necessarily distinct or linear, and organizations tend to move back and forth along the continuum.

This study is particularly interested in how afterschool systems build the capacity to use data for learning and improvement—or what the National League of Cities terms "high-value" uses of data. These include: (1) assessing youth outcomes and system impact; (2) promoting accountability, demonstrating return on investment, and allocating scarce resources; (3) empowering afterschool providers and reducing paperwork; and (4) facilitating peer benchmarking and professional development.[13] As we will see in Chapter 4, many of the ways in which cities had begun to use data by the end of 2014 overlap with these four categories.

6. Browne 2015.
7. Bodilly et al. 2010. National League of Cities 2012.
8. Bodilly et al. 2010. McCombs et al. 2011. National League of Cities 2012.
9. Simkin et al. 2013.
10. Kingsley 2014.
11. Smith 2013.
12. Gerstein 2015.
13. Bodilly et al. 2010. McCombs et al. 2011. National League of Cities 2012.

The Next Generation Afterschool System-Building Initiative

Selected for their solid foundation for system building that includes strong mayoral leadership, the Next Generation Afterschool System-Building Initiative (Next Generation) cities are Baltimore, Denver, Fort Worth, Grand Rapids, Jacksonville, Louisville, Nashville, Philadelphia, and Saint Paul. Consistent with the goals of the initiative, these nine cities are working on system building in several areas, including expanding youth participation in afterschool programs, improving the quality of programs, improving policies, governance, and coordination within the system, and developing systems to collect and use data to inform their system-building activities. To support these efforts, technical assistance in the areas of organizational development, quality assessment and improvement, data systems, and governance was provided through support from The Wallace Foundation. The cities also engaged in cross-site meetings, conferences, and other learning opportunities to share successes and challenges across the sites and support the development of collective knowledge about afterschool system-building efforts.

This study builds and expands on previous studies in this area. The 2010 *Hours of Opportunity* study of afterschool system building focused its research about data use on the implementation of management information systems (MIS) and the purposes for which the MIS were used in the five cities that participated in the first generation of afterschool systems supported by The Wallace Foundation.[14] In the present study, we continue to look at the development of MIS, but expand the focus to explore all components of a data system, including the people, processes, and technology more broadly.

Research Questions and Study Methods

The overarching goal of this four-year research study is to understand how city afterschool systems develop the capacity to use data, what facilitates and hinders their progress, and what value the data provide to the afterschool systems.

This interim report seeks to address the following questions:

- How did contextual factors affect how the cities approached the development of their capacity for data use?

- How did the cities plan to use data?

- How were systems collecting, analyzing, and using data as of 2014 and what were their strategies for building data systems?

- What challenges and successes did the cities experience in developing the capacity to use data?

Our primary sources of data for this report are the activities of the nine cities participating in The Wallace Foundation's Next Generation Initiative and the perspectives of those participating in those activities. This study began in the summer of 2013, a little more than a year into the Next Generation Initiative. We used similar data collection and analysis approaches across the cities. The initial tasks were to establish a baseline understanding of each of the afterschool systems and the context in which each system was developing, document the individuals and organizations involved, catalog planned and in-progress activities, and capture the goals for data use for each system. We used multiple sources of information, including literature on data use in the afterschool field and in education and other fields, early documents and observations from each of the

14. Bodilly et al. 2010. McCombs et al. 2011.

participating cities, telephone and in-person interviews, and on-site observations of selected meetings. To organize and guide our analysis, we developed a conceptual framework that includes the people, processes, and technology involved in collecting and using data within an afterschool system.

We developed semi structured interview guides based on our literature reviews and our initial conceptual framework of a data system. We also included questions about the characteristics and policy context to understand the broader setting of the afterschool systems. (See appendix for the interview guide.)

Chapin Hall researchers conducted in-person site visits with each city once during the winter and spring of 2014 to interview key stakeholders and observe selected meetings related to the development of data systems and use of data. Across the cities, 104 interviews were conducted (an average of 11–12 per city) and 13 meetings observed. Stakeholders represented a range of organizations and roles, including system-level leadership and managers in the afterschool community. To preserve confidentiality, we only identify our informants by city name.[15]

Conceptual Framework: Aspects of a Data System
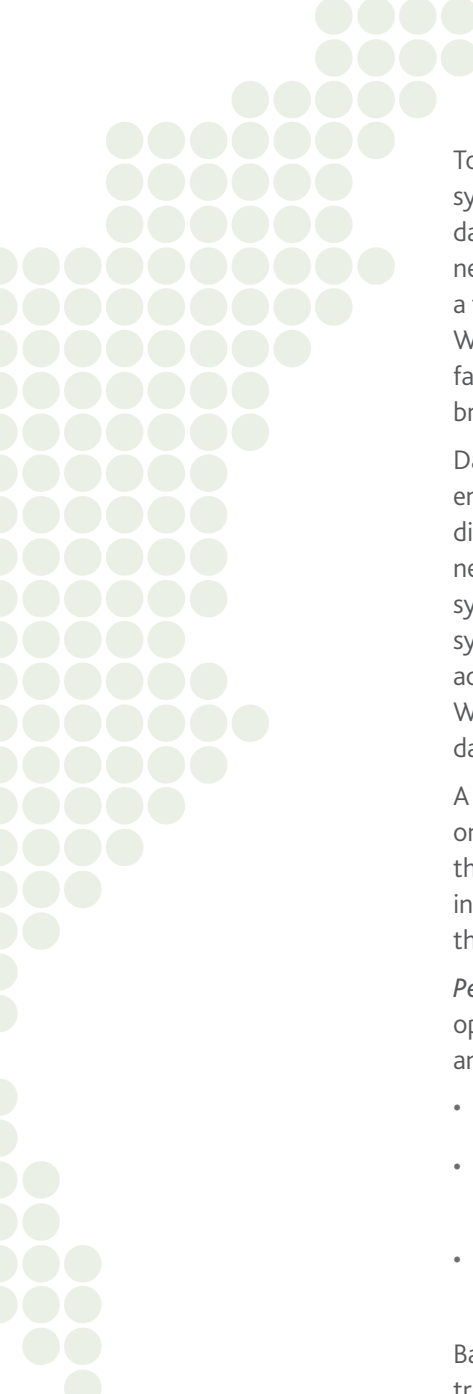
In this section, we present the conceptual framework that guides this study. From the beginning, we have viewed data use as a meaning-making activity that involves people and processes as well as technology. Here, we provide definitions of data as used in this context and of key factors related to people, processes, and technology that any city involved in, or planning the development of, an afterschool data system should consider. This framework is the lens through which we examine the way that the Next Generation afterschool systems have developed the capacity to use data.

When we use the term *data* in this report, we are referring to any information collected for a particular purpose and collected in a way that ensures accuracy and consistency. Data can come in the form of numbers, such as the number of students in a program, or words, such as parents' views on program quality. Such raw data are usually not as valuable for decision making as summarized or analyzed data are; the latter provide a sense of scope and the relationship among variables, including possible causes and effects. An example of raw data would be the attendance records of students in a particular school, including those who participated in an afterschool program. Calculating the average school attendance rates of participants in the program and then comparing them to the average attendance rates of nonparticipants at the same school might summarize these data. The data might be further analyzed to assess whether those who participate have higher school attendance rates than nonparticipants while parceling out the effect of other factors, such as special education status, mobility, and ethnicity, which also might affect students' attendance.

Data can be used at different levels of the afterschool system:

- To help youth at the ***individual*** level by identifying individuals who need extra support and matching them to activities that respond to their needs.

- To inform frontline workers and program managers at the ***program*** level by providing information on program quality.

- To influence other stakeholders and the functioning of the afterschool system itself at the ***system*** level by identifying gaps in access to afterschool programs across a city.

---

15. Additional information on study methods is available upon request from the authors of the report.

To manage and facilitate the use of data, afterschool systems develop data systems. The data system is a set of functions that allows the afterschool system to collect, analyze, and apply data to accomplish its goals. Initially, the development of a data system for an afterschool network appears to be a set of fairly linear and concrete tasks that gradually build toward a fixed endpoint or sustaining product or process. The reality, however, is more complex. While there are common steps, we found that each city's progress was affected by an array of factors within the system. Others who have studied data systems categorized these factors broadly as human, social, and technological.[16]

Data systems, even those that are mature, are never static. They evolve in ever-changing environments. Mayors are elected with new priorities. Grants end. New ones begin. School districts are reorganized. Data security laws are enacted. Technological advances lead to new ways of interacting with the data. The people, processes, and technology of a data system change to respond to these changing contexts. We found that at each stage of data system development, factors related to people, processes, and technology affected what was accomplished at that stage as well as the general trajectory of the data system as a whole. What emerges from the initial findings is the understanding that the three components of a data system shift in response to both external contexts and internal pressures.

A data system might be illustrated as the three sides of a triangle with each side representing one of three primary components: people, processes, and technology (see Figure 1). Each of these three aspects of a data system influences the other factors, as indicated by the arrows in the figure. For example, the expertise of the people involved in the data system influences the type of MIS chosen, which, in turn, affects how data can be analyzed.

People are stakeholders—individuals, organizations, and institutions—involved in the operation of the afterschool network in general and the data system specifically. Individuals and groups bring different types of capital to a data system:

- Political capital from public officials, funders, school leaders, and governmental staff.

- Social capital that emerges from the network of relationships among those involved in the system.

- Knowledge capital from those with technological, data collection, data analysis, data application, and advocacy skills and experience.

Based on the evidence we have collected thus far, social capital is critical to establishing trust and working through the complexities of sharing data in a transparent manner. It is also apparent that the turnover of people within an afterschool system can be both frequent and disruptive. The systems that seem to be better able to mitigate the impact of turnover on the functioning of the afterschool system in general, and on its data system in particular, are those that have intentionally focused on building horizontal and vertical connections among the people and groups involved in the system. As data systems mature, our preliminary research indicates that the network of relationships often broadens. They may begin with a few key leaders with social, political, and knowledge capital but over time, become more intentionally inclusive with the establishment of advisory boards, councils, and/or leadership teams that span levels and domains.

The second aspect of a data system is the set of *processes* involved in building and maintaining the system. The processes side of the triangle includes the routines, norms, and practices related to the collection, organization, analysis, interpretation, and use of data to meet the goals and inform the operation of the afterschool system. As systems evolve, the processes side of the triangle expands to develop structures and supports that align to

16. Coburn and Turner 2011. Mandinach 2012.

the needs of the system. For example, initial processes are established so that people know how to use the system and to enter data accurately. As systems develop, the focus widens to include strategies that facilitate meaning-making with the data at all levels of the system.

Technology, the third side of the triangle, is the means by which data are organized and accessed to inform the operation of the afterschool system. An MIS comprises both hardware and software systems. Key questions need to be answered before and during the implementation of technology:

- **Where should the system live?** The selection of an organization or institution to house the hardware and manage the software will have implications for how accessible data are, who is accountable for data quality, and the amount of long-term resources to support the system.

- **What type of MIS best fits the afterschool system?** Cities can choose from packaged software systems, hybrid systems that combine packaged and custom-built solutions, and custom solutions built specifically for the context of the afterschool system. Each option has pros and cons in terms of upfront and ongoing cost, adaptability, and usability.

The framework comes into sharper focus when we look at the aspects of each side of the triangle that are critical to the development of an afterschool data system. Table 1 presents the critical factors, gleaned from both the literature and our first wave of data collection, which influence data use in afterschool systems. This report provides an early look at how these factors vary across sites, how local contexts influence them, how they foster or impede progress, and how they interact. From our observations and analyses thus far, promising practices for system building are emerging. During our second round of data collection, we will continue to investigate these factors and refine our understanding as the nine afterschool systems mature.

Figure 1.
Aspects of an
Afterschool Data System

PEOPLE

PROCESSES

DATA SYSTEM
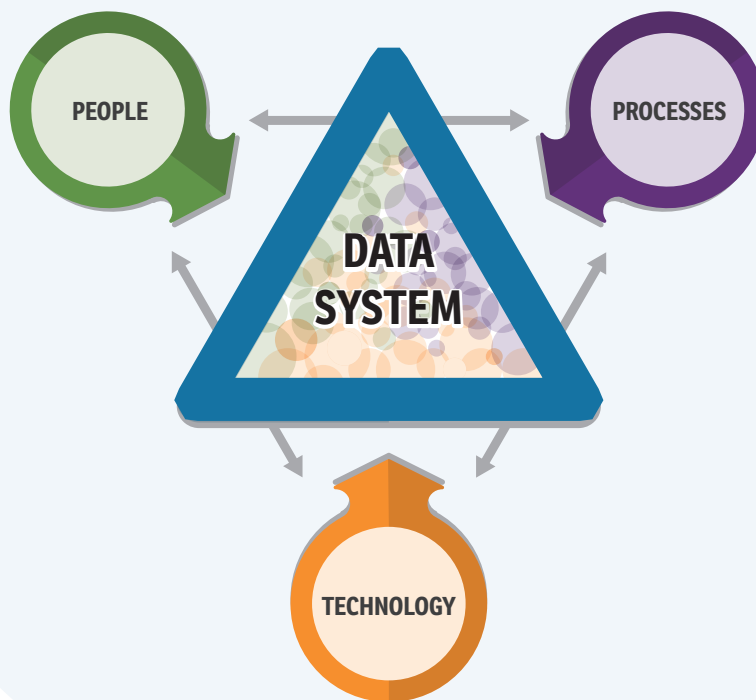
TECHNOLOGY

Overview of the Report

To date, research on data use in afterschool systems has focused more on implementation of technology—that is, MIS and the purposes for which those systems were used—than on what it takes to develop and sustain effective data use.

The current study addresses these gaps in the literature by focusing on the people and processes that interconnect with technology in a data system and the nature of the relationships among these three aspects in the development of the capacity for data use.

This report covers activities between spring 2012, when the initiative began, through December 2014. In presenting our early findings, we have taken both a chronological and a topical approach to describing the evolution of data use in nine very different afterschool systems. For example, the sequence of topics in Chapters 3 and 4 follow a typical progression in which the capacity to collect and organize data precedes the development of the capacity to analyze and interpret data. At each stage, we also discuss cross-cutting issues of people, processes, and technology to show how they work together, often in a less linear manner. This approach reflects the complexity of system building, which is a multifaceted process that occurs within a changing context. The report attempts to capture the journeys of nine cities as they develop capacity to use data. Because this is an interim report, the story is still emerging. We will provide a more complete picture of data system development in our final report in 2017, which will draw on a second wave of data about the nine systems. Below we provide a brief overview of each of the chapters of the report.

CHAPTER 2: THE CONTEXT AND GOALS FOR DATA USE

Chapter 2 looks at the unique contexts in which each of the nine afterschool systems took root, with a particular focus on the role of government agencies and school districts in the formation of these systems. We also examine the role of coordinating entities—the groups that orchestrate the afterschool systems—in the development of data systems and then look closely at the goals each city planned to pursue.

CHAPTER 3: BUILDING CAPACITY TO COLLECT AND ORGANIZE DATA

The types of data elements collected across the cities, the ways in which cities selected, built, and adapted their MIS to meet changing needs, and the ways they ensured the quality of data in their MIS are discussed in Chapter 3. In each section, we consider key facilitators and barriers to progress related to people, processes, and technology.

CHAPTER 4: USING DATA AND BUILDING CAPACITY FOR DATA USE

In Chapter 4, we examine the ways cities in the study engaged and trained stakeholders in data analysis and interpretation and how they used data for decision making. As in the preceding chapter, we consider key facilitators and barriers to progress at this stage of data system development related to people, processes, and technology.

CHAPTER 5: SUMMARY AND EMERGING THEMES

The interim report concludes with a summary of findings, including key barriers, facilitators, and lessons from our first round of data collection. We also preview plans for the final round of data collection.

Throughout the report, we present tables showing variation across sites on specific aspects of data system development and use and provide examples of how particular cities approached challenges. These cases highlight successes and areas for growth in system building. The nine afterschool systems that we examined were in various stages of development during our first wave of data collection, and we draw more heavily on examples from more advanced data systems in this interim report.

We will continue to document the ways in which these city afterschool systems are developing the capacity to use data and produce a final report in 2017 which will add to the knowledge base of how afterschool data systems evolve over time, as well as the factors that influence their development, adoption, spread, and sustainability. The next phase of the work will expand to explore the views of afterschool stakeholders about the value, relative to the costs, of investing in data use for improving program quality, access, systems, and youth outcomes.

Table 1.
Aspects of a Data System Framework

People

Stakeholders (individuals, institutions, organizations) involved in the operation of the afterschool system and the dynamic connections among them

- **Staffing:** Staff time dedicated to the creation and maintenance of the data system

- **Human capital:** Skills, knowledge, or expertise of individuals, institutions, and organizations involved in the creation and maintenance of the data system

- **Roles and functions:** Distribution of responsibilities among individuals, institutions, and organizations for the creation and maintenance of the data system

- **Partnerships:** Formal contracted or documented connections between individuals, institutions, and/or organizations involved in the data system that facilitate coordination, collaboration, or sharing

- **Power:** Individuals, institutions, and organizations who shape the direction, goals or the course of events related to the creation and maintenance of the data system

- **Relationships:** Informal or personal connections between individuals, institutions, and/or organizations involved in the data system that leverage trust or historical engagement to facilitate coordination, collaboration, or sharing

Processes

Routines, norms, and/or practices that evolve and are repeated over time and include the collection, organization, analysis, interpretation, and use of data to meet the goals and inform the operation of the afterschool system

- **Indicators and tools:** Identifying and refining data elements to include in the system, instruments to collect them, ways in which they will be reported

- **Data governance:** Formalizing and enforcing the standards for data sharing, transfer, reporting, and use, which are aligned with state and federal regulations

- **Training:** Providing initial and ongoing instruction in the collection, organization, analyses, and application of data

- **Data collection:** Gathering data from multiple sources (such as surveys and other data systems)

- **Analysis and interpretation:** Transforming data into usable knowledge

- **Compliance:** Using knowledge to measure progress towards goals for the purposes of accountability

- **Continuous improvement:** Applying knowledge to improve access, quality, practices, and outcomes

- **Communications:** Sharing knowledge with stakeholders in diverse formats that reflect the way in which they use information

Technology

Means by which data are organized and accessed to inform the operation of the afterschool system, including the hardware and software systems, often called management information systems (MIS)

- **Database:** Tool or platform where data are integrated, stored, and accessed and which outputs reports and other usable forms of data

- **Hardware/software (interface):** Tools and protocols used to access and review the data

- **Hardware/software (infrastructure):** Tools and protocols used to store, integrate, and manage the data

- **Data visualization:** Dashboards, reports, and summaries from the MIS to support data use

- **Capital investment:** Funding mechanisms to support the purchase, construction, and maintenance of technology, including contracting and compliance structures

2. THE CONTEXT AND GOALS FOR DATA USE

"Ultimately, we seek a data system that can be used to support the best allocation of resources that we provide, as well as program mentoring, program self-evaluations, and standardization of best practices."
—Grand Rapids stakeholder

KEY POINTS

- The nine Next Generation afterschool systems evolved in different contexts that influenced the goals of the system and populations served.

- Afterschool systems with strong partnerships and/or existing coordinating entities were able to advance their data use more quickly than those who had to build partnerships and/or establish a coordinating structure.

- Entering the initiative with an existing data system was not necessarily an advantage, as some cities struggled with adapting old systems to new purposes.

- The majority of the Next Generation cities were focused on using data to address community goals and improve program quality.

- The systems faced similar challenges such as changing city leadership, data privacy laws and regulations, and diversity of goals and interests among partners.

This chapter provides a foundational understanding of the nine city afterschool systems participating in the Next Generation Afterschool System-Building Initiative. We begin with the contexts in which the afterschool systems, including their data systems, grew. None of the Next Generation cities began developing the capacity to use data with a blank slate. They had to consider the people, processes, and technology already in place and decide what to capitalize on and what to change to realize their larger system-building goals. We then describe the size and scope of the Next Generation afterschool systems, the coordinating entities charged with orchestrating them, and the purposes that afterschool stakeholders in the cities identified for their data system in 2014. The variation across the nine cities, both prior to and during the Next Generation initiative, affected both the successes and challenges encountered in the trajectory of their use of data.

Contexts for Afterschool System Building

In the following discussion, we use the *Aspects of a Data System* framework outlined in Chapter 1 to review the context in which the Next Generation afterschool systems developed.

PEOPLE

The afterschool systems in the Next Generation cities generally include schools, parks and recreation programs, libraries, and community-based programs, which may be operated by a local organization including small, faith-based, and immigrant organizations, and larger, well-established multisite national organizations. Differences in these organizations' goals, structures, resources, funding, and quality emerged as both facilitators and barriers to coordination across the cities. As many of our informants reminded us, they often contend with frequent staff turnover and lack of motivation for professional development due to low salaries, few opportunities for career advancement, and limited program resources—even within the large governmental settings.

Figure 2 shows the groups involved and their prevalence across the cities, while Table 4 at the end of this chapter provides the names of the organizations identified by leadership as important partners in 2014 system-building work. As shown in both the figure and the table, city government departments, nonprofits, and school districts were important partners in all of the cities. Below, we briefly discuss the impact of the interests and capacities that some of these participants brought to the afterschool system. United Way and community foundations were significant partners in six of the cities. These public and private partners come with their own institutional missions, capabilities, and philosophies, which may influence the structure and goals of the afterschool system. Across the cities, there was variation in the roles of school districts, libraries, and other city institutions in the afterschool system. These partnerships, in turn, influenced the nature of the data systems that were developed.

The Wallace Foundation prioritized funding for participation in the initiative to cities with strong mayoral leadership and investment in afterschool programs. This resulted in governmental departments and agencies having a significant role in establishing the early priorities for system building in all nine cities. As a provider, funder, and/or coordinating entity, local government departments and agencies, informed by city leadership, established the high-level priorities for youth and, in turn, were critical in shaping the overarching vision for these systems.

Figure 2.
Foundational Partners in Next Generation Afterschool Systems, 2014
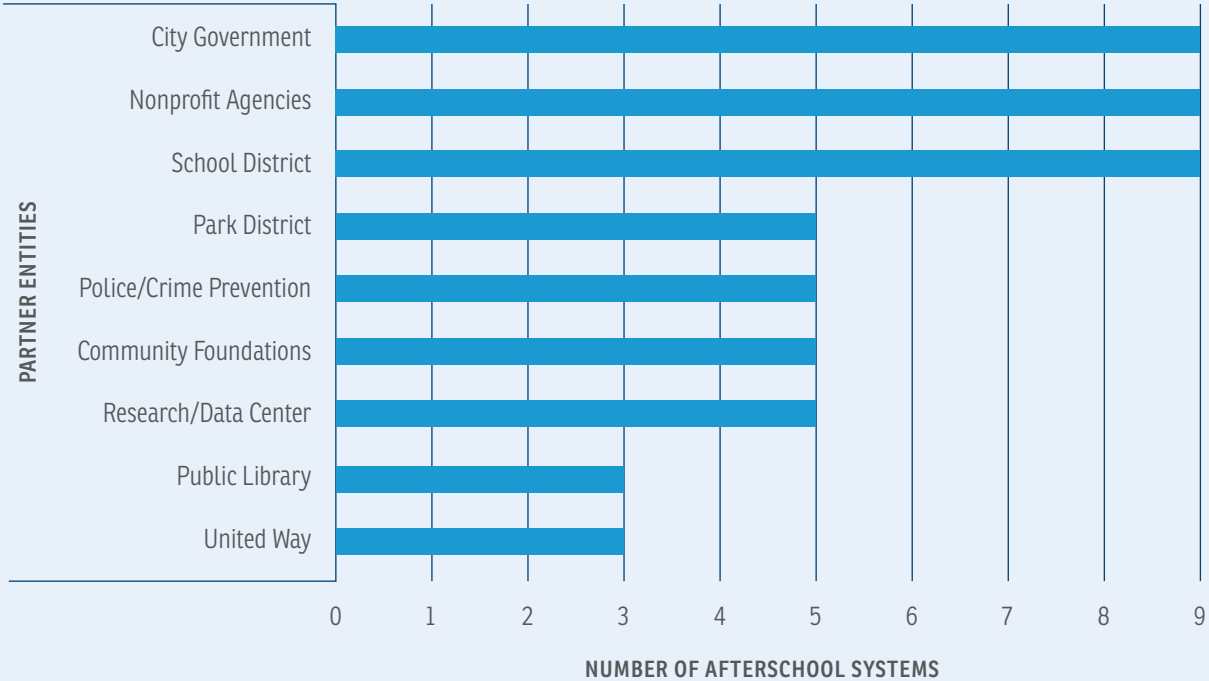
The cities with established partnerships between the afterschool system and public sector, including the school district, appear to have had an easier time with their initial system building than other Next Generation cities. Such strong partnerships are particularly helpful given both the importance and the challenges of afterschool system-school district partnerships. In many of the study cities, afterschool services were provided in school settings and leveraged school resources, including classroom space, access to students, utilities, and meals/snacks. Strong relationships and data sharing agreements with local districts also expand afterschool systems' access to data sharing that can inform understanding of the afterschool systems' performance and the alignment of resources to the needs of students within the systems. Districts regularly collect individual-level data on their students that can help answer afterschool providers' questions about the youth they serve.

Relationships with the provider communities were critical to the design and implementation of the efforts. Voluntary networks that were able to build on longstanding relationships also seemed more likely to engage providers in their system-building activities. Stakeholders in three cities spoke about the value of prior relationships for the new Next Generation initiative. Grand Rapids' Expanded Learning Opportunities (ELO) Network has engaged providers, funders, government, and evaluators for almost a decade. Therefore, it benefits from healthy partnerships with the provider community through professional development and network meetings as well as solid relationships with local philanthropic funders and the United Way. Sprockets in Saint Paul draws its influence from a history of engagement with afterschool work and key partners. In contrast to Grand Rapids and Saint Paul, Fort Worth faced challenges with engagement as they decided to establish a new nonprofit intermediary, Strengthening Programs through Advocacy, Resources, and Collaboration (SPARC), which required significant time and effort to form and then to engage the provider community.

PROCESSES

Along with the existing partnerships and technology that predated the Next Generation initiative, the nine city afterschool systems had prior or existing management, communication, and training processes that provided the groundwork for establishing practices and routines necessary to build and sustain a data system. In developing processes for this effort, the cities also were affected by federal regulations governing the privacy of data collected by schools and other entities, like afterschool programs, that are "dedicated to enhancing the academic achievement of its enrollees," as required by the Federal Educational Rights and Privacy Act (FERPA).[17] Local interpretations of these privacy regulations had implications for the Next Generation cities in terms of many of the processes involved in the development of data systems, including the time spent negotiating or renegotiating data sharing agreements along with the trust and willingness to find acceptable ways to facilitate data sharing.

At the start of the initiative, all but one of the city afterschool systems established a small number of committees and work groups to attend to different processes of their system building. Most often, one group was dedicated to the area of data or reliable information, which included making decisions about the MIS or system database. A second group was focused on implementing a plan for improving program quality. In many cities there were leadership and coordinating councils, and in some cities, smaller executive committees with responsibility for overseeing system building in all the domains. Our informants valued the opportunity to connect with other partners and influence the partnership through these meetings.

17. United States 2011.

"They're all buying in. The data committee is open to anybody who wants to come… Basically all of the different committees that make up the work groups attend the coordinating council and share and discuss, so if there are issues then all the players are there to say, 'I can't agree,' or, 'I don't know how you're going to do that.' The more they understand, the more they buy in." —Louisville stakeholder

TECHNOLOGY

Each of the Next Generation afterschool systems had prior experience with technology and had developed or was in the process of developing an MIS when they became part of the initiative. As previously defined, an MIS includes the technology hardware and software that stores, organizes, and facilitates the use of data. Table 2 reflects the variation of the technology in use by the cities at the end of 2014. Specifically, three of the afterschool systems were using and/or adapting existing or "legacy" MIS that predated the initiative. The other cities were building new database systems, either through an external software developer or a partnership with a local research organization. As the evolution of these databases was not straightforward, they resulted in different types of MIS; for example, some cities used a single database and others used multiple databases that allowed for data to be linked.

In most of the cities, earlier attempts to build data systems had been limited to the efforts of individual afterschool organizations and providers to collect data—often to comply with reporting requirements of funders—with little intentional coordination of data collection among providers. The technological systems for collecting data were still evolving during the time period covered by this report.

Table 2.

Technology in the Next Generation Afterschool Data Systems, 2014

MIS (TECHNOLOGY)	NEXT GENERATION CITIES
Existing database ("in house" or proprietary)	Baltimore, Jacksonville, Louisville, Nashville
New proprietary/packaged database (Efforts to Outcomes [ETO], CitySpan)	Philadelphia, Saint Paul
New database built "in house" in collaboration with the coordinating entity	Denver, Grand Rapids
System-level database not yet developed	Fort Worth

COORDINATION STRUCTURES IN AFTERSCHOOL SYSTEMS

Each city identified a public or private intermediary or coordinating entity to manage their system-building activities. In describing the governing structure of afterschool systems, Deich, Neary, and Padgette list the following key functions of these coordinating entities: engaging key community leaders and diverse stakeholder groups, providing strategic direction, measuring progress and outcomes, and managing resources.[18] The Next Generation cities often pursued these goals by convening partners in workgroups and committees. At the outset of the initiative, the nine cities had coordinating structures that varied in their location, committee structure, and funding capacity. We explore these variations and their implications on the following pages.

18. Deich, Neary, and Padgette. Manuscript in preparation.

Table 3.

The Next Generation Afterschool Systems' Coordinating Entities and Governance Structures, 2014

CITY	COORDINATING ENTITY	TYPE OF COORDINATING ENTITY	FUNDER	AGE RANGE SERVED
Baltimore	Family League of Baltimore	Nonprofit intermediary	YES	K–12
Denver	Denver Afterschool Alliance	Locally coordinated network	NO	K–8
Fort Worth	Park and Recreation Department (to be transferred to Fort Worth SPARC)	Local government (in transition to nonprofit intermediary)	NO	K–12
Grand Rapids	Our Community's Children facilitating the Expanded Learning Opportunities (ELO) Network	Local government	NO	K–12
Jacksonville	Jacksonville Children's Commission (JCC)	Local government	YES	K–8
Louisville	Building Louisville's Out-of-School Time Coordinated System (BLOCS; facilitated by Metro United Way)	Locally coordinated network	NO	K–12
Nashville	Nashville After Zone Alliance (NAZA)	Local government	YES	6–8
Philadelphia	PhillyBOOST	Locally coordinated network	NO	K–12
Saint Paul	Sprockets	Locally coordinated network	NO	K–12

The coordinating structures of the Next Generation afterschool systems were housed in nonprofit organizations, public offices or departments, or in locally coordinated networks (as shown in Table 3). In a few cities, the coordinating entity involved representatives from several public institutions in either a formal or informal structure. Formal structures imply an agreed-upon partnership between governmental agencies to sustain the effort and include official meeting schedules, decision-making processes, bylaws, and memoranda of understanding to stipulate roles and responsibilities.[19]

Relying on informal structures early in the development of afterschool systems allowed the leaders to test processes with a small group of partners or to take time, as was the case in Philadelphia, to decide what kind of governance structure would best meet the needs of their provider community. As systems grew, they appeared to benefit from the transition to more formal structures, which clarified roles and processes for all partners, particularly those just entering the system, allowing them to quickly engage in the work of the system. Each system had an individual or a small team of people who oversaw the day-to-day operations of the system. In some cases, this person or group was supported by full-time staff; in others, this work was divided among staff with other responsibilities. For example, in Denver, the three foundational partners—the school district, the Office of Children's Affairs, and the Boys & Girls Clubs of Metropolitan Denver—have staff time allocated to the afterschool intermediary, the Denver Afterschool Alliance. These staff members work together to facilitate meetings, fundraise, and share responsibility for communications.

Next Generation cities that housed afterschool coordinating structures worked to mitigate the impact of mayoral and other leadership changes in agency partners such as the school district and ensure sustainability of their afterschool systems. As mentioned, Fort Worth stakeholders created a new nonprofit, SPARC, to ensure that the afterschool system would get the priority and focus it required. Although at the end of 2014 the administration and coordination of their system-building efforts were still with the Park and Recreation Department, they are expected to transition to SPARC in the future. In Grand Rapids, the Office of Our Community's Children (OCC), a designated city government office for children and youth initiatives, was created as a joint partnership of the City Commission and the Board of Education. OCC works in partnership with the ELO Network, a voluntary provider network, to provide oversight and daily management of the initiative. By building leadership within the ELO Network, current leaders hope that future changes in city government will not reduce the strength of the provider network. As another example, Nashville's NAZA in mid-2014 moved from the mayor's office to the public library because city and system leaders believed that as part of the library, the afterschool network would be more likely to weather changes in city leadership.

Whether or not a coordinating entity funds programs was a critical determinant of the strategies used to implement policies and practices that affected the cities' system-building efforts. In three of the nine cities, the coordinating entity was also the major funder of its afterschool programs. In these cities, funding and accountability were viewed as effective levers to encourage programs to adopt rules and standards. A Nashville stakeholder stressed that the financial incentives and the "clout" that funding brings can "escalate the timeframe [and] scale this thing up."

As stakeholders in these cities explained, funding leverage was particularly helpful when it came time to obtain partners' buy-in to the data system. In contrast, coordinating structures without funding capacity and afterschool systems without a formal coordinating structure, such as that in Philadelphia, could mandate that their own providers use the new database but did not have the authority to get providers across the system to participate.

---

19. Deich, Neary, and Padgette. Manuscript in preparation.

Another concern was sustainability. City stakeholders in systems in which the coordinating entity is not a funder, such as in Fort Worth, Grand Rapids, and Saint Paul, expressed concern whether providers in a voluntary network would remain involved if they had to pay to participate in a system-wide MIS designed to collect and report data on all participants. Without the levers of funding and accountability, these coordinating entities had to develop alternative strategies to engage providers and partners. Grand Rapids and Saint Paul involved partners in the design of the afterschool system so that the system addressed their needs and concerns. Although these efforts could be time consuming, some city afterschool leaders argued that consensus building helped to fortify the data system. One informant described the process as "creating our own system in a way that we know will be sustained within the community." A number of informants mentioned the value of data systems for bringing diverse partners together and fostering collaboration instead of competition.

Goals and Purposes for Investing in Data Use

Given the overarching goals of the Next Generation initiative, the nine cities focused their afterschool system-building activities on building quality, expanding participation, strengthening coordination structures, and using reliable information. These system-building activities informed how cities defined their specific goals and purposes for developing their capacity to use data.

Identifying appropriate indicators for afterschool programs and using them for improvement rather than for compliance or accountability were two issues raised by a number of stakeholders in the Next Generation cities. Many providers in the afterschool systems were required to report data to funders for accountability purposes that are often associated with "high stakes" that can influence funding for programs. However, system leaders were intent on using data for "low stakes" to inform decision making for the purpose of improving the system. In this regard, our informants talked about the use of data to (1) improve outcomes for participating children and youth as a use that affects the *individual level*; (2) support program staff and managers in improving program quality as a use that impacts the *program and organizational level*; and (3) inform resource allocation, engage public and private funders in supporting the system, and/or improve the functioning and coordination of the system, as uses that impact the *system level*. The most common purpose for initially investing in data systems, according to informants in the Next Generation Cities, was to improve program quality and to respond appropriately to student and community needs.

Aspirations at the system level included using data for (1) improving the system's alignment between the youth they serve and the youth they want to serve, (2) expanding the overall number of youth who participate in afterschool programs, (3) improving program quality across the network, and (4) uniting partners in the system and reinforcing the value of system building. The uses of data informed the design of professional development, the evolution of the MIS (both collection and representation of data), and the strategies for engaging partners and communicating about the impacts of the system-building efforts.

Summary

The Next Generation afterschool systems arose in different contexts, in different forms, and with varying goals. It is not surprising that the cities that already had strong partnerships and existing coordinating entities were able to advance in their data use more quickly than those who had to build or fortify partnerships. However, entering the Next Generation initiative with an existing data system was not necessarily an advantage, as some cities struggled with adapting old systems to new purposes—a challenge that will be discussed further in the next chapter.

Although the purposes for developing data systems to inform and guide their system building were influenced by stakeholders' goals for the afterschool system, these purposes were also influenced by a number of other factors, including their local political contexts, the organizational structure of the system, quality of relationships among lead agency staff, and the priorities of the large public organizations that were part of the afterschool systems. The cities also faced common challenges and constraints that influenced their purposes for investing in people, processes, and technology to develop their capacity to use data. Some of these challenges were inherent in the nature of afterschool systems, which typically encompass a heterogeneous group of providers. Other challenges were created by federal regulations developed to protect student level data, increased emphasis by funders to hold programs accountable for their quality and ability to engage youth, staffing issues, and challenges in identifying the "best" measures for assessing program outcomes, including academic or social and emotional competencies.

Table 4.
Overview of Next Generation Afterschool System Partners and Scope, 2014[20]

CITY AND POPULATION (2014 EST.)[21]	COORDINATING ENTITY	FOUNDATIONAL PARTNERS	EXTERNAL DATA AND RESEARCH EXPERTISE	NETWORK SCOPE (ALL OR SUBSET OF PUBLICLY FUNDED PROVIDERS)	NUMBER OF NETWORK PROVIDERS AS OF 2014*
Baltimore 622,800	Family League of Baltimore	• Baltimore Public Schools • Mayor's Office	Baltimore Education Research Consortium (BERC)	Subset	29 organizations with 51 Community School sites and 45 out-of-school time programs; 88 programs entering data
Denver 663,900	Denver Afterschool Alliance	• Denver Public Schools (DPS) • City Office of Children's Affairs • Boys & Girls Clubs of Metro Denver	Civic Canopy (manager of Community Partnership System (CPS) database developed by CiviCore)	All	Demonstration project cohort: nine sites (11 orgs.); Capacity-building cohort: 32 sites (nine orgs.); CPS data users: 80 orgs.
Fort Worth 812,200	Park and Recreation Department (in transition to Fort Worth SPARC)	• Parks & Recreation Department Fort Worth Independent School Districts • Mayor's Office	Seeking an external research partner; RFP completed November 2014	All	40 organizations with 240 programs or sites, none of which were entering data by the end of 2014
Grand Rapids 193,800	Our Community's Children facilitating the Expanded Learning Opportunities (ELO) Network	• Grand Rapids Public Schools • Mayor's Office • Heart of Western Michigan United Way • Kent School Services Network • Community Research Institute • Doug & Maria DeVos Foundation	Community Research Institute (CRI)	All	The ELO Network includes 60 organizations serving more than 21,000 children at 180 sites; 20 organizations with 41 programs entering data
Jacksonville 853,400	Jacksonville Children's Commission (JCC)	• Duval County Public Schools • Chamber of Commerce • Jacksonville Public Education Fund • United Way of NE Florida • Jacksonville Department of Parks, Recreation and Community Services • Community Foundations	University of North FL Center for Community Initiatives (CCI)	Subset	27 organizations; 69 JCC-funded programs entering data into the MIS

Table 4. continued

CITY AND POPULATION (2014 EST.)[21]	COORDINATING ENTITY	FOUNDATIONAL PARTNERS	EXTERNAL DATA AND RESEARCH EXPERTISE	NETWORK SCOPE (ALL OR SUBSET OF PUBLICLY FUNDED PROVIDERS)	NUMBER OF NETWORK PROVIDERS AS OF 2014*
Louisville 612,800	Building Louisville's Out-of-School Time Coordinated System (BLOCS; facilitated by Metro United Way)	• Metro United Way • Jefferson County Public Schools • Louisville Metro Government • Louisville Metro Alliance for Youth		All	54 school-based providers are in school district database; 48 entering data
Nashville 644,000	Nashville After Zone Alliance (NAZA)	• Metro Nashville Public Schools (MNPS) • Mayor's Office of Children and Youth • Metro Council • Community Foundation of Middle Tennessee	Metro Information Technology Services (ITS) Pilot project – American Institute for Research (AIR)	Subset	15 organizations with 43 sites in five zones entering data
Philadelphia 1,560,300	PhillyBOOST	• School District of Philadelphia • Department of Human Services (DHS) • Parks and Recreation • Free Library of Philadelphia • After School Activities Partnership (ASAP) • The Police Athletic League (PAL) • Catholic Archdiocese Mission Schools		All	72 organizations with 328 programs entering data (131 of these entering data into DHS' Provider, Contract, Attendace, Performance, and Payment System)
Saint Paul 297,600	Sprockets	• Saint Paul Public Schools • Mayor's Office • Parks and Recreation • Saint Paul Public Library • Augsburg College • YWCA of Saint Paul	Amherst H. Wilder Foundation	All	44 organizations with 135 programs or sites; 38 organizations participate in data system

*Network as defined for the purposes of the Next Generation initiative. Source: City Year 3 progress reports (December 2014). Most cities expanded the scope of their systems between 2012 and 2014 and sought to grow in subsequent years; these numbers reflect providers most actively involved in Next Generation system–building activities. Several cities began implementation with pilot projects involving a small number of programs, but intended to expand to include all publicly funded providers in the city. Systems only engaging a subset of providers were also the ones in which the coordinating entity was a funder. Data on the number of programs were provided by system leadership.

20. All of the Next Generation cities' system-building efforts benefited from partnerships with the provider community. Due to the number and evolving nature of those partnerships, the names of the providers are not listed; however, the relationships and partnerships with the providers were critical to the system-building efforts.

21. United States Census Bureau. American Fact Finder. Last Revised: February 23, 2015. http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml.

3. BUILDING CAPACITY TO COLLECT AND ORGANIZE DATA

"The mayoral task force looked at what afterschool systems in other cities were doing, and it was really clear that you've got to have leadership, you've got to have data, and you've got to focus on quality to translate into benefits for young people. We invested hours and hours into thinking about program quality and data sharing, and it's been hard and frustrating and takes more time than anyone has, but I don't regret it one bit because if our system survives it will only be because we grounded it in those things." —Nashville stakeholder

KEY POINTS

- Selection of data to be collected in the MIS was influenced by afterschool system goals, available data, capacity of the MIS, and feasibility for partners to collect.

- Cities were able to access protected academic data by developing data sharing agreements that met their city's terms for data privacy or by housing data with external research partners.

- Identification of the data elements required the development of common definitions of measurement.

- Identifying strategies to minimize burden of data entry on providers was critical to engagement and buy-in.

- Ensuring the quality of data in the MIS required people and processes, including ongoing training and monitoring.

- Cities well along in the development of their data systems were still refining ways to present data for learning, improvement, and new trainings to build those more advanced skills.

Although cities varied in their purposes for data use within their individual community and system contexts, they all made investments in people, processes, and technology to develop their capacity to collect and use data to enhance their programs and systems. In this chapter, we describe the Next Generation afterschool systems' strategies for collecting, organizing, and managing data. Common processes involved in the identification, collection, and management of data in afterschool data systems, which emerged from our 2014 interviews with system-level stakeholders, are presented in Table 5.

Stakeholders often had to attend to multiple tasks concurrently as one choice could affect many others. For instance, decisions about technological components and processes involved in the collection, analysis, and uses of data had implications for designing and implementing other components of the system. In the cases where cities were building an MIS, the selection of data elements informed the construction of the technology infrastructure. In another instance, establishing a formal data sharing agreement was predicated on identifying specific data elements in addition to resolving the regulatory issues.

Recognizing that most cities were simultaneously addressing multiple components to advance their data collection and management systems, for ease of discussion we talk about each of these key elements and their associated tasks individually.

Table 5.

Processes and People in the Development of Data Systems

DATA COLLECTION PROCESSES	KEY ACTIONS	PEOPLE INVOLVED*
Assessing and engaging the network	Engage key stakeholders to define data needs for the system	System-level leadership
	Assess the needs and goals of providers in the system	System-level leadership
Selecting data elements	Identify data elements	System leadership; afterschool providers
Implementing a management information system (MIS)	Build or buy an MIS or adapt the existing MIS	System leadership; technical staff
Establishing formal agreements among network partners	Develop data access governance through agreements and memoranda of understanding (MOU)	System leadership with legal consultation
Preparing and training the network	Provide training on data collection and the MIS	System leadership and staff; technical staff; research partners
	Engage provider staff on the data use to inform practice	System leadership and staff; afterschool providers; research partners
Establishing and maintaining data quality	Define data collection and monitoring processes	System leadership and staff; technical staff; research partners
Getting data flowing	Develop data dashboards and report format	System leadership; technical support; research partners
	Populate dashboards and reports with data	System leadership; technical support; research partners

*Examples of system leaders are initiative managers, leaders of coordinating entities, partners with decision-making authority representing mayors' offices, school districts, and city institutions and agencies. Technical leaders include both internal knowledge and data managers and external research partners or contracted entities.

Assessing and Engaging the Network

Engaging the network was the first step in determining the overarching goals of the system, the purposes for data, and the needs of potential provider participants. An afterschool system stakeholder in Baltimore discussed the need to create a "common vision" for the system and an understanding of how each aspect of the system informs one another, stating:

"[F]irst, they would say, 'What are the goals [and] why do we want to share our data?'... You have to have those conversations and come to some agreement about what you're sharing data for because once you have a common vision for what you're trying to get to and what data you need to get there, then there might be costs around training [and] capacity development. [Once we agree] these are the data points we want, we need to know how to collect them so you have to have an infrastructure around that; the protocols and practices for collecting the data. And folks need to be trained; there needs to be follow up and support for some people, maybe some coaching."

More than half of the Next Generation cities talked about conducting needs assessments, surveys, and focus groups, or hosting community forums as part of their process for engaging partners and reaching consensus on providers' data needs. In a few cities, the coordinating entities worked with a research partner to survey providers to obtain this information. For example, Fort Worth worked with staff at the Forum for Youth Investment to conduct a "partnership characteristics survey" that surveyed both providers and system-level stakeholders to define the goals and scope of the system. "[It] will be an online survey [for] the providers and others like the advisory committee and folks like that, the board, etc. [It will be] a way to figure out what they think Fort Worth SPARC should look like moving forward and then help us establish some agreement," explained a stakeholder. Surveying the network also helped to assess the current capacity of providers to collect data and the additional support they might need to do so. According to another Fort Worth informant, in planning for an integrated system for data use, it was important to find out "what people are collecting and what they would be willing to collect, what they have access to and what they need, and the ability of their staff to actually collect it, enter it."

Cities engaged diverse and representative groups of providers, including existing organizations with a shared fund such as United Way, small community providers, and large, well-established providers such as the YMCA or Boys and Girls Club. The aim was to make the system and associated processes relevant for all providers, not just a select few. When Jacksonville held focus groups with providers to get feedback on its current database, staff tried to include unfunded as well as funded providers to get their input. As a stakeholder explained, "We didn't want to pick a standard that works great for the big guys but just doesn't help the little guys at all."

Selecting Data Elements

A critical task in developing a data system is identifying data elements. City stakeholders considered data that were already being collected as well as elements not currently in the system that were viewed as essential for addressing critical questions. Study cities varied in how they ultimately balanced between using existing data elements and introducing new ones. Across all of the cities, there was particular interest in including existing school data, such as information on demographics (e.g., free or reduced-price lunch eligibility, which served as a proxy for family income), academic progress (grades, test scores, special education placements, etc.), attendance, and behavioral infractions. A majority of the cities also planned to continue to collect data on youth program participation or

attendance and program quality—or to implement new measures of program quality if they were not already collecting these data. Figure 3 describes the types of data cities reported they had prioritized for collection at the end of 2014.

In each of the Next Generation cities, we spoke with stakeholders who believed that social-emotional learning (SEL), well-being, and development were important outcomes to track in the afterschool field, although only some of the cities incorporated social-emotional indicators in their data systems at the end of 2014. These stakeholders, in most cases, considered these indicators to be more appropriate for the outcomes that could be expected from afterschool programs and more easily demonstrated. As an informant in Louisville observed, "We'd like to be able to say that the test scores are going up and [school] attendance is going up for our kids that attend out-of-school time programs, but that's really hard to do sometimes."

Figure 3.
Types of Data Selected for System-wide Collection, 2014*
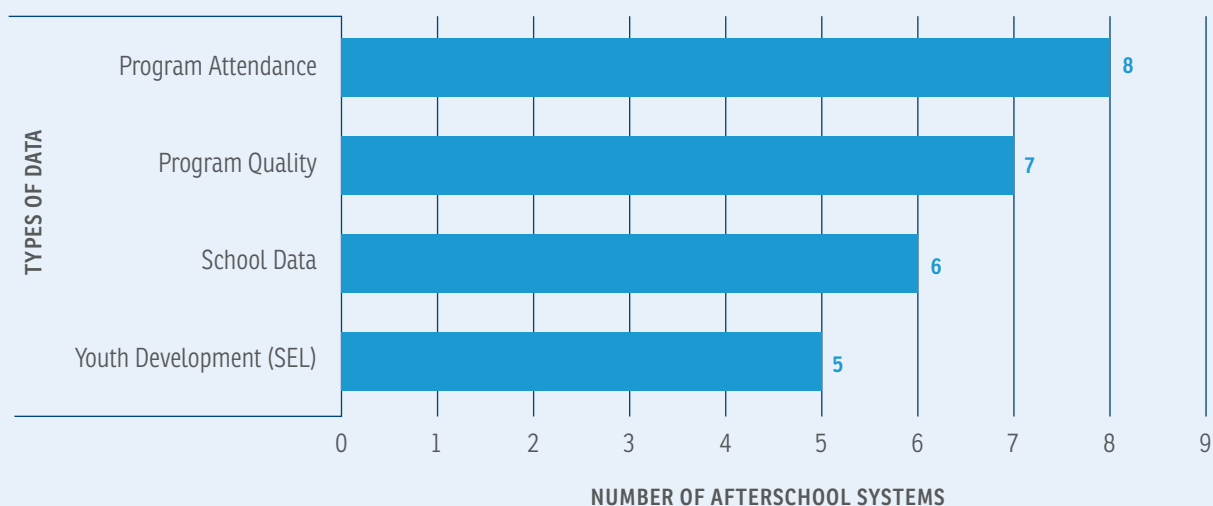
*Data elements that were being collected system wide or by a subset of providers in 2014 and likely to be part of system-wide data collection. One city, Fort Worth, had no MIS at that time.

Across the nine cities there was variability in the sequencing that cities engaged in to identify their data elements and to select their technology solution. In some cases, city stakeholders discussed what data elements to collect while simultaneously considering their options for the technology that would be used to collect and process them. In other cases, decisions were made about the data elements before selecting the MIS. Two cities, Nashville and Louisville, started with data that were already being collected through existing data systems (i.e., school districts) with the potential for collecting other data elements later. Because the selection of data elements was connected to the selection of technology, we return to this topic in a later section.

THE INFLUENCE OF KEY STAKEHOLDERS IN SELECTING DATA ELEMENTS

While cities often invoked strategies to engage a diverse set of partners in system-building efforts, it is undeniable that some partners exerted greater influence on these efforts. Given the prioritization by The Wallace Foundation to select cities with strong mayoral leadership and support, the leadership agenda of those mayors influenced the original philosophy of the system and the types of data collected.

For example, Saint Paul's long-standing positive orientation to supporting nonacademic domains in afterschool programs was noted by several afterschool informants. According to one stakeholder, "The mayor has a really deep interest in social-emotional learning. He really believes that one of the strong functions of afterschool is helping kids develop other capacities beyond academics. So, the more ways that the Sprockets afterschool network can help organizations support the full development of kids, the more effective it's going to be. That's a really a strong value of ours." Similarly, when the Nashville Afterschool Zone Alliance (NAZA) was first established and operated out of the mayor's office, the mayor's interest in reducing the rates of high school dropout influenced the network's decision to focus resources on middle school students in order to provide early support to students at risk of dropping out later in their school careers.

As school districts traditionally have been the primary organization collecting data on youth in a systematic and standardized manner, they also were central figures in many afterschool networks' data systems and exerted a good deal of influence on the system as a whole. Because of this influence, city afterschool systems often adopted the priorities of the district (or combined them with that of the afterschool system) and selected data elements that were closely aligned with that of the school district. A Nashville stakeholder said:

"The system leaders were interested in aligning NAZA with the outcomes of the school district…The mayor really wanted to put something together for the middle school students that would keep them engaged, improve performance, and, ultimately, improve the graduation rate. So we took the dropout indicators…[and] set the thresholds for attendance, grades, and discipline…The indicators for how NAZA is doing, who they should gear their programs toward, and what kind of outcomes we wanted to see were wrapped up in the three indicators the school district is looking at."

NAZA leaders intentionally aligned its data collection and outcomes with the school district's priorities. Initial data goals of the system focused on three early warning indicators that research suggests can flag youth at risk for dropping out of school.[22] According to an informant, "We looked to [the school district] to kind of set some of the measures that they were tracking, and said, 'You know what? If we're going to be in this together, we're going to adopt those same measures.' And so, for now, they have identified school behavior, attendance, and academic performance as their three primary indicators."

Some cities prioritized data elements by identifying a core outcome of interest. Like Nashville, afterschool leaders in Baltimore selected chronic absenteeism, an issue of central concern to the school district, as the target outcome for the afterschool system. They held multiple meetings to determine the threshold at which data would become "actionable" for program staff, given that "chronic absence" was defined in the school system as a cumulative number of absences of 20 or more over the course of a full year. They then designed the afterschool data system to flag students with multiple

22. Balfanz et al. 2014.

consecutive absences (e.g., three days in a row), creating a trigger for outreach to an at-risk student before his or her absenteeism became chronic. This focus also aligned to a city plan to streamline publicly funded youth services by reallocating resources and strengthening connections between schools and afterschool. Both the city and the afterschool system benefited from this connection. The city and school district increased their support of the afterschool system, and the afterschool system helped city-level stakeholders understand "what was happening all day long for our kids, what was going on in the schools, and what the needs were for the community," according to a city stakeholder.

Several of the Next Generation cities argued that investing in quality afterschool programs is a way to prevent delinquent behavior. To support this goal, Fort Worth, Grand Rapids, and Louisville involved police departments and organizations focused on preventing or reducing youth involvement in the justice system. The involvement of these partners, in turn, influenced their data plans. For example, the ELO Network in Grand Rapids has been working for almost a decade with the police department to develop a juvenile offense indicator to determine whether afterschool investments were having an impact on juvenile crime. In the network's deliberations about what data to collect in its new MIS, some stakeholders argued against its use, concerned that it would not be possible to attribute change in this indicator to participation in afterschool programs with existing measures. Additionally, some felt it would not accurately reflect the success of their programming. Others, including the city's Our Community's Children (OCC) office, favored using the indicator because it aligned with the city's interest in reducing juvenile delinquency and would have broad-based appeal for funders as well as the community. Because of the city's apparent influence, the decision was made to collect and report on these data.

Regardless of how they selected data elements, system leaders reported that they needed to establish common definitions. Both Baltimore and Grand Rapids informants described lengthy discussions on how to define and calculate "attendance" for their data systems. Grand Rapids appears to have gone through the most intensive process with its partner, the Community Research Institute (CRI), to develop data dictionaries to help its technical staff catalog and reconcile differences among providers in the way they defined and collected data elements. To make it possible to include each of the measurement strategies in the system, CRI developed a way to convert the provider data into a common "dosage" measure.

Establishing a Management Information System (MIS)

"Ultimately we seek a data system that can be used to support the best allocation of resources that we provide, as well as program mentoring, program self-evaluations, and standardization of best practices." —Grand Rapids stakeholder

In order to use the data elements prioritized by the afterschool systems, cities had to develop and implement an MIS. Consisting of both hardware and software, the MIS is the part of the data system most readily identifiable with the technology aspect of afterschool systems' data use. However, a close examination of the experiences of the nine cities revealed that skills and expertise (people) and rules, norms, and standards (processes) were necessary to integrate the technological functions of the MIS with the larger goals and functions of the data system.

TYPES OF MIS

Two major types of MIS emerged from the interviews with the sites. One type is self-contained, in which the technology, tools, and skills for data access and use are located mainly within the afterschool system or an entity directly contracted by the afterschool system, such as a research partner. A second type is a composite, in which the database, tools, and skills for data access and use are located mostly in an adjacent system, typically the school district, with other data housed in external data management tools such as Excel.
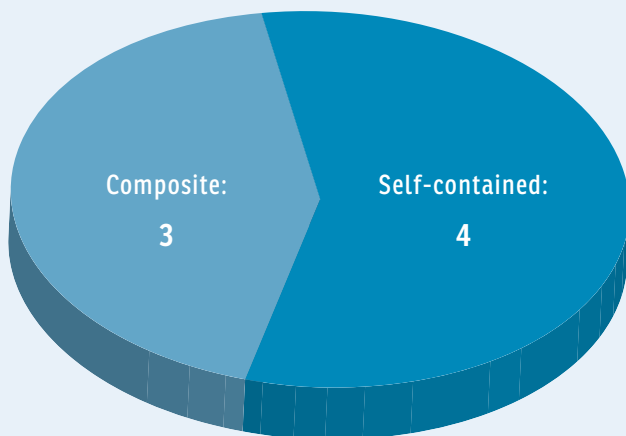
Self-contained MIS

Self-contained MIS are systems with a single, primary database that is managed and coordinated by the afterschool system, sometimes with the support of an external research partner or other contracted assistance. Data collected by providers are merged and may be integrated with data from other systems. Self-contained systems were most likely to be located in cities where the afterschool system had its own distinct goals or where a system accommodated a wide range of provider goals and potential outcomes that did not lend themselves to coordinating with other systems. Self-contained MIS also were more common in cities with strong data and technical skills that could design and manage changes and updates to the system. Cities with a self-contained MIS and limited internal supports (e.g., technical skills, staffing) frequently contracted with research partners or another outside entity to manage their system.

Four of the Next Generation cities (Baltimore, Jacksonville, Grand Rapids, and Saint Paul) adopted a self-contained MIS and had a functioning system at the end of 2014. The experiences of these cities highlight key considerations in managing the design of self-contained MIS. One city sought to systematically contract out the tasks to different entities and centrally coordinate the effort. Another used expertise within the system to customize an existing system to a new set of needs and purpose with assistance from a research partner who coordinated or advised most of the major MIS development and operation tasks.

The Jacksonville Children's Commission (JCC) used an existing system, SAMIS, in part because the JCC was still under contract with the developer and making a change had cost implications and because it was familiar to its afterschool providers. In this instance, the choice of SAMIS was intended to build on the technical skills that already existed in the afterschool system as well as the efforts to engage and train providers. The challenge for Jacksonville was aligning the existing structures of the MIS with the goals of the afterschool system as a whole. SAMIS was designed as a financial management and compliance system and not for the particular needs of the afterschool system, which includes the capacity to measure participation and outcomes. Thus, although JCC system leaders planned to continue to use SAMIS for the foreseeable future, they also began exploring other options to either significantly upgrade the database or replace it with a proprietary MIS.

Figure 4.

Types of System-wide MIS Selected by the Next Generation Cities*

Composite: **3**

Self-contained: **4**

*Two cities (Fort Worth and Louisville) had not established their MIS at the end of 2014.

Grand Rapids and Saint Paul viewed a self-contained system as one that would be both low cost to providers and "low stakes," meaning that data would not be used for funding decisions. Both cities leveraged existing relationships with a research partner to specifically define their goals and contract the entire process, from design to training to implementation and support, to a single entity connected to the system. To illustrate, contracting with a research partner allowed Grand Rapids to balance a number of their conditions for the MIS that initially seemed in opposition: low-cost technology, minimal burden on providers, adaptable to a wide variety of providers, and capacity to collect and coordinate data rigorous enough for a meaningful evaluation of the impact of afterschool participation. In selecting a system supported and managed by CRI, the ELO Network was able to provide tailored support to the providers. As described by one stakeholder, the ELO Network is a voluntary network that includes "everything from multimillion-dollar operations with IT departments to three people that roll out the basketballs every night who are keeping attendance records on pieces of paper." To accommodate this heterogeneity, afterschool leaders worked with CRI to build a customized system that allows providers to submit various data formats and measures. According to another informant, "Whatever data collection methods that the programs use, we're going to try to accommodate that. It's an ambitious goal, but that way they don't have to change or buy software to accommodate the needs of the project." This decision required significant technical capacity to align the systems, but it met the needs of a diverse range of partners and encouraged their participation in the network.

Although self-contained systems allowed cities to customize the MIS to their particular needs, they were not without their challenges. The biggest challenge for cities designing a self-contained system was managing the initial phase of developing the MIS and deciding what technology would best suit their needs. City stakeholders had to clearly define and prioritize their goals, identify the needed skills and expertise, and then decide what technology would best meet their needs. In some instances, cities that chose a self-contained system were starting with a blank slate when considering the options for system-wide technology. Stakeholders reported that this type of startup required a tremendous amount of energy to coordinate efforts and upfront resources to hire skilled individuals to manage the process, align technology, and develop the necessary processes to ensure that the MIS captured and produced high-quality information. Of the four cities that chose to pursue a self-contained MIS without a prior data system in place, only one had data flowing by the end of 2014.

Another significant challenge in building a self-contained system was cost. Systems that opted for a self-contained MIS had to manage the full cost of establishing and maintaining the system themselves. In the case of Grand Rapids and Saint Paul, the use of a research partner was a major facilitator in acquiring technology and developing processes that were well tailored to a set of shared system goals. However, the use of a research partner was a significant resource investment.

Composite MIS

Composite MIS are most likely to be housed in afterschool systems where the necessary skills and expertise are located in a partner system. Other databases complement the information stored by the partner system. Because composite systems have the benefit of working with existing and functioning infrastructure, they can often get data flowing through the system more quickly than other types of systems. Additionally, adapting technology currently in use reduces startup costs.

Three of the Next Generation cities (Denver, Nashville, and Philadelphia) chose a composite MIS.[23] Denver and Nashville both worked with MIS in their local school districts. At the end of 2014, Nashville's MIS was functioning well, with all NAZA providers entering data into the database. Metro Information Technology Services helped build a web form that created access to the Metro Nashville Public Schools data warehouse for NAZA providers. Providers were able to access reports from the school district database, although they had to do so in the presence of a designated school district employee.

A Nashville stakeholder cited the ability to use existing resources as "a primary consideration" and "one of the driving forces" for selecting a composite MIS, adding, "We wanted to make sure that most of our money went into providing afterschool seats for kids, and not spend too much on infrastructure if we didn't need to." The Denver Afterschool Alliance built an afterschool data structure that includes the Community Partnership System (CPS) that is also used by the school district, and associated MIS that house quality measures (e.g., the Youth Program Quality Assessment) and youth engagement indicators (e.g., the Survey of Academic and Youth Outcomes).[24]

In Philadelphia, the MIS managed by the city's Department of Human Services (DHS), the largest provider in the afterschool system, continued to be the database that DHS-funded providers had to use. However, this system was not flexible enough to easily add users outside of the DHS network of providers. According to an informant, "It took us months just to add one library branch." Thus, system leaders decided to transition to a self-contained system, which may be more adaptable to the needs of a wide range of afterschool providers. Towards that end, they engaged in an almost yearlong process to select Efforts to Outcomes (ETO), a software vendor working with other city agencies, as the MIS for the PhillyBOOST afterschool system. As of the end of 2014, they had completed a pilot of the database with a range of publicly funded agencies and were trying to build commitment to continue using the system among its key partners.

Composite systems seem to be more successful when the afterschool system goals and indicators were well aligned with the goals of the organization that maintains the MIS. When they function well, as in Nashville and Denver, composite MIS also appear to have the potential to strengthen and support relationships between systems. There is strong potential for shared reporting, collective meaning-making, and coordination around planning programming for youth. However, an afterschool system cannot control or dictate the priorities of the agency housing the MIS and may have limited control over features and processes of the MIS or their goals and outcomes.

---

23. As noted in Figure 4, the afterschool systems in Fort Worth and Louisville did not have an established functioning MIS at the end of 2014. Although Fort Worth had not yet selected an MIS at this time, Louisville had, but was still trying to negotiate access to the data system for all of their providers. Afterschool system leaders in Louisville had reviewed a number of different options and selected the MIS used by the school district, named CASCADE. Using this existing system was appealing because it had demonstrated success, was adaptable to a variety of data collection needs, and had the potential to provide relevant individual-level data to providers that might assist with instructional programming. However, school district policies limit which afterschool providers were permitted to access CASCADE. In order for providers to access CASCADE (and, by extension, individual-level student data), providers had to demonstrate that they met the school district's criteria as a provider of individual-level academic support that aligned with the school district's curriculum and instructional strategies. The school district did not consider all of the providers in the afterschool system as meeting these standards, which meant that some providers were not able to enter their program attendance data into CASCADE.

24. For additional information on the Youth Program Quality Assessment (YPQA), visit http://www.cypq.org/assessment. For additional information on the Survey of Academic and Youth Outcomes (SAYO), go to http://www.niost.org/Training-Descriptions/survey-of-afterschool-youth-outcomes-for-staff-and-teachers-sayo-s-and-sayo-t.

The most significant challenge facing composite systems appears to be the extra level of coordination required to ensure that data elements can be integrated into actionable information aligned to common goals. Without a larger partnership or governance structure, partners within the system can drift away from common tasks and goals. This challenge was best illustrated by the experience of Philadelphia. Leaders of the effort readily acknowledged that the PhillyBOOST initiative did not yet have, but needed, a dedicated intermediary to promote and coordinate use of a central MIS. Without appropriate coordination, composite systems may also experience duplication of effort, which can limit system efficiency and frustrate stakeholders, although in the case of Philadelphia, DHS providers were not required to enter data into both the DHS and ETO databases. Another potential challenge with a composite MIS was ensuring the users of more than one system were trained in the use of both systems. To address this concern, Philadelphia developed distinct training and guidance for DHS providers. In contrast, Denver Afterschool Alliance developed a highly structured and formalized process of data integration across the systems that aligned to its core mission. They have not experienced the same challenges in engaging nonprofit providers in the use of the CPS after resolving initial technical issues.

At the end of 2014, seven of the nine cities had a working MIS that was collecting, processing, and reporting data at a system level. Some cities expressed satisfaction with their plans, while others were beginning to experience a need to "reset" their MIS. Figure 5 captures the status of the MIS in each of the nine afterschool systems at the end of 2014. Fort Worth had yet to select an MIS and Louisville was working to expand access for all of its providers for its MIS. Jacksonville was exploring and negotiating with new vendors to replace its MIS or acquire database technology to extend their current capacity, while Philadelphia was working to pilot, promote, and expand use of ETO among its major partners while DHS providers continued to use its database. At least three cities—Baltimore, Denver, and Grand Rapids—were actively piloting or working on updates or improvements to an existing MIS. Finally, Nashville and Saint Paul had established MIS and were not prioritizing change or improvement.

Figure 5.

MIS Status of the Next Generation Afterschool Systems at the End of 2014*

STATUS OF MIS

- Piloting and improving existing MIS
- Actively looking for new or extended MIS capacity
- Established MIS w/out immediate plans for change
- In the process of contracting or selecting an MIS

NUMBER OF AFTERSCHOOL SYSTEMS
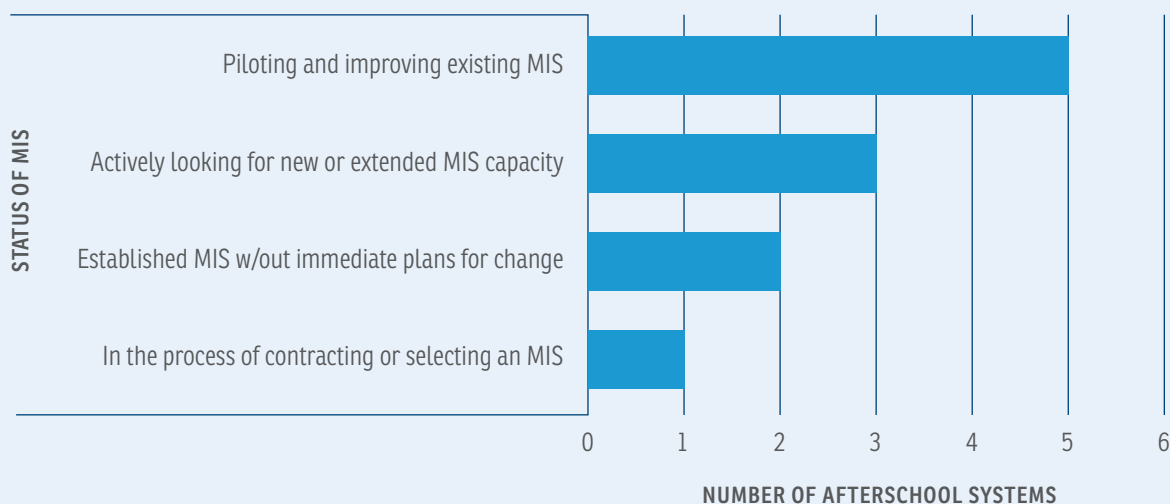
*Two cities, Philadelphia and Jacksonville, are represented twice in this figure. Both systems were actively looking for new MIS capacity and working to improve an existing MIS.

None of the afterschool systems were completely satisfied with its MIS, and all saw ways in which they could be improved. Moreover, in every city, system stakeholders reported that establishing an MIS was a different and more complex task than they imagined it to be at the proposal stage. In addition to technology, there were several critical aspects related to the processes and people that are part of a data system, as described in Chapter 1, which factored into the cities' selection and establishment of the MIS for their afterschool systems. These included assessing their context and resources, locating appropriate expertise, defining their data use goals, and identifying key considerations such as cost.

COMMON PROCESSES ASSOCIATED WITH BUILDING AND SUSTAINING AN MIS

Several common processes—referred to as "tasks and activities"—emerged from our analysis of the 2014 interviews. Although they varied relative to where they occurred in the flow of data through an MIS, the following processes were commonly associated with managing a database:

- **Hardware/Software (infrastructure) (technology):** Managing the technical aspects of the hardware and software, i.e., the database and security.

- **Hardware/Software (interface)(technology):** Managing the user experience and access to data.

- **Data Visualization (technology):** Designing and programming of queries, reports, and other data access tools.

- **Data Collection and Analysis (process):** Performing a wide range of tasks that include the transfer of data across servers, the management of extracts, and the system-level queries and reporting about the contents of the database. Includes matching or linking, where data from different sources describing the same program or individual are combined in a single record.

- **Data Quality Control (process):** Standardizing identifiers and fields, tracking the number and origin of records.

- **Technical Support and Training (process):** Instructing and assisting users.

Although stakeholders across the cities identified these as common tasks, how they were accomplished and who was responsible for them varied. Many informants reported two challenges: getting data flowing across systems and finding people with the right skills to run and implement the systems. To develop and maintain their technical capacity, afterschool system leaders worked with key partners, including school districts and city agencies, external research consultants, and contracted MIS vendors. Many cities relied on multiple sources to accomplish these tasks. For example, in three cities that partnered with research organizations, individuals from those organizations provided a number of different supports. They frequently were contracted to provide technical resources (e.g., MIS management and infrastructure), support with processes (e.g., professional development, access to data, and systems for managing data quality), and people (e.g., researchers and technology support).

Challenges and Considerations in Selecting an MIS

Informants in all nine cities spoke of the complexities and challenges of selecting the "right" MIS. Across and within the city afterschool systems, there were numerous parameters and considerations that made different types of technology more or less attractive. Issues of functionality and adaptability figured prominently in each city's MIS deliberations. As afterschool leaders explored different possibilities, some came to realize that the technology they had originally selected was no longer the best option. Grand Rapids decided to build its own in-house systems after concluding that their commercial system, for its cost, would not be flexible enough to accommodate a wide range of providers using the system over the long term.

Philadelphia and Jacksonville both considered a new commercial system, ETO, to build out new functions for their existing data system. Jacksonville formally assessed the capacities of its existing MIS, determined it was lacking key functions such as reporting, and began searching for alternatives. When Denver prepared to build its data system, afterschool system leaders discovered that a local nonprofit organization, Civic Canopy, was already in discussions with Denver Public Schools about a database platform that could link school data to data from a range of social service providers. The platform was called the Community Partnership System (CPS) and was designed to allow for a "data exchange" between DPS and social service organizations providing services to DPS students (e.g., mental health). The school district could learn which services individual students were receiving, and social service agencies could learn how the students they serve were faring academically. The database, however, did not prioritize the needs of any particular type of provider, so some data of interest to afterschool providers or system leaders such as attendance were not included in the data system.

The factors mentioned most frequently as major considerations while in the process of selecting and establishing an MIS are listed below. Table 6 provides an overview of how each of these factors was experienced by the cities using each kind of MIS in 2014.

- **Cost:** Stakeholders in every city spoke of the need to manage cost as a primary consideration in the task of selecting and establishing the MIS. Each kind of MIS presented unique challenges and advantages with regard to cost effectiveness and depended on a city's goals.

- **Burden/duplication of efforts:** Having the time and resources needed to engage with, manage, or support the MIS were key issues for the cities. Most frequently this type of cost was associated with duplication of effort. System stakeholders noted that providers with their own MIS were sensitive to being asked to enter the same information in another system-level MIS. Provider staff often felt overwhelmed by different requirements for data collection and cities used various strategies to reduce the burden placed on staff whose time was in high demand. For example, a number of cities structured their MIS to reduce this burden by creating look-up functions that would allow providers to identify and "enroll" students rather than create new records for them.

- **Access:** Access to the MIS emerged as a theme across several cities in relation to their choice of MIS. MIS purchased from vendors typically require licenses for use, which impose limitations on access, such as how many organizations and sites may access data, how many users may simultaneously use the system, and how many total users may access data. MIS located wholly or in part in other systems also may be regulated by specifications or rules over which the afterschool system does not have control.

- **Timing, functionality, and adaptability:** Afterschool stakeholders voiced several concerns around timing. First and foremost were considerations of how quickly a system could get up and running. Secondly, systems discussed how startup and maintenance phases might have different requirements and constraints. Planning and allocating resources arose in several discussions about how to create an MIS that was responsive to evolving system goals and sustainable going forward.

Putting It All Together: Build, Buy, or Adapt

The biggest choices system stakeholders faced were selecting, contracting, and establishing an MIS. The three most common paths to a functioning MIS are:

- **Build:** An afterschool system designs and builds a system from scratch.

- **Buy:** An afterschool system contracts with a proprietary vendor to acquire technology as well as some processes and expertise.

- **Adapt:** An afterschool system uses the infrastructure of an existing system. It may also use an existing interface or use some combination of in-house or contracted expertise to customize the system for afterschool users.

Although it seems possible to build, buy, or adapt technology for any type of MIS, some seem to lend themselves more readily to one strategy or another. It depends on how well the afterschool system has identified its needs and goals for data, the capacity and functionality of existing MIS and databases, and resources for internal or external research and data expertise. Thus, the process of establishing an MIS is not easily reduced to a single set of considerations or even a single strategy.

Table 6.

Factors in Choosing an MIS: Themes in Afterschool Data System Development, 2014

FACTORS	TYPE OF MIS	
	Self-contained	Composite
Cost	• Cost borne fully by system • High startup costs • Potential for staffing cost • Cost to customize MIS solution to specific needs of the system • Maximal flexibility of features means you only pay for what you want • Greatest potential to outsource technical skill needs rather than have to identify staffing resources	• Additional investment needed for coordination • Need to meet compliance standards and timelines of another system • Possibility of simultaneously paying for multiple systems • Cost of staff to integrate information across multiple systems • Designed to work with existing resources and structures • Limited startup costs • Cost of technology and expertise shared or supported by another system
Duplication of Efforts	• System may not have capacity to communicate with existing technology • System collects redundant information with other similar systems • Training on data quality and data entry not connected to any other MIS • Selection of a data warehouse, MIS type already in use by other systems • MIS that is compatible with provider MIS so providers enter data into one MIS • Research partner or internal expertise can support MIS across systems	• MIS may not be able to accept or to bridge provider and external MIS technology • Data stored in multiple systems may entail duplicate entry, especially for systems in transition • Using existing resources reduces duplication of efforts if providers are already entering data into the MIS for other related programs • Trainings on data entry and data quality may be maximized as providers might enter multiple types of data into the system
Access	• Proprietary systems frequently require licenses • If cost or licenses are not factors, system can freely control access to MIS	• Access may vary by database and rules of managing organization • System that owns MIS may impose additional access conditions • System has multiple options for how access can be granted • System that owns MIS can freely grant access
Timing	• Tends to require heavy investment of time and money in the startup phase • System has full control over MIS and can design it to be maximally responsive to needs	• Priority of afterschool system requests subject to competing demands within the adjacent system • Systems requiring coordination and/or in transition might have more challenges in executing goals in a timely fashion • Changes in the MIS by the owner of the system may impact timing to enter or access data • Working with existing resources means systems are up and running faster

Establishing Formal Agreements Among Network Partners

Formal agreements outlining participation in the afterschool network and the associated MIS were a critical component in the development and application of the MIS. In the words of a stakeholder in Jacksonville, data sharing agreements "set the parameters, the boundaries of everything we're going to do." Such agreements take the form of detailed data sharing agreements and memoranda of agreement or understanding (MOA or MOU) between network participants that outline the parameters of participation in the system. Writing, developing, and establishing formalized data sharing agreements often took a significant amount of resources.

Data sharing agreements often indicate levels of permission to access data. In the Next Generation cities, these agreements typically specified the level of aggregation of the data that providers can access, including individual-, program-, agency-, system- or city-level data. Every afterschool system envisioned that providers have the ability to see aggregate data for their youth participants, but most limited provider access to data that would allow them to only make direct comparisons of their own youth to the broader system and not directly to other programs or providers.

In creating data sharing agreements with providers in Saint Paul's Sprockets network, large multisite agencies specified the data site-level staff could access, resulting in differences in levels of access among the agencies within the network. According to a stakeholder, "Parks and Rec chose to say, 'We don't want someone at this rec center to be able to see [information about] youth from this rec center.' The YMCA has another model. Any YMCA staff person can log in and see anybody who goes to any YMCA program." In Grand Rapids, the agreement was designed to provide access to aggregate data about all of the programs in the ELO Network. According to a stakeholder, "If a program is nested within another program, like the Boy Scouts of Harrison Park, they will get their individual information and how they compare with all Boy Scouts programs in [the public schools]. Then they get their program compared to all ELO programs in the aggregate level."

Box 2.

FERPA and Data Privacy

School district data can be an important source of information about students for afterschool programs. Over the past decade, there has been increasing interest in connecting afterschool program attendance records with school data on student attendance and performance.[25]

Nearly all of the Next Generation cities tracked program attendance in their afterschool data systems and a few were linking afterschool and school data. As of January 2012, the amended Federal Educational Rights and Privacy Act (FERPA) regulations allowed schools and other "so-called educational programs" to enter into agreements to share data, including "afterschool programs dedicated to enhancing the academic achievement of its enrollees." This policy change allowed for greater discretion by school districts to use data in collaboration with afterschool programs when that joint work could be justified explicitly as a support to school goals.

At the state level, however, legislative activity in 2014 suggested increasing concern about student data privacy. According to the Data Quality Campaign, 30 student privacy bills were signed into law in 21 states during 2014, and many other states were considering similar kinds of legislation. The bills ranged in scope from reiterating protections that already exist in FERPA to preventing the collection of certain types of data to introducing new data governance procedures. It's important to note that four of the Next Generation cities are in states that passed student data privacy bills in 2014.

25. Afterschool Alliance 2014.

Any agreements to exchange student-level educational data had to satisfy the school districts' interpretation of the Federal Educational Rights and Privacy Act (FERPA).[26] (see Box 2). Five cities were able to negotiate varying degrees of access and exchange of student data from the school districts by the end of 2014. A sixth city, Jacksonville, was able to obtain school district records for students in their afterschool programs by providing student identification numbers to the school district.

In the Next Generation cities, people, in addition to processes, were critical to negotiating agreements and access to data in four main ways: (1) willingness of legal counsels of school districts to grant or deny the sharing of student data with afterschool programs within the constraints of FERPA, (2) "champions" in the afterschool/school district who successfully advocated for the sharing of school district data with afterschool programs, (3) leadership at the school district believing that afterschool programs help to accomplish the broader goals of the city and/or school district, and/or (4) research partners who were seen as neutral and trusted collaborators. All city stakeholders endorsed using multiple strategies to negotiate these agreements. For example, the Denver Afterschool Alliance indicated that city government, champion leaders, and attorney interpretation were critical to their success. Cities with key stakeholders in government agencies also appeared to have an easier time of negotiating data sharing agreements and accessing data.

In Denver, according to several informants, the process of developing an MOU with the school district was collaborative. Denver Public Schools (DPS) staff gathered the perspectives of different departments in the school district to discuss the potential benefits of acquiring and sharing data with providers. The school district's legal team engaged in an extensive planning process that resulted in a broad data sharing agreement between the afterschool network and the school district. Legal counsel determined in their interpretation of FERPA that afterschool programs were operating as "agents" of the school district and providing a service on behalf of the district. This interpretation made it easier for the Denver Afterschool Alliance to facilitate the establishment of data sharing agreements between afterschool providers and DPS. To mitigate risk and manage access, each partner established their own data sharing agreement with the school district and permissions vary based on the nature of the partnership with the school district.

Three cities worked through an external research partner to obtain the data they needed from the school district. Having a trusted third party, such as an external research partner, simplified their process as it leveraged agreements between the research partner and the district. The Family League of Baltimore established an MOU with the school district to receive specific aggregated indicators to be used internally to improve program operations. However, the Family League also obtained more detailed school data through their partner agency, the Baltimore Education Research Consortium (BERC). According to one informant, the school district prefers this arrangement, not only because BERC has experience with data permissions, but also because they have developed a wealth of expertise on how to use and interpret the data. BERC serves both as the "data source" for the Family League and as technical assistance provider on the use of the data.

In Grand Rapids, the ELO Network sought help from CRI, its research partner. CRI already had data sharing agreements developed with the Grand Rapids Public Schools (GRPS) through a prior local initiative. The Doug and Maria DeVos Foundation, a local funder, also assisted and provided CRI with information about the permissions and data sharing structure they had negotiated with GRPS. Those agreements authorized data transfers between GRPS and local afterschool providers for program management as well as research and evaluation. Similarly, Wilder Research, the local research organization for

26. For additional information on student privacy bills and state legislative activity, visit http://dataqualitycampaign.org/.

Saint Paul, houses the data system for Sprockets. As is the case in Baltimore and Grand Rapids, the school district and other organizations in Saint Paul viewed Wilder Research to be, in the words of one informant, a "neutral and trusted" party that can responsibly collect and analyze confidential student data. Having a trusted third party can simplify the process of establishing an MOU. The tradeoff is that the third party typically cannot release individual student information, which is of interest to some providers who would like it to guide their programming. While Wilder does have the ability to provide Sprockets with student-level data, Sprockets has not pursued this data as they would not be able to obtain it as often as would be needed for program planning.

It has not been easy for most of the Next Generation afterschool systems to initiate, develop, and sustain data sharing partnerships with school districts. At the outset of the efforts to develop data systems, district stakeholders in most of the cities appeared to consider the afterschool systems as partners in their mission to increase academic achievement. Addressing the actual challenges to sharing data often relied on the strength of individual relationships—superintendents, principals, and researchers, among others—and the alignment of the system with the priorities of city government. School district staff in at least a few cities seemed to view collaborating with the afterschool system and sharing data on their students as tangential rather than integral to their goals. Thus, afterschool systems' requests for student data were perceived as extra work that was not directly related to the mission of schools. As one informant shared, "The district already has a daytime job." The interest of school districts and their willingness to make time and resource investments in afterschool systems appeared to vary over time, primarily due to changes in school leadership and school priorities, but also in response to financial constraints.
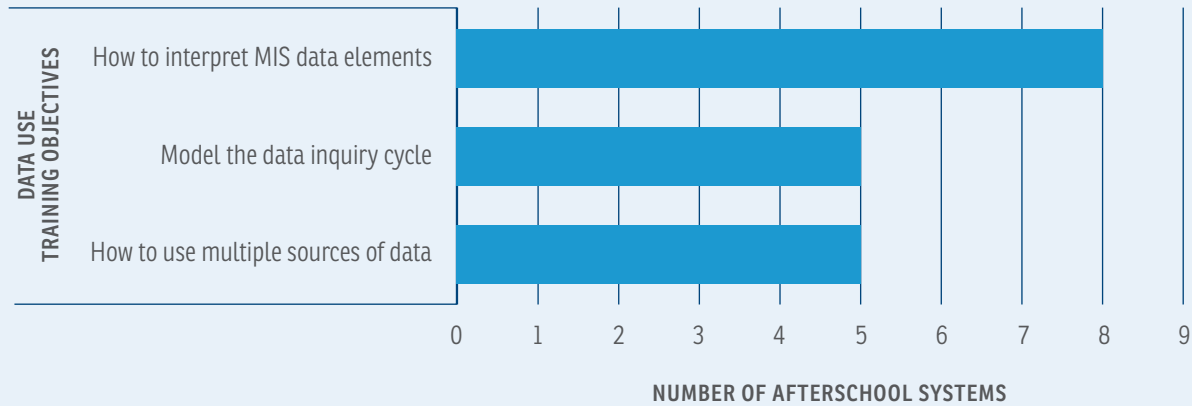
Preparing and Training the Network

In addition to defining the goals of the network, engaging stakeholders, assessing their data needs, choosing and implementing an MIS, and establishing data sharing agreements, the afterschool system also had to put processes in place to prepare and train members of the network to collect and share data. Program directors, administrators, and staff needed to understand the purpose of data collection, how to identify what they need to use the data (e.g., learn data "language"), and how to use the technology at hand to achieve expected outcomes when using data. To accomplish these ends, cities provided afterschool provider personnel with access to trainings designed to: (1) familiarize them with the overall objective for the use of data, the purpose it serves, and how it can be used to inform their own programming; (2) develop the technical expertise needed to enter data; and (3) enhance their skills in effectively identifying and communicating data needs.

Trainings were developed for a number of objectives to build afterschool network partners' capacity to use data. Figure 6 presents the most common objectives cities identified for their data use trainings. Developing providers' capacity to understand and interpret the data elements contained in the afterschool system's MIS was the most frequently mentioned purpose and served to help providers make meaning of the data. Understanding how to combine and use various data sources was the second most frequently mentioned purpose of data use trainings. City stakeholders expanded trainings in Denver, Nashville, and Saint Paul to include supports for organizations to meaningfully use the data for quality improvement, modeling the cycle of data inquiry to providers and how the use of data supports continuous improvement.

Figure 6.

Common Objectives for Data Use Trainings Reported by Afterschool Systems

DATA USE TRAINING OBJECTIVES

- How to interpret MIS data elements
- Model the data inquiry cycle
- How to use multiple sources of data

NUMBER OF AFTERSCHOOL SYSTEMS

Informants in eight of the cities reported the creation of trainings and materials to support providers and other staff in using the MIS. As they learned about the needs of the providers, system leaders expanded the types of professional development they offered. For example, in addition to providing group trainings, the ELO Network in Grand Rapids customized trainings to meet the needs of individual providers. Denver began by creating a basic instructional module called CPS 101. An informant explained that "getting the data from CPS is not easy and so we started training about how to do that and walked them through those steps." Denver system leaders then designed additional trainings, CPS 201 and 301, to provide a continuum of training experiences that include data interpretation and use of data for communication.

In addition to offering training on the data system and how to use the data to inform practice, Nashville created a manual to support network providers' use of its MIS. As a NAZA stakeholder explained, "We produced the manual because we really want our folks to use our data system and use it to guide them in their questions without requiring that conversation with the zone director. We really want them to be able to ask questions of themselves on their own." The manual was created jointly by Metro Information Technology Services, NAZA, and the school system, ensuring that each section was written by someone with expertise in that area, and that the instructions and tasks reflected the perspective and needs of the provider community.

Trainings served not only to make providers more knowledgeable and savvy with regards to collecting and uploading data, but also to instill in providers the value of data and encourage them to make it a priority in their work. City afterschool systems also demonstrated the priority of collecting and using data by offering ongoing trainings on a regular basis. Training needed to be prioritized given the high turnover the vast majority of programs experienced. The provision of ongoing trainings helped to ensure data stay at the forefront of providers' activities.

"We know that there will be ongoing training needs, so we've established webinars. That's also important because there's high staff turnover in out-of-school time, so we know there will be a need for ongoing basic training. Then there will be a need for more advanced training." —Philadelphia stakeholder

Some cities also considered training as an opportunity for system building. In this way, training was often viewed as a potential avenue for engagement and a means for demonstrating a return on the effort that providers were investing in collecting and inputting the data. Systems-level leaders in Philadelphia discussed efforts to get providers who may view training and data collection as increasing their workload to see beyond the work at hand and, in the words of a stakeholder, see that "it's worthwhile, and it's going to be valuable not only to us as a city but also to you as an agency." Another stakeholder in Philadelphia asserted, "The more our providers are now seeing that the vision for the network is to be data driven, the more I think we'll see providers now make a connection between the data that they're collecting and then using that data."

Establishing and Maintaining Data Quality

Ensuring the quality of the data collection required cities to develop a set of ongoing monitoring processes for both the people and technology. Some systems, like the commercial system used by Baltimore and Philadelphia, incorporate data checks into the technology of the data system. Others use dedicated staff to monitor data quality. Still others use both strategies. In addition, some cities supported these dedicated staff positions with data committees, data work groups, or, in the case of Baltimore, an attendance committee. Figure 7 depicts these strategies, which included (1) developing data-centered, formal professional positions in a coordinating entity where one person's primary responsibility was to oversee the upload of data; (2) establishing formal committees or workgroups to oversee the process; or (3) relying on an external research partner or contractor. Some cities used a combination of these strategies to address different aspects of the process. To ensure the quality of data, cities monitored both the people who upload the data and the technology and software used to upload and store the data.

Figure 7.
Strategies Using People for Overseeing Data Quality*
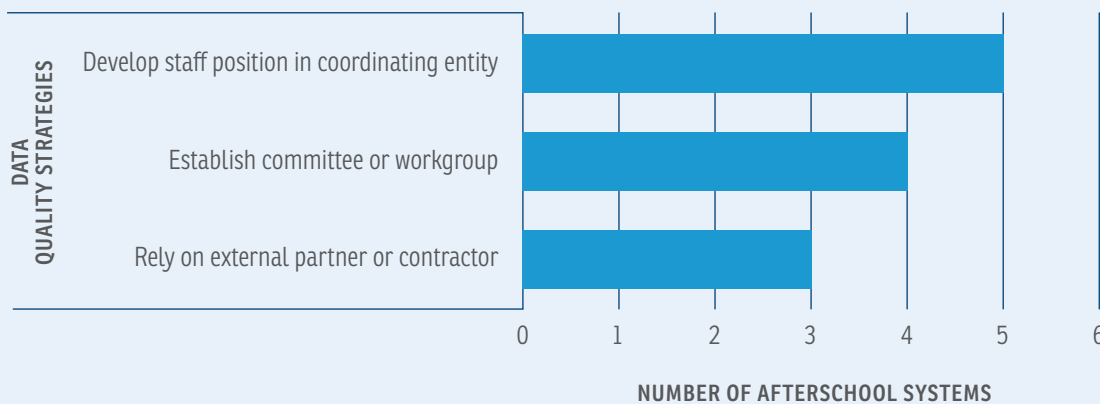
*Some systems use more than one strategy. Fort Worth is not represented in the chart.

Three cities designated at least one person at their research partner organization to be responsible for checking and ensuring the accuracy of the data. Wilder research staff in Saint Paul conduct daily checks, by hand, of the small number of youth afterschool participants whose names cannot be matched with school district lists. They also do monthly checks where both programming scripts and human judgment identify duplication errors. NAZA in Nashville worked with the school district using a similar approach.

Recognizing that its existing MIS, SAMIS, will be in operation for at least another year, the JCC in Jacksonville planned to have its data manager run newly developed custom queries of its existing data to remove incorrect and outdated data on a regular basis. Denver designated a staff position to specifically include review of the quality of data in the Community Partnership System (CPS) "to make sure that when school principals are looking at CPS, that it is accurate." A Philadelphia informant stressed the importance of the role of the knowledge manager within the Department of Human Services, who has been largely responsible for the development of the data system and training for staff on data quality issues, and who continues to monitor the quality of data coming from each partner using the data system. According to the informant, "Down the road, if we're building a budget for conditions for success, we need somebody like him that is devoted to quality and making sure our quality objectives are happening." Denver also relied on its external database manager, Civic Canopy, to monitor providers' upload of data to ensure it gets done in a timely and accurate fashion. A Denver informant said:

"The onus [is on] the providers to make sure that their information is up and current but a big piece of Civic Canopy's role is making sure that they are [doing it on a regular basis]…You still need somebody to be on point and communicating with providers about making sure that they're keeping their information up to date and [understand] why that's valuable. Even though it's up to the providers to keep it current, you still have to have a team working to help make sure that it is current. The system has to be able to send reminders out because the data is only as good as the inputting of it."

As another strategy to ensure the timely and accurate upload of provider data, several city afterschool systems established a committee to oversee the data upload process and ensure its quality. For example, in Baltimore, where data quality had been identified as a challenge, the afterschool system developed an "attendance committee" to oversee quality control checkpoints to ensure, according to an informant, that "data are entered properly and well." As a result, the system reported that the revised data collection and upload process resulted in much improved data quality.

Ensuring data quality involves not only processes for supporting and monitoring the people collecting and entering data, but also the technology used in the upload and storage process. Many cities, such as Jacksonville and Nashville, developed staff positions to monitor the quality to ensure the integrity of the data within the system. In Jacksonville, systems-level staff were tasked with following up with providers to confirm that the attendance data they entered in the system matched the data the system reports out.

Getting Data Flowing

DEVELOPING DATA DASHBOARDS AND REPORTS

Collecting data and getting data entered into the MIS has been a major focus of the Next Generation city afterschool systems, supported by considerable investment in the people, processes, and technology aspects of a data system. In order for that information to be used, it needs to flow out of the system and into the hands of decision makers. System leaders were well aware of the importance of communication to their stakeholders, regardless of the status of their work around collecting data and developing their database. They described the need to craft messages specific to targeted audiences, including their providers. A majority of the cities were presenting data in various ways for providers and other stakeholders in their afterschool networks by the end of 2014.

Across the cities, system leaders shared examples of how they were developing the capacity to design and produce useful reporting tools. For example, Jacksonville's MIS provided users with dozens of reports. As described by system leaders in Jacksonville, the initial reporting interface was cluttered and confusing for providers, and the reports built into the MIS did not align strongly with the needs of the afterschool network. To address this challenge, system stakeholders had begun to talk about customizing a set of four to five standardized reports that would summarize the data that afterschool programs use on a regular basis. In Baltimore, the challenge was somewhat different. System leaders had assumed that providers would be able to work with the raw data that flowed out of the MIS, perhaps by using sort functions in spreadsheets, for example. Learning that this was not the case jump-started conversations about ways to make data more useable for their program managers and frontline staff.

At the end of 2014, six cities—Baltimore, Denver, Grand Rapids, Jacksonville, Nashville, and Saint Paul—had already begun to systematically generate dashboards and reports using their MIS to make information about system and provider performance accessible. In general, these dashboards present one or more data elements, with the goal of allowing users to understand changes over time or relationships among data elements. These ways of summarizing data were largely descriptive, serving as a snapshot of agreed-upon indicators. Here we highlight how these six systems with established MIS approached the work of building out data dashboards, what they chose to include in their dashboards, and the concerns and priorities that informed the design of these tools.

POPULATING DASHBOARDS AND REPORTS WITH DATA

Afterschool systems with already well-established MIS by the end of 2014 took two different approaches to populating the dashboards that they developed to communicate data to providers and other system stakeholders. The first approach relied on capacity within the MIS to generate reports. The second strategy relied on internal staff or research partners to extract data from the MIS and synthesize the contents into actionable information.

To illustrate, Denver and Nashville automated the generation of provider dashboards that summarized key data elements housed within their databases. This automation, which required that the systems agree on a small number of standardized dashboards to build and integrate into their MIS, yielded real-time (or close to real-time) information about programs and their participants. Providers in these systems who wanted additional data relevant to their specific goals and that informed how they were engaging their youth had to make separate data requests. Grand Rapids and Saint Paul saw considerable value in customized provider dashboards that specifically addressed the needs of individual providers and used their staff capacity or research partners to populate these program-

specific tools. In these cities, individuals such as a knowledge manager with analytic capabilities and authority to access the data created the dashboards for the sites, and research partner staff were responsible for creating customized reports.

Determining the type of reporting capabilities cities prioritized for the system informed their selection of their MIS. For systems that wanted real-time reporting or to regularly produce a predefined set of reports or dashboards, an MIS with the capacity to generate these reports or support standard queries was seen as a strong asset. For systems with more diverse needs or systems whose stakeholders planned on conducting an evaluation alongside regular data updates, relying more heavily on human capital than technology informed their MIS design.

DETERMINING THE CONTENT OF DASHBOARDS AND REPORTS

As described earlier, systems and providers often have heterogeneous goals and priorities for the programming they deliver to children and youth. When thinking about how to share and present data, stakeholders needed to identify data elements that both reflected their priorities and were broadly salient to their provider community. Multiple cities noted that giving providers information that they could report to funders and program stakeholders was a key tool for ensuring and maintaining provider buy-in. Baltimore, Denver, and Nashville developed standardized dashboards for their programs, focusing on a small number of potential indicators as their highest priorities.[27] Grand Rapids and Saint Paul, as described above, invested in customized reporting that included the indicators that individual providers requested. A major theme of these reports, as described by a system staff member in Saint Paul, was aggregated information based on data drawn from the school district system, such as academic performance and attendance.

Concerns about making data actionable influenced what data the afterschool systems chose to include in their dashboards. According to a Baltimore system leader, the main question driving their dashboard design was how to represent impact through trends in program attendance, for example, comparing current year data with data from the prior year. In Nashville, the decision to focus on average daily attendance as a primary indicator of youth engagement and to include this information in program dashboards had already enabled comparisons from one year to the next across programs at the same school site and across programs in a particular zone of the afterschool system. With multiple years of data on this indicator now collected, system stakeholders anticipated being able to use trend lines to inform the interpretation of findings.

Along with requests from providers, the priorities of afterschool system partners and suggestions from external technical assistance organizations helped to inform what should be included in their dashboards. In Nashville, dashboard content was heavily influenced by the measures the school district prioritized for tracking: students' school behavior, attendance, and academic performance. Structuring the dashboards around these three indicators meant that providers could easily access real-time information about their performance in ways that aligned the primary foci promoted by the system. Because the dashboards also summarized the number of students that exceeded the thresholds established for behavior, attendance, and academic performance, having the data also sparked conversations about how to support students around relevant priorities for both afterschool system providers and school partners. According to one system manager, having these types of conversations using program dashboards was leading to more effective conversations about students with school staff, despite year-to-year turnover in staffing on both the afterschool provider and school sides.

---

27. It should be noted that Jacksonville produced annual reports that included program-level information for its key academic and behavioral indicators. To the best of our knowledge, however, these were produced primarily for the city council and not used with providers, although JCC monitors kept track of attendance data through the year and used them when completing their monitoring forms on individual providers.

MAKING DATA ACTIONABLE THROUGH DASHBOARD DESIGN

As part of getting data into the hands of providers and other system stakeholders, cities also had begun to think about how to make their reports and dashboards useable—a task that required making decisions about how to present and summarize key data elements. Systems that identified youth attendance and participation in afterschool programming as a key priority had to determine how attendance data should be summarized: as numbers, averages, or trends over time. In Baltimore, program-level average daily attendance was a key accountability metric and was included in the scorecard used to communicate with providers about performance. In Nashville, program dashboards also totaled the number of students whose attendance dropped below a certain threshold and providers could drill down to explore individual student attendance, a capability that was possible because of the real-time, individual-level nature of data housed in the database. In Grand Rapids, CRI consulted individually with programs to help develop attendance benchmarks, creating a customized dosage indicator to reflect the program's structure and expectations. Cities developed a number of ways to convey more complex information other than simply presenting numbers or averages for data elements included in the systems. Doing this facilitated the use of data to improve outcomes for participants.

In Nashville, the system's goal with its dashboards was to "make data most understandable" for the people using them. There, the need for quick, easy-to-understand snapshots of program performance informed decisions about what charts and graphs to include and how to lay data out on the page, resulting in dashboards such as the illustration in Figure 8.

Figure 8.
Sample Data Dashboard from Nashville (Anonymous)
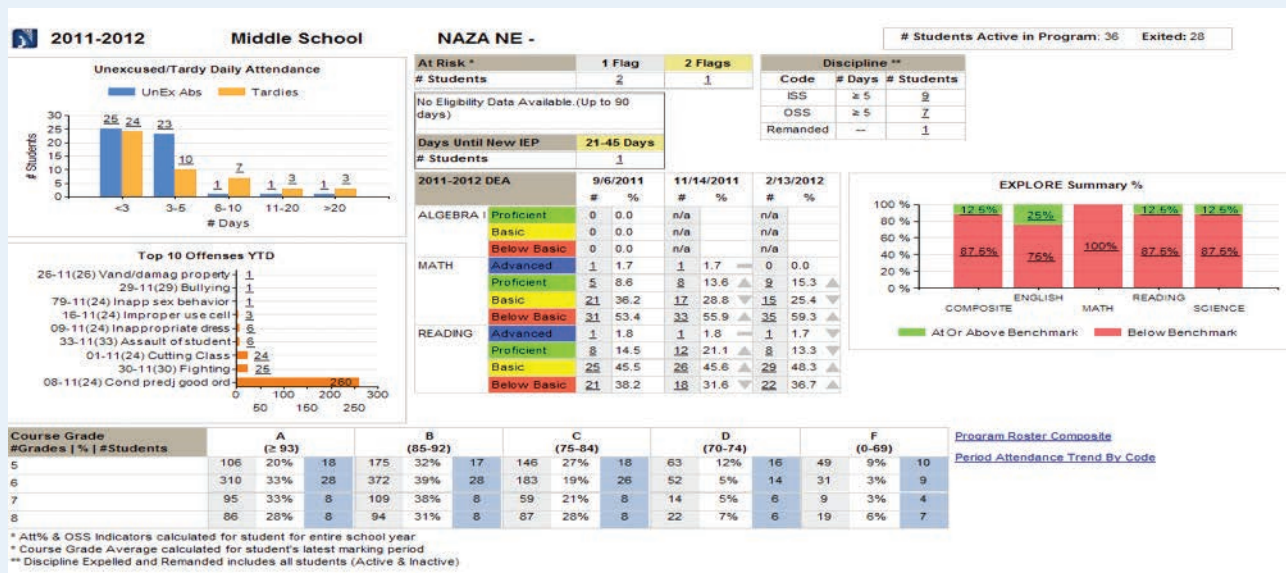
Each provider can access an individualized report through the MIS that depicts current status or trends in key indicators for the students they serve. Viewed from the system perspective, the choice to display attendance over time and quality results was intended to promote thinking and conversation about the system's collective focus on quality. One system manager described the benefit of structuring the dashboard in this way as allowing system stakeholders and providers to "ask some pretty strong questions related to why attendance may be up or down, based on what the program quality results are."

Across multiple sites, dashboards and reports were emerging as tools for convening partners and starting meaning-making discussions that would allow afterschool systems to transition from building the capacity to use data to actually using it. At the end of 2014, the question of how much reports could and should be standardized, as opposed to being customized to meet the individual information needs of providers and other stakeholder groups, was just surfacing. This topic will be examined further in the second half of the study.

Summary

As cities identified the goals and purposes for data use, they concurrently worked through ways to measure those goals and to collect information. Next Generation cities had to determine the type of MIS that best aligned to their resources and the types of data being collected in the system. Those that decided to build their own systems were able to customize the functionality of the system; however, they had to balance financial costs, whether they had staffing resources to manage the MIS, and whether consensus on data components could be reached. Other Next Generation cities opted to leverage existing resources of other partners, primarily school districts, to develop their MIS. The use of existing technology facilitated the access to data and individuals with expertise to manage the MIS. Cities that elected to use existing resources often aligned their goals to those of the partner organization. Other cities combined systems by accessing multiple different databases, usually with the assistance of a research partner. Regardless of the type of system, cities had to establish data sharing agreements that articulated the parameters of the use of data, types of data to be shared, who had permissions to access data, and how the partners would use the data. These agreements often took a significant amount of time, especially if they involved linking with school districts to gain access to information protected by FERPA.

As cities developed their MIS, they began to establish strategies to build the capacity of partners to enter and use data. Specifically, cities developed trainings to help providers understand how to enter data based on common definitions and access the data stored in the MIS. As providers became fluent in data entry, systems focused on the quality of the information to ensure that partners and stakeholders were making decisions based on accurate data. Throughout the process of establishing the components for the use of data, systems often had periods of growth and times of frustration. This forced systems to establish and leverage the people, processes, and technology that are the key elements of the systems. Establishing the MIS was the foundation for using data to create meaning. In the next chapter, we explore how cities moved from collecting, storing, and communicating about data to using the data to inform the goals, activities, and decisions of the afterschool system.

4. USING DATA AND BUILDING CAPACITY FOR DATA USE

"The biggest challenge is making sure providers really understand what we're trying to accomplish and then how to use the data [for planning]. In our last conversation with the provider agencies, we found that providers read the report [about their baseline data], but they didn't use those findings as part of their goal-setting process. They had ideas of how they were going to improve their program, which were great ideas, but we wanted to make sure they understood the link between going through this process and how it should become part of their overall action planning."—Nashville stakeholder

KEY POINTS

- As actionable data became more accessible from the MIS, city systems were beginning to use the information to focus on achieving the goals of the afterschool system.

- The cities with a functional MIS were able to use data to make decisions regarding resource allocation to prioritize areas in the city for expansion, improve program quality, identify at-risk youth, and facilitate service planning.

- Once providers became more familiar with entering data into the system with quality, training needs expanded to include a focus on using data to facilitate conversations about program practices within and across providers.

- Ongoing coaching and training processes emerged as a critical need to ensure continued use of the system to account for the significant turnover in the field.

In this chapter, we discuss how the Next Generation cities were analyzing and using data at the end of 2014 for learning and improvement. Developing and implementing data use practices depended on both existing capacity and strategies for building capacity. All of the city afterschool systems indicated that they use or plan to use data for compliance and monitoring purposes. However, in this chapter we focus on data use that is for the purpose of planning, decision making, and system improvements.

Our interviews with key stakeholders in each city indicate that at the end of 2014, five city afterschool systems—Baltimore, Denver, Grand Rapids, Nashville, and Saint Paul—were showing evidence of systematic data use for these purposes. We first provide examples of how these cities were developing the people and processes aspects of their data systems, while taking advantage of the technology aspects they had established. These processes are outlined in Table 7. We then describe key strategies of all of the cities to support and build the capacity of both providers and system stakeholders to use data and the factors that influenced those efforts. We conclude with a discussion of facilitators and barriers to developing the capacity for data use.

Table 7.

Processes and People in the Development of Data Use for Compliance, Learning, and Improvement

DATA USE PROCESSES	KEY ACTIONS	PEOPLE INVOLVED
USING DATA		
Using data for compliance and accountability[28]	Provide data to comply with funders requests	System leadership and staff; technical staff; research partners
	Generate program-specific dashboards and reports	System leadership and staff; technical staff; research partners
Using data for learning and improvement	Analyze gaps between current programming and community needs	Afterschool providers; system leadership; funders
	Support providers to improve program quality and enhance youth engagement	
	Develop and maintain relationships with partners	
SUPPORTING SYSTEMATIC DATA USE		
Building provider capacity for data use	Provide professional development (trainings, coaching, and/or data dives)	System leadership and staff; network work groups; technical staff; research partners
Motivating providers to use data	Communicate a low-stakes orientation to data use	System leadership; funders
	Provide program-level data reports in usable formats	System leadership and staff; technical staff; research partners
	Establish providers' accountability for performance on selected data elements, e.g., attendance or quality	System leadership; afterschool providers
	Collect relevant data	System leadership and staff; network work groups; technical staff; research partners; afterschool providers

28. All of the city afterschool systems indicated that they use or plan to use data for compliance and monitoring purposes. However, in this chapter we focus on data use that is for the purpose of planning, decision making, and system improvements.

Data Use for Learning and Improvement

All of the city afterschool systems with established MIS provided evidence of using data for compliance and accountability purposes. Like most afterschool systems, the Next Generation cities were using data or evidence about programming—for example, youth participation or attendance—to respond to funder requests. Although this type of data use predates the establishment of their data systems, some stakeholders reported that they were beginning to actively use program-specific dashboards and reports, made possible by new databases, to address longstanding compliance and accountability requirements of their funding streams. Afterschool stakeholders also reported that their decisions about data were influencing funders' interest in and use of data. Although funders have long asked for participation or attendance information, stakeholders in the afterschool systems noted that funders were beginning to understand the limits of these data and were asking for data on quality and youth outcomes.

Below, we focus on four uses of data for learning and improvement supported by the successful establishment of data collection technology and processes. At least one of the five city afterschool systems identified above had begun to regularly and systematically implement these uses by the end of 2014. These uses were: (1) identifying gaps between current programming and community needs, (2) identifying and responding to the needs of individual children and youth, (3) supporting providers to improve program quality and enhance youth engagement, and (4) using data to broker and sustain relationships with partners. These uses align, in many respects, with the uses of data that the National League of Cities 2012[29] report identified as high value or what Gerstein[30] would describe as connecting data to strategy or data use for learning and improvement.

29. The National League of Cities report (2012) included the following in their definition of high-value data uses: (1) assessing youth outcomes and system impact, (2) promoting accountability, demonstrating return on investment, and allocating scarce resources, (3) empowering afterschool providers and reducing paperwork, and (4) facilitating peer benchmarking and professional development.
30. Gerstein 2015.

Figure 9.

Types of Systematic Data Use for Learning and Improvement in Five Afterschool Systems, 2014*
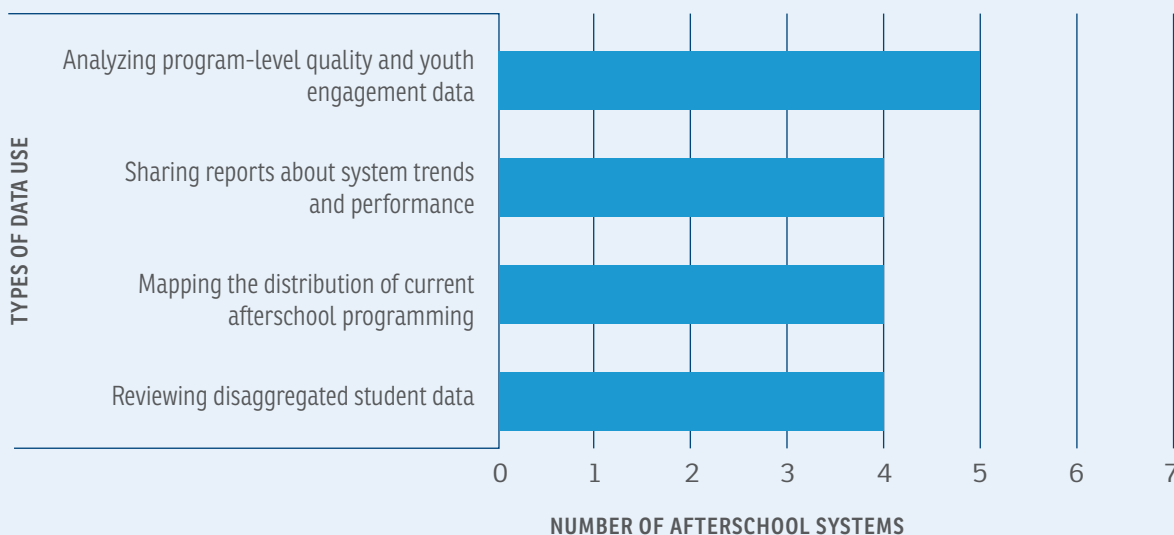
*The five cities represented in the figure are Baltimore, Denver, Grand Rapids, Nashville, and Saint Paul.

DATA USE TO IDENTIFY GAPS BETWEEN CURRENT PROGRAMMING AND COMMUNITY NEEDS

Cities are increasingly using geographic information systems (GIS) and other mapping technology to identify areas where underserved youth live. Stakeholders in four cities (Denver, Grand Rapids, Nashville, and Saint Paul) have used the results of community gap and needs analyses to inform schools and community-based organizations about the needs of the youth they serve and then, if necessary, realign or expand services to address gap areas. In Saint Paul, stakeholders used school district data to compare the current locations of providers belonging to the Sprockets network to a map showing the percentage of young people living in poverty across the city. One stakeholder described this work as a first step in an effort to better support the development of afterschool programs in areas where young people would benefit most. Similarly, Denver conducted gap analyses to identify community needs in different parts of their city to improve how they recruited and supported potential providers with training and technical assistance. A stakeholder in Denver described the process of working with providers to identify gaps:

"I was able to say, 'What parts of the city do you want to be in?' We were able to look at the schools within the city and say, 'There are a lot of arts programming in these schools already. I can see why you're not getting traction. Have you thought about this part of the city instead?' 'Well, yes, and here's why it doesn't really work for us.' 'Okay, great. Let's dig a little bit deeper.'"

These analyses also revealed age or grade-span gaps, leading to conversations about how to attract providers who work with underserved youth at particular ages in low-income areas of the city.

In Grand Rapids, the afterschool system's work began with analyses of community needs and gaps in services. This city continues to use the tools it developed to learn more about how children and youth participate in afterschool programs, particularly youth participation in multiple programs, the accessibility of current afterschool programming, and where resources should be allocated. Nashville has used annual citywide census data to determine where the system focuses its work. The afterschool system uses information about the unique characteristics and needs of district schools when deciding which providers it works with in particular areas of the city and to determine where to expand NAZA programming. Although other cities had not yet used community needs and gap analyses to inform system decision making at the end of 2014, system leaders viewed this type of data use as foundational to making good decisions about where programs should be located.

DATA USE TO IDENTIFY AND RESPOND TO INDIVIDUAL STUDENT NEEDS

At the end of 2014, the city afterschool systems were beginning to use data to help providers respond to individual student needs, though these uses are limited to cities that have established MIS and data sharing agreements allowing providers access to data on individual participants. NAZA system leaders in Nashville generate attendance, academic, and behavior information about individual youth to help inform providers, enabling them to make decisions about what opportunities to provide to specific participants in their programming. As described in Chapter 3, afterschool system provider staff can access reports through their MIS dashboards about the numbers of students with poor attendance, with behavioral issues, or not meeting academic expectations. They also can meet with the school's data designee and identify specific students who are struggling and develop strategies for supporting students based on up-to-date information. In an effort to better meet the needs of students in Grand Rapids, provider

interest in knowing more about which students were having trouble led to conversations with the school district about the possibility of sharing early warning indicators, such as academic or behavior problems, that are associated with dropping out of school.

Beyond using data to track the participation of youth already enrolled in afterschool programs, Baltimore system stakeholders had begun to use these data to implement a more targeted youth recruitment process. They create recruitment lists based on analyses of whether youth participate in afterschool programming in high-crime areas and share them with school principals at the beginning of the school year. These lists highlight students who might benefit from participation based on demographic characteristics such as eligibility for free and reduced-price lunch, identification for special education services through the district, and school attendance patterns. The city's coordinating entity, Family League of Baltimore, encourages providers to enroll youth from the lists in their afterschool programming.

Other cities with established MIS with the technical capacity to identify and track individual student needs have chosen *not* to pursue the use of data to intervene with individual students due to concerns about the accuracy and timeliness of existing individual level data or the ability of providers to respond appropriately to student needs. Thus, they have taken a different approach to sharing these types of information with their providers. In Saint Paul, customized reports provide aggregate data on the youth a provider serves, including rates of school-day attendance (e.g., number of youth who had attendance of at least 90 percent), measures of academic performance (e.g., number of youth performing at proficiency level on statewide academic tests or making grade-level appropriate gains), and demographic characteristics (e.g., number of youth eligible for free or reduced-price lunch). In Grand Rapids, student-level data are aggregated to pinpoint patterns, enable conversations about what the data show, and engage the community in addressing the identified needs.

DATA USE TO SUPPORT PROVIDERS IN ENGAGING YOUTH AND IMPROVING PROGRAM QUALITY

Program attendance—the amount of participation in programming, or dosage—is a key data element for all of the cities, although only some were actively using it as a tool for learning and improvement at the end of 2014. For the afterschool systems, program attendance provides information on compliance factors (e.g., number of students enrolled, hours of service provision) and quality factors (e.g., turnover rates of students/staff during the course of the program, attendance of enrolled students). Systems reported using attendance data to have conversations with program staff about trends and as an early warning indicator that the program was experiencing challenges either entering data into the MIS or serving children and youth. Though afterschool providers often individually report on attendance data to their funders, the systems struggled with how to standardize attendance data across programs of varying intensities (e.g., programming offered daily or on selected days of the week) and length (e.g., programming structured in alignment with the school year or in terms of a certain number of weeks). Denver's database, for example, was not initially designed in a way that could answer questions about dosage, although they were working to make modifications by the end of 2014. In Baltimore and Nashville, providers are expected to enter program attendance data in the system's database. Data trends are analyzed and programs are supported in meeting individual student needs and addressing programmatic barriers to attendance. As a core component of their role and responsibilities, NAZA zone directors and coordinators review program enrollment, utilization data, and other MIS reports and dashboards at regular intervals. In the words of an informant in Nashville:

"[Average daily attendance] is one of our primary indicators of youth engagement, so if the kids are really engaged and enjoying what they're doing, they're going to be coming regularly... Now we're starting to get multiple years of data so you can start to look at trend lines. Is it getting better? Getting worse? What does that mean?"

Beyond looking at these data to identify patterns over time, system coordinators are expected to assess providers' success with their strategies and talk with them about performance issues reflected in the data. As another stakeholder explained, being able to review attendance and other data in a timely manner allows the NAZA system to determine the root causes of these patterns with providers and identify strategies to make programming more engaging for the youth they are intended to serve. "If kids aren't participating, we want to know right away," the stakeholder said.

The Baltimore and Nashville afterschool systems are using attendance data to assess demand for services and determine the number of slots that the systems support through contracts with their providers. Explaining the rationale for using data to inform funding choices, a system stakeholder in Nashville explained, "It's really clear that if they cannot engage kids, they cannot keep them coming." Nashville reduces the number of slots allocated to a provider if, after implementing new strategies, it does not improve youth participation. In general, all afterschool system providers are expected to have an average daily attendance of 70 percent or greater in order to receive an additional stipend. The Baltimore afterschool system monitors youths' average daily attendance rates to identify patterns of utilization and, if a provider's average daily attendance is low, they reduce the provider's final quarter payment.

Beyond the five cities that are the focus of this section, other cities involved in the initiative—Jacksonville, Louisville, and Philadelphia—reported similar uses of data at the end of 2014. However, despite aspirations to do so, they were not yet using the data for learning and improvement systematically in the ways that stakeholders in Baltimore, Denver, and Nashville described data use. For example, in Louisville, an informant reported telling a provider that the program was being paid a lot for an average daily attendance of three students in an effort to encourage more consistent and accurate data entry. In Philadelphia, because of differences between funding agency expectations, some providers have to report attendance in an agency's legacy MIS but are not required to report it in the new MIS developed for the PhillyBOOST network, complicating the city's ability to systematically collect and analyze attendance across all programs. In Philadelphia, a subset of providers—those funded by DHS—have traditionally had performance-based contracts tied to youth participation, which serves as one model for how the broader system in that city could interpret and use data. System stakeholders in Jacksonville also planned to use average data attendance to inform system decision making, though challenges related to getting providers to consistently enter attendance information were complicating this use.

Box 3.
What Are YPQA and SAYO?

The Youth Program Quality Assessment (YPQA), developed by the David P. Weikart Center for Youth Program Quality, is a validated instrument designed to measure the quality of youth programs and identify staff training needs. It has been used in community organizations, schools, camps, and other places where youth have fun, work, and learn with adults. It measures seven domains: safe environment, supportive environment, interaction, engagement, youth-centered policies and practices, high expectations for youth and staff, and access. For more information, see www.cypq.org/assessment.

The Survey of Academic and Youth Outcomes (SAYO), developed by the National Institute on Out-Of-School Time (NIOST), measures eight outcome areas that research suggests are linked to long-term positive development and academic and life success in afterschool program youth: behavior in the program/classroom, initiative, engagement in learning, relations with adults, relations with peers, problem solving, communication skills, and homework. For more information, see http://www.niost.org/Training-Descriptions/survey-of-afterschool-youth-outcomes-youth-survey-sayo-y.

Program quality, as defined by the David P. Weikart Center for Youth Program Quality and by the National Institute on Out-of-School Time (NIOST), goes beyond investing resources in the safety and organizational elements to include relational factors and youth engagement. Cities reported using other data sources to improve program quality and engage youth, including assessments of program quality such as the YPQA and SAYO assessments (see Box 3). Of the cities implementing the YPQA, all but one (Baltimore) reported their quality assessment data to the Weikart Center, which provided analyses and reports to the afterschool systems. Baltimore has developed the capacity to internally analyze the data from the YPQA—although these data are not included in their MIS—and developed their own reports to share with providers. Although cities actively used these data to support programs' improvement planning and implementation through separate databases or spreadsheets, collecting the data in a separate database meant that they had limited ability to use their MIS to identify patterns or trends in program quality in concert with other data elements. Nashville recently created the capability to store YPQA data in its MIS, and Denver and Saint Paul were considering adding SAYO data to their MIS. This type of move could, as one Denver stakeholder explained, emphasize the value of program quality and youth outcome data. The MIS, as a data "hub," would remind users about the importance of paying attention to program quality in decision making.

By 2014, a few cities were also tracking information about participation in professional development. In Nashville, these data were maintained in a separate MIS and could be analyzed by individual or in aggregate. These analyses, along with provider requests for particular trends in program quality and student-level indicators, informed system planning for future trainings and workshops. As one system stakeholder explained, "That's another piece of data that we're able to use to see actually how our programs are performing and to be able to assist them in the areas where they're low by offering them professional development opportunities." In other cities like Baltimore, data are analyzed to assess whether programs are meeting participation benchmarks for professional development. These data are maintained in a separate database with no plans to add these elements to the MIS.

DATA USE TO COMMUNICATE AND BUILD RELATIONSHIPS WITH PARTNERS

Stakeholders in some cities reported leveraging data to communicate and strengthen relationships with key partners, including city agencies and funders. In the words of a Grand Rapids system stakeholder, "[Data] drives how you advocate." In using data to promote and advocate for the afterschool system, our informants underscored the need to consider the preferences of providers and partners. Although funders are often interested in using data to inform their investment strategies and decisions, afterschool providers and other system stakeholders are concerned about potential high-stakes uses of data.

System stakeholders, funders, community members, and other external audiences are interested in knowing more about the quality and outcomes of afterschool programming delivered to children and youth. Impact reports can help city afterschool systems communicate their progress to key partners and make the case for public investment in afterschool systems. The specific focus of the reports to these audiences in each city has varied. In Nashville, for example, system stakeholders share reports with a range of city decision makers, including NAZA's leadership council, a school district advisory group, and a local education funder group. Prepared by the Weikart Center, these reports describe system performance and illustrate patterns of program performance on various indicators of quality. Denver worked with a communications organization to craft its first comprehensive impact evaluation report focusing on afterschool programming across the city. System leaders shared this report with city and school leadership as well as their funders.

In addition to increasing interest in afterschool programming, stakeholders we interviewed asserted that the data in these reports also help inform the funding process. As a Philadelphia informant explained, even though many stakeholders already believed in the importance of afterschool programming, "the dollars could be wiped away if we couldn't justify their use." More data, and especially quality data, helped to make a stronger case for the funding needed to bring the system to scale. An informant in Louisville highlighted the critical contribution data can make in framing conversations about ongoing public investment in afterschool programming. As she put it, being able to put data in front of city council members made it easier to reframe conversations that generally unfolded along the lines of, "Don't ask me to give you money or pay higher taxes if you can't show me that this is really making a difference and improving the outcomes in my community." She added that, in the current political environment, "I don't think you can do it without showing [data]."

Strategies for Building Capacity for Data Use

Many of our informants stressed that data must be made meaningful before they can be *used*. In this section we discuss activities that some of the cities have implemented to build the capacity of providers and system leaders to use data. Provider strategies include professional development and efforts designed to motivate providers to use data. System strategies include starting small, managing and improving the afterschool system, and working with external researchers. We continue to draw mainly from examples of the five cities that were showing evidence of active use of data for learning and improvement at the end of 2014, but also provide examples from other Next Generation cities that have implemented strategies to foster data use.

Figure 10.
Afterschool Systems' Strategies for Building Providers' Capacity to Use Data
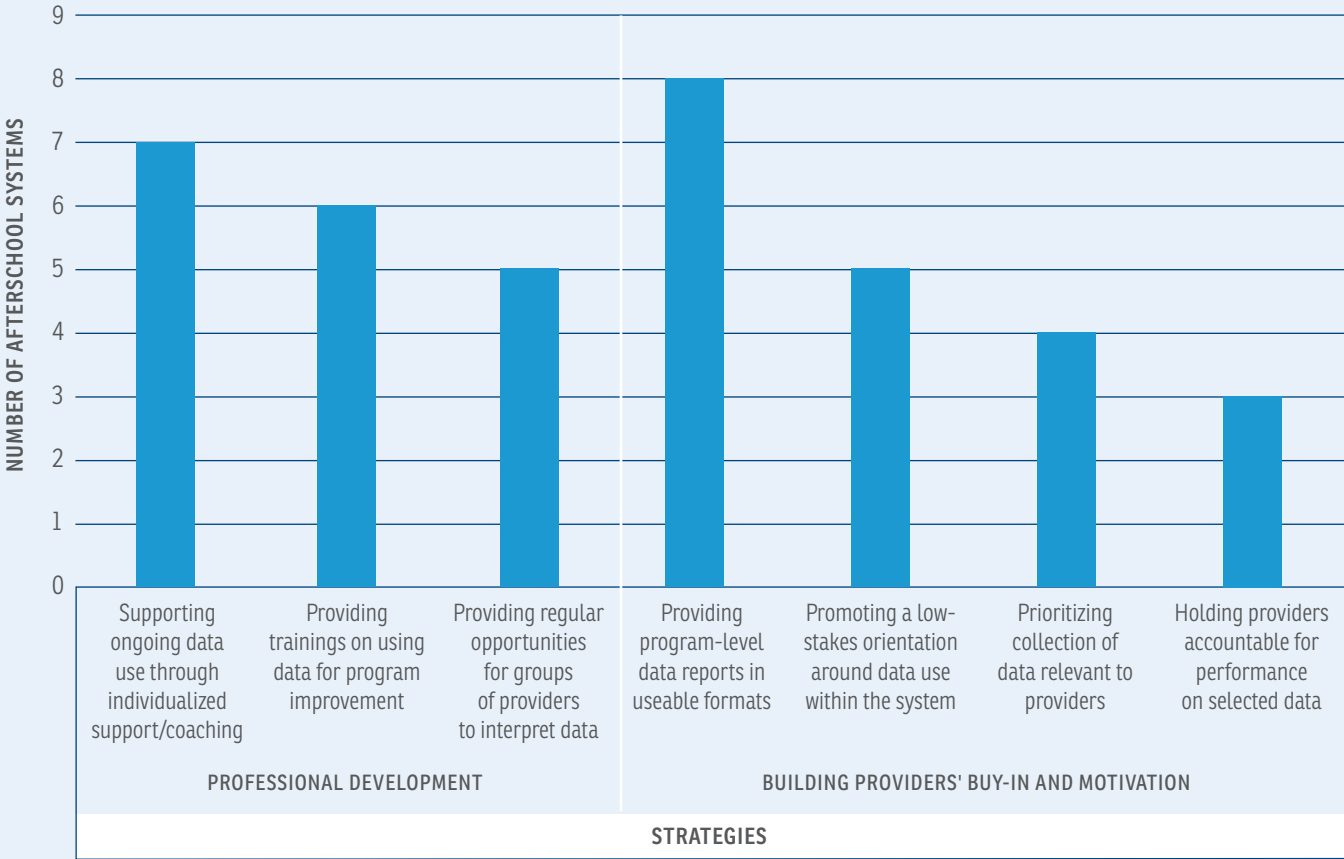
BUILDING THE CAPACITY OF PROVIDERS

To build the capacity of providers to use data, the city afterschool systems invested in two main strategies: professional development and training, and activities to foster providers' buy-in and motivation for data use. Figure 10 provides an overview of these strategies and the number of cities that were investing in them at the end of 2014.

Professional Development Strategies

Analyzing and using data for learning and improvement involved a steep learning curve for most providers across the nine cities. A Philadelphia informant explained:

"We have learned through this data system that our program staff did not necessarily learn program development in the sense of it being equal parts design implementation and evaluation...What we're trying to do is train our program staff to be clear that if you do not track what you are doing then you are not programming. That is a very different shift in culture and mindset."

Consistent with the literature on data use for decision making,[31] several informants for this study suggested that providers would be more likely to appreciate the relevance and meaning of data if they could review program data with peers through a facilitated process in a comfortable, open setting. Thus, many city afterschool systems organized trainings or meetings on how to interpret data. Six of the nine cities—Baltimore, Denver, Grand Rapids, Nashville, Philadelphia, and Saint Paul—have implemented regular trainings, and other cities described plans to implement similar activities in the future. Intended to boost providers' capabilities to use data for planning and improvement, these data trainings served as low-stakes[32] settings where providers and system leaders have conversations about data that have been collected and how that data can be made useful for providers, school personnel, and system stakeholders.

In the five cities highlighted at the beginning of this chapter as afterschool systems with more systematic use of data for improvement, data trainings specifically focus on developing providers' skills and capabilities to address questions using multiple sources of data such as YPQA, demographic, community, and school data. For example, Family League of Baltimore staff convene workshops in which providers review data, set priorities, and develop a data-informed program improvement plan.

In three cities, data use trainings were specifically designed to model a data inquiry cycle for providers. As mentioned earlier, the Denver Afterschool Alliance developed a series of training sessions to meet the needs of providers with different levels of experience with data. An initial session, called CPS 101, walks providers through the logistics of accessing program data in the MIS and uploading their rosters; CPS 201 helps providers learn how to interpret the data and what they can or cannot say based on the data; and CPS 301 focuses on using data as a communications tool. These trainings also include "take-it-back" activities to help participants engage other staff at their program sites around data analysis and use.

The decision to focus the CPS 201 and 301 trainings on the data use cycle was motivated by feedback from providers participating in a pilot version. In order to analyze and use data for improvement, providers first needed to consider how they would want to use the data and reports now accessible through the MIS. Denver also provides opportunities for a small cohort of providers in its so-called Demonstration Project to participate in additional "Planning with Data" sessions to enhance their understanding of the data inquiry cycle, triangulation,[33] and meaningful use of data.

---

31. Coburn and Turner 2011.
32. As noted in Chapter 3, Smith 2013, among others, notes that data use in an accountability framework can be either for "high" or "low" stakes, meaning system decisions about how to make use of information about provider performance (for example, as the basis for funding decisions or not) can create different incentives and motivate varying data activities.
33. Triangulation is a technique that facilitates validation of data through cross verification from two or more sources.

In Nashville, providers and school staff from each NAZA zone come together to review and discuss site-specific data reports. These "data dives" are convened twice a year after report cards are issued. In the January 2014 session, individuals were grouped by their program location and each received a packet that included a map of the community area for their school or program with flags representing addresses of students eligible for free and reduced-price lunch, a data dashboard printout with the standard school information for NAZA participants such as attendance and discipline, and a bar chart with YPQA data. According to an informant, these data dives have served as professional development for providers with limited experience using data and helped to facilitate communication, strategic planning, and "a culture of collaborative inquiry" among providers.

Saint Paul system leaders, with their research partner, Wilder, designed an annual daylong event to help providers learn to analyze and use multiple data sources to inform their program development efforts. In these "Making Meaning with Multiple Datasets" sessions, also called M3, trainers work with providers to draw connections among many diverse data reports—on attendance, program quality, program experiences, and youth outcomes—to reflect on each individually and identify patterns, and then examine the patterns in the context of other data sources. Trainers emphasize that each data source provides both information and context useful to guide decision making.

Finding additional time for more regular practice in interpreting data was challenging, but several cities implemented other processes to complement their formal trainings. These included providing individualized coaching for provider staff and creating cohorts to participate in professional learning communities. To supplement the data analysis that happens at Nashville's twice-yearly data dives, for example, zone directors conduct monthly site visits with each of their providers. They use the strategies identified in the provider's improvement plan to structure discussion. Similarly, in Philadelphia, program specialists worked with providers to look at individual youth's participation, guiding them through a process of interpreting and making meaning of attendance and other data. Individualized coaching was implemented in Denver as well and was under development in Baltimore. Grand Rapids was reported to be considering a similar strategy. As a stakeholder explained, "Providers don't have a lot of time to really digest and pore through [the data], and they don't have an objective person to ask the kind of questions they need to, to say, 'Okay, how would you interpret this?'"

Motivational Strategies and Incentives

In the Next Generation afterschool systems, fostering a low-stakes orientation to data use was considered an important strategy to increase providers' buy-in and interest in data use. System stakeholders emphasized that with the creation of the MIS, many providers were seeing information about participating youth for the first time. As a result, system stakeholders in several cities described the learning process as an iterative, time-intensive reflection process. A system stakeholder in Denver emphasized the importance of building providers' motivation and interest in data use as critical to the success of any MIS or data use-focused initiatives, stating:

"It's in the process of evolving and getting people comfortable with it. That's why I certainly haven't been aggressively pursuing the finest use of [data]. There are so many things we're just working out. . . I'm more interested in maintaining people's commitment and trust, and participation and, overall, to see the right way to be going forward."

Similarly, an informant in Grand Rapids anticipated that provider buy-in would increase as providers experienced their own successes from using data for decision making, saying:

"What I hope is having some data will help them do some program planning and program improvement and then they'll like that they're seeing improvements in data and we're going to help them understand their information. They'll be the ones who will want to show that to their funders and say, "Look, I can prove I'm showing outcomes."

Likewise, system stakeholders in Saint Paul intentionally decided not to evaluate or give feedback on providers' improvement plans as a way to make their application of data low-stakes. In a similar vein, one Jacksonville stakeholder described an interest in fostering a quality mentoring—as opposed to quality monitoring—approach to data use.

Beyond promoting a low-stakes improvement orientation to data use, cities described implementing three other strategies that were helping to motivate providers to use data. One strategy was to show providers how MIS dashboards and reports could help them to address their specific questions and concerns. Though providers have traditionally given some data on outputs to their funders, they rarely have had the opportunity to use these data themselves because the systems they enter data into do not always provide easy formats for them to extract the data. While providers have the raw data that they report to funders, they may not have the internal capacity to compile and analyze the data to inform programming decisions. Cities reported that providing reports was helping increase their providers' engagement in data use. In the words of a stakeholder in Philadelphia, "Now that we're beginning to generate reports, [decision makers] see the data across systems from the enterprise level. That has really helped in generating interest and kept the conversations going."

A second strategy, as discussed earlier in this chapter, was to hold providers accountable for performance on selected data elements. While cities predicted negative consequences for using youth academic outcomes in a high-stakes manner, they also acknowledged that in order for programs to engage and benefit youth, the youth need to be physically present. Drawing on the idea that consistent participation (or high utilization rates) was an indicator of a successful program, average daily attendance rates were one source of data that system leaders of Baltimore, Jacksonville, and Nashville programs used to inform decision making and planning. In Baltimore and Nashville, system leaders do not renew contracts with providers who demonstrate consistent patterns of failing to engage youth.

A third strategy was to collect more data on indicators important to providers. The promise of expanded access to data, particularly data that providers saw as relevant to their missions, helped to foster their motivation to use data for learning and improvement. In Louisville, the system's promise of access to information about students' social-emotional learning and timely feedback that could inform program planning created, as described by an informant, "phenomenal" interest in the data system among providers. In Baltimore, Grand Rapids, and Saint Paul, efforts to engage providers in determining what data elements would be collected and housed in the MIS were characterized as a key mechanism for building buy-in for data use activities. An informant in Saint Paul observed that engaging providers in system planning helped keep the MIS and data relevant. This relevance was particularly important, according to a Baltimore stakeholder, because provider frontline staff "are in youth programs because they want to be there working with the kids. They have the passion for that. When we tell them, 'But administratively, you have to take this much time out of your day to do this bookkeeping work,' that really turns them off." System stakeholders in these cities discussed investing in data about

students' social-emotional learning development as having considerable potential to engage frontline workers and promote greater focus on youth outcomes.

BUILDING THE CAPACITY OF THE SYSTEM

Turning data into reliable, useful knowledge for the system as a whole—just like for improving individual programs—fundamentally involves people and processes. What system leaders want to know about the entire afterschool system is similar to what providers want to know about their own programs:

- What do we know about youth participation?

- What explains patterns of robust or limited youth participation?

- On what quality indicators is the system fairly strong and where are key areas for improvement?

Data uploaded by providers into the MIS can be used to identify overall trends or uncover patterns in progress on key indicators over time. The data also can help system stakeholders assess the degree to which the system is meeting its goals. Analyses of the data can be used to customize professional development for providers and guide efforts to align programming with city goals for the afterschool experiences of children and youth. Informants' comments suggested that shifting data use habits was a particularly salient system-level activity in cities that formally partnered with multiple agencies as part of the afterschool system.

Although they may ask similar questions, the purposes for which system leaders seek to use data (e.g., to manage and improve the system) are not necessarily the same as the purposes for engaging providers in data use to improve program quality and outcomes for youth. According to our informants, system leaders want to take up questions about where and how to expand services, assess where system structures such as the MIS and professional development opportunities are contributing to program quality and youth outcomes, and decide how to allocate resources to achieve system priorities.

System leaders placed considerable weight on tracking system progress on key measures like the number of students and communities served, the system's success in reaching the youth that can most benefit from afterschool programs, and evidence about the relationship between youth participation and academic outcomes. Measurement and data-driven decision making are a cornerstone of advocacy and legislative efforts to improve programs and policies for children and youth, including current federal and state education accountability policies. In Grand Rapids, informants described feeling increased pressure to show outcomes for afterschool programs in order to maintain current levels of funding for the system. One system stakeholder's perception was that, as a result of the way the system was responding to these pressures, providers' data use was becoming more compliance-focused than improvement-focused.

Despite the considerable attention that afterschool system leaders gave to supporting providers in using data for improving program quality and youth participation, they struggled to develop parallel processes for using data for system building and improvement. System stakeholders valued a variety of system-level purposes for data use such as establishing a vision of quality, developing shared thinking about high-priority outcomes and system-level improvement, and creating comparable quality standards. The system's ability to make these kinds of systemic changes depended on the capacity of the MIS to provide useful data at the system level and system leaders' time to analyze and use the data. A system leader in Baltimore felt the challenge of finding time to focus

on system-building work given the continual demands of supporting implementation. A Philadelphia stakeholder made a similar point, arguing that the afterschool system's ability to pay attention to system-level outcomes was restricted by challenges related to getting the MIS established and convincing providers of the importance of consistently entering their data.

System leaders and partners in some cities had considerable leverage in developing and implementing data-driven approaches to enhancing their systems. In Nashville and Denver, the leadership of the two main partnering agencies had significant experience supporting these types of initiatives in both education and city government settings. In other cities, these sources of expertise existed in pockets, such as system stakeholders that had management rather than leadership roles within the afterschool system. For example, the head of the Department of Parks and Recreation in Philadelphia was described as "totally committed" to continuous improvement after a weeklong training with NIOST. He found funding to pay for staff at all of his afterschool programs, not just programs that were part of the afterschool system pilot, to participate in training to use the SAYO and other data as part of a continuous improvement process. Another network leader in that city was also reported to have spearheaded the implementation of a similar process within her city agency.

Opportunities and Challenges for Building Capacity for Data Use

By the end of 2014, providers in several cities were beginning to see the potential benefits of using data more effectively in their work. However, as one Baltimore system stakeholder noted, "For the most part, our folks are checking the boxes and doing what they need to do, but they could be going a little deeper in terms of talking about the strategies or the program design or how things are being implemented." This experience was not unique to Baltimore. Informants in all nine cities saw room for growth in both provider and system data use that could ultimately improve outcomes for children and youth. Here, we discuss the common barriers we have observed in the efforts of city afterschool systems to build capacity to use data as well as the facilitators of data use. These efforts, summarized in Table 8, highlight the interrelationship of the people, processes, and technology aspects of a data system.

DEVELOPING SKILLS OF FRONTLINE STAFF

Developing new data use capabilities among frontline staff, program managers, and system stakeholders emerged as a challenge across the Next Generation cities. System stakeholders talked about needing to regularly engage providers around data-use basics, as opposed to being able to rely on knowledge from prior data trainings and familiarity with the MIS. In Nashville, system stakeholders described the work of developing capacity for systematic data analysis and interpretation as one of cultural change. As one Nashville informant put it, the challenge was not that providers did not want to engage in data use.

"To the degree that providers have wanted to get that data and have been willing to come to the table, it has been just great. It is just so outside the skill set of some of them that it's just a steep learning curve. And then with the staff turnover of frontline staff on top of that, it's hard for some of my partners to create and sustain a culture inside their agencies."

High turnover among frontline program staff was identified consistently as a challenge to building provider capacity, as suggested by this informant. In response to these related challenges, cities were finding that they have to offer their trainings on data analysis and use frequently—much more often than at the startup of the school year. As one Philadelphia stakeholder explained, "There's high staff turnover, so we know there will

be a need for ongoing basic training. Then there will be a need for more advanced training."
Although the afterschool systems had designated staff to provide training and support—or
were able to make use of staff in partner agencies—the need to invest system resources in
onboarding new frontline staff limited resources for other tasks, including supporting more
sophisticated uses of data.

Table 8.
Opportunities and Challenges for Building Capacity for Data Use

	OPPORTUNITIES	CHALLENGES
Developing data use skills of frontline staff	• System leaders prioritize developing human capital and expertise around data use	• System may have limited prior experience supporting systematic data use among providers • System leaders may not recognize the role of training and sustained opportunities for meaning-making in promoting data use • High levels of frontline staff turnover challenge efforts to develop human capital around data use
Communicating and building trust among stakeholders	• Strong, pre-existing relationships between system and provider staff	• Limited communication about goals and priorities between system and provider staff
Accessing data visualizations and reports	• MIS interface and infrastructure allows system leaders to analyze system- and neighborhood-level patterns • Perceptions of the database as reliable and functional, with useful data visualization capabilities • Dedicated staff to generate reports and help providers and system stakeholders to interpret them	• Time lag between data entry and availability of reports • Poor data quality
Collecting relevant data	• Strong partnerships among system stakeholders or with contracted research partners • Effective data sharing agreements	• Validated, easy-to-use indicators and tools are not always readily available • Disagreement over which data are relevant
Promoting a low-stakes, improvement orientation to data use	• System leaders can advocate for a low-stakes, continuous improvement orientation to data use	• Systems have limited ability to influence the broader stakes that providers may experience around data use

COMMUNICATING AND BUILDING TRUST AMONG STAKEHOLDERS

Trust and strong relationships between system and provider staff, as well as among system stakeholders, emerged as a key facilitator strengthening provider and system capacity to use data. In particular, trusting relationships appeared to be especially important in opening up communication across different levels of the system. A Baltimore system stakeholder attributed growing engagement and interest around data use to the fact that the system's activities were informed by both "grassroots and grasstops." In Louisville, a system leader argued that these longstanding, trusting relationships boosted the willingness of providers to engage in learning how to use data in the absence of financial incentives to do so. Similarly, in Nashville, community-based providers were initially disconcerted with the idea that school staff would be able to see data on the children they serve, but strong relationships fostered by the NAZA zone directors helped to reduce their concerns over time.

Regular communications and meetings also contributed to stronger relationships between system partners and between system and provider staff. Almost all of the cities instituted work groups to guide and support their system-building work, and these groups helped create important opportunities for communicating about partner priorities and values. In Philadelphia, one system stakeholder characterized the afterschool system data group, which was made up of system partners, data experts, and providers, as "the most consistent, productive work group" they had been involved with. Another stakeholder from Philadelphia contrasted the robust communication within the system's data, quality, and coordinating entity work groups as failing to flow between the groups. She explained, "We're at the point right now where we're connecting the dots between the conversations."

ACCESSING TIMELY AND USEFUL DATA VISUALIZATIONS AND REPORTS

The degree to which the MIS facilitated access to useful data visualizations and timely reports was an important influence on data use. Having an established MIS, although not essential to the work of creating data visualizations and reports, made it much easier for systems to quickly relay information to their providers. Even so, generating the data visualizations and reports from the MIS was not straightforward, with many cities manually compiling data for programs or relying on providers to generate the information.

Baltimore provides one example of how systems can make data visualizations more useful to providers. In that city, the system engaged providers in improving the usability of a quarterly scorecard that summarized program performance. The revised template showed providers where they were on enrollment, attendance, volunteers, partnerships, and resources—all indicators that they saw as relevant to their work. A system stakeholder described the improved tool as making it easier for providers to focus on interpreting and using these data.

In some cities, data quality concerns prevented timely and accurate reports. In Denver, for example, duplicate student records made it difficult to assess the impact of program dosage (how often a youth participates) on various outcomes. Informants in Jacksonville, Philadelphia, and Denver reported instances in which MIS-generated reports did not match the internal records of providers. Thus reports that were supposed to facilitate data use instead created questions about the data among providers.

Cities also recognized the need to create consistent methods of accessing and reporting out progress as a system, with particular attention to generating and sharing knowledge about the system's successes and areas for growth. Implementing the communications strategies they envisioned was not straightforward. Some of these challenges had

to do with the design of the MIS. In Baltimore, choices made as the MIS was being developed—often based on cost and efficiency concerns—meant that data entered by providers could not easily be organized in ways that allowed them to analyze data about particular communities or the system as a whole. In Saint Paul, because different providers collected data on different indicators, custom reports needed to be built in order to answer questions about provider outcomes. Thus, the MIS did not contain all the fields needed to track provider outcomes in a centralized manner. Organizational capacity posed other challenges. For example, in Jacksonville, system stakeholders aspired to generate monthly or quarterly reports about their programs, but found that they did not yet have the necessary technological and staffing capacity.

Generating data reports for providers was a common function undertaken by system staff. In some cases, staff created customized reports based on provider requests for particular types of information. In other cities, system staff were more proactive. For example, system staff in Baltimore, Louisville, Nashville, and Saint Paul described pulling reports and e-mailing them to providers on an ad hoc basis in order to encourage data use. In Nashville, zone managers shared hard copies of these reports at monthly meetings and helped providers review and interpret their data reports to improve performance.

COLLECTING "RELEVANT" DATA

Facilitating access to data that providers saw as relevant to their missions was, as noted earlier in this chapter, important for generating excitement and sustaining interest in data use. In cities like Grand Rapids and Nashville, the establishment of data sharing agreements with school districts meant that providers had access to school day attendance and academic outcomes data about their participants for the first time. System stakeholders felt these data provided important contextual information that helped guide frontline staff in making decisions about the types of programs to offer their participants.

Providers and stakeholders in several cities believed that social-emotional learning and other nonacademic factors were at least as important indicators of youth development and thus were more interested in this type of data. Informants in cities using the SAYO tool, including Denver and Saint Paul, tended to feel that it provided data on important intermediate, youth-focused outcomes such as behavior and relationships and could be used in conjunction with program quality data such as YPQA indicators to make programming decisions. Yet, over time as they became more knowledgeable about the domain of nonacademic outcomes, they found that the SAYO did not directly address some key social-emotional outcomes of interest to providers, such as initiative, teamwork, empathy, self-control, and persistence in learning. Thus, by the end of 2014, system stakeholders in at least a few cities were exploring other ways to capture other youth development information that would help inform program planning.

Some of the cities also were engaging additional agencies such as health and juvenile justice in conversations about access to new and different data elements that would help maintain the relevance of the MIS for stakeholders. Across the systems, however, leaders described challenges to identifying new resources to support this work and to reaching agreement about what elements to add to the MIS and how the system should be using data. Indeed, in at least two cities, informants told us about disagreements over how data already collected and housed in the MIS should be used. In Louisville, for example, system stakeholders had different priorities about which youth should be targeted for recruitment, and how it should be done. Similarly, stakeholders in Baltimore were still working to identify the right data to understand how individual students' connections to services and interventions might relate to outcomes.

PROMOTING A LOW-STAKES, IMPROVEMENT APPROACH TO DATA USE

Even as city stakeholders characterized a low-stakes, improvement orientation as a linchpin in their efforts to build capacity for data use in 2014, they also reported ongoing challenges in promoting this approach to funders. Generally, with scarce resources, funders and other stakeholders continue to emphasize holding providers accountable for program attendance and youth academic outcomes that they considered most relevant to school and career success in the twenty-first century. Although the majority of the cities collected data on program quality, that data was being used mainly to help programs reflect on their progress and their self-identified areas of improvement. At the same time, there was evidence of growing awareness of the importance of quality among agency partners and funders, and increasing requests in proposals for quality indicators. These requests came with different stakes. For example, major funders in Louisville asked for evidence of minimum quality standards in funding proposals. A major funder in Grand Rapids, on the other hand, was supporting programs that were participating in a quality improvement process rather than asking for evidence that the programs had achieved a particular quality rating.

MANAGING EXPECTATIONS AND BEING STRATEGIC

Given the complexity of developing, managing, and effectively using a system-wide MIS to effect change at multiple levels, system leaders adopted a range of strategies to manage their work. Although it is premature at this stage in our study to talk about general steps and strategies that all or most city afterschool systems have taken along the way towards developing their data systems, we are beginning to discern some general concepts and themes in their efforts: (1) starting small or simply with a pilot to test processes and structures before scaling up and (2) establishing ongoing human capital and expertise for data use through building relationships with partners and contracting for outside expertise.

Starting Small

As indicated in the table at the end of Chapter 2, not all of the programs participating in a city afterschool system were necessarily entering data into an MIS. Several cities, including Denver, Grand Rapids, Philadelphia, and Saint Paul, were developing and refining their data systems and training for providers by piloting new activities with only a subset of providers. As informants in multiple cities pointed out, improvement rates depend on baseline quality. Providers also need different levels of support and professional development to align with and advance the system's vision. In Denver, a cohort of diverse providers was invited to pilot additional capacity-building supports, such as additional data use training offered in a learning community format and coaching to support their implementation activities. Philadelphia developed a pilot of 23 providers to collect SAYO data and pilot the new ETO system before rolling it out to a larger number of providers.

Other cities, including Baltimore, Jacksonville, and Nashville, could also be characterized as "starting small" because they focused their system-building activities on a subset of afterschool programs. In Baltimore, the coordinating entity developed a Community Schools engagement initiative in partnership with the school district, pulling back from its prior, more diffuse strategy for funding afterschool programming. At the schools involved in this work, school-based coordinators partner with afterschool providers to identify strategies to address performance issues. Similarly, Nashville's NAZA focused specifically on developing a coordinated system of afterschool programming for middle school

students. NAZA zone directors work with middle school principals to match afterschool providers that offer particular types of programming to community needs. As mentioned previously, Denver created the Demonstration project with a subset of the afterschool providers to create a structured learning community and to pilot and refine training and professional development materials prior to expanding to the broader afterschool system.

Philadelphia system stakeholders described customizing reports for one umbrella provider organization, the After School Activities Partnership, that was advocating for greater data use among its members. This effort was viewed as a potential model that the city could use to strengthen its capabilities to support other providers' data use. For these four cities, demonstration or pilot projects with a subset of providers helped them both meet their programs where they are and, simultaneously, move their afterschool system forward.

Working with External Researchers

As discussed in Chapter 3, system leaders in some of the cities turned to external research partners to help build their capacity to collect, organize, and analyze data. These research experts helped providers and system leaders interpret and use data for system improvement. Grand Rapid's research partner, CRI, is a vocal participant in discussions of how data should be analyzed and used. A Grand Rapids informant reported:

"[CRI staff] really help us to make the case for specific needs and issues that the kids are experiencing, help us to think more thoughtfully about how to then reverse those negative trends, and then help us to evaluate the effectiveness of what we're doing when we try to be responsive to what the data has shown is a problem…Having them as a partner in every iteration of the process is huge."

CRI's research director also advised the afterschool system on what types of data would be needed to establish a causal connection between participation in afterschool programs and various outcomes, and specifically cautioned against making claims about the impact of afterschool program participation on reductions in juvenile justice trends.

In other Next Generation cities, these research partners have played a somewhat less extensive, albeit very important, role to foster data use. As noted above, Saint Paul's research partner, Wilder, assisted in designing and facilitating the M3 trainings in data interpretation. Baltimore's research partner, the Baltimore Educational Research Consortium (BERC), both provides individual-level data for the MIS and analyzes the performance of youth participating in afterschool programming. A specific focus of this work is to better understand youth outcomes over time. As characterized by system leaders, this research organization is a key thought partner who has supported the coordinating entity through multiple phases in the development of their data system. To bring some of this expertise into the system, a new analyst position has been split between Family League of Baltimore and BERC. According to an informant, this analyst was learning from colleagues at BERC "how to do the work in a deeper and more sophisticated method" to serve the needs of the afterschool system.

In Nashville, as part of another initiative, NAZA leaders contracted with an external research organization to assess whether higher-quality programs more effectively reduce students' academic challenges than lower-quality programs. Again, they were particularly interested in the impact programs had on a set of early warning indicators that were associated with future dropout. The resulting report examined correlations between program participation and youth school day attendance, behavior, and academic outcomes. Afterschool system leaders then used the findings on the impact of higher-

versus lower-quality programs to plan future evaluation strategies. In other cities, the system turned to partners with strong research and evaluation capacity to carry out these more sophisticated analyses of system data. Denver and Louisville, for example, created shared positions with the school district to support this type of work.

System leaders in other cities focused on developing capacity across the system recognizing the need to develop their own skills as well as the providers. Some of these cities hired experts to train and support system leaders, similar to the trainings and support offered to providers. Sprockets, in Saint Paul, contracted with two developmental evaluators to conduct trainings, review academic literature on the developmental benefits of afterschool programs, and organize periodic surveys of providers to get feedback on their system-building activities. The experts also have worked with Sprockets staff to develop a cycle of inquiry including: acquiring data, interpreting it in context, and creating knowledge that leads to action. As one informant explained, the process included asking, "What information would be helpful to reflect on? Now, what are we going to do based on what the information is telling us? This is the most basic protocol; we call it the 'what, so what, now what' kind of inquiry."

Summary

By the end of 2014, a number of the Next Generation cities had begun to use data for improving access to and quality of afterschool programs, leveraging their significant investments in data collection and database development. Among the five cities that were most actively analyzing and using data, a majority were engaged in identifying gaps between current afterschool programming and community needs, supporting providers to improve program quality and enhance youth engagement, and strengthening relationships with partners. Differing philosophies about how to most appropriately use data to improve access to programs and youth outcomes are reflected in the people chosen to be involved in the data system, the processes that help the system function, and the technology established to "fuel" the system with data. For example, some cities decided to focus on individual student outcomes while other focused on the aggregate impact of programs on groups of children. Decisions made about people, processes, and technology during earlier phases of system development subsequently lead to both opportunities and challenges to data use.

In 2014, systems were also developing diverse approaches to build the capacity of providers and system leaders for data use. Five cities had already designed and implemented professional development strategies that focused on how to make meaning of and use data. Stakeholders in these systems were continuing to learn what providers needed to know in order to leverage MIS reports and other data about program performance. Beyond basic trainings focused on the interpretation of key data elements, professional development strategies for provider staff included the creation of advanced data use trainings such as using multiple data sources or an inquiry cycle model, individualized coaching, and learning communities or cohorts of providers meeting regularly around data. System stakeholders also recognized the importance of providers' buy-in and motivation to use data in moving their systems forward and used strategies ranging from prioritizing the collection of particular data elements to producing straightforward and usable data reports to create engagement. Although informants in all cities emphasized the centrality of a low-stakes, improvement orientation to engaging system stakeholders around data use, they also talked about the role financial incentives played in their efforts to strengthen providers' capacity for data use.

At the system level, cities confronted tensions related to developing structures and strategies that could help their systems move forward while simultaneously working to create robust implementation supports for their programs. Improvement-focused data use is fairly new work for the afterschool sector, and represents a shift in the culture of the field. Leaders in many cities were actively learning how to support system-level capacity building and continuous improvement efforts even as they were designing and implementing strategies and structures to build provider capacity. Not all of the afterschool systems had staff members with the expertise needed to support rigorous data analysis to inform their agenda and work. In cities that contracted with external researchers, these relationships were described as contributing positively to system capacity to work with providers and partners, as well as furthering internal and external conversations about system goals, priorities, and areas for growth.

Finally, there were a number of facilitators and barriers that influenced efforts to build provider and system capacity to use data. Specifically, these factors affected the development of knowledge and skills to use data for learning and improvement, relationships between system and provider staff, access to relevant data, availability of reports and data visualizations, and the stakes systems attached to data use. The specifics of what each city experienced as facilitators and barriers along these dimensions varied. However, the broad themes in the experiences of the nine cities suggest that attending to these dimensions is a necessary part of their system-building work to help stakeholders develop their capacity for data use.

5. SUMMARY AND EMERGING THEMES

"Does the data system meet our needs? Yes. Will it evolve? Yes. As the [afterschool network] evolves over time and we begin to ask more in-depth questions of the data, and ask a series of those questions, that leads us to look at other data components. So, as we move, the system has to be flexible enough to move with us."—Nashville stakeholder

KEY POINTS

- City afterschool systems have made considerable progress in identifying the data they need to demonstrate their value to stakeholders, improve service quality, and increase youth access to high-quality programs.

- Although technology is a critical component of data use, it could not happen without human expertise and social processes.

- The cities have faced a number of challenges but also have made considerable progress in developing the capacity to collect and organize data.

- Cities are in various stages of using data to advance the goals of their afterschool programs and system. In about a third of those cities in the study, the processes of data collection, analysis, and use are becoming routine.

- Themes in early strategies include starting small, building or purchasing research and data expertise, and being prepared for change.

Throughout this report, we sought to show that developing the capacity to collect, organize, and use data in city afterschool systems is complex. It can only happen through long-term investments in people, processes, and technology. In this interim report, which focuses on the time period between 2012 and 2014, we described the steps that the nine city afterschool systems in this study have taken, and the decisions they have made, to develop their capacity to use data.

The cities have invested significant resources and wrestled with multiple components of system building during this process, including developing coordination and management structures and processes, identifying stakeholders' data needs, documenting what data exist and determining what new data are needed, developing agreements to access and share data, evaluating the capacity of existing MIS, learning about new technology, developing processes to ensure data quality, hiring and training the right people, and building relationships with partner organizations. First, we summarize our key findings with regard to each of these components and their interrelationships as nine city afterschool systems developed their capacity to use data to guide their system-building activities. We then discuss their implications for the cities going forward, and for the next phase of this study.

Summary of Findings

In recent years, the overall volume of data being collected, stored, and analyzed in the U.S. has exploded.[34] However, the amount of information captured about afterschool data systems still remains relatively small compared to other systems, such as education and child welfare. As city afterschool systems expand the nature of data they want to and can collect, they are faced with a new problem: how to use this additional data meaningfully rather than adding data merely because it is possible. They also must address their capacity to analyze and use the data effectively and efficiently as their systems grow and evolve.

PEOPLE IN DATA SYSTEM DEVELOPMENT

People are a key factor in how the nine cities have embarked on the work of developing afterschool data systems and building the capacity of system stakeholders to leverage data in ways that inform their practice and plans for improvement. For example, the individuals and groups involved in the data system determine what data can be shared, with whom, and for what purposes. In an era in which data breaches are headline news and federal and state governments closely regulate data use (e.g. FERPA), the specifics of data sharing agreements and security issues are critical to building effective data systems. However, key players in the city afterschool systems advocated for interpretations of privacy laws that would allow the systems to use protected data to improve services for children and youth. In Nashville, agencies were able to secure access to a range of data elements to inform decisions about where to locate new programs and how to customize programs to address students' developmental and academic learning needs. In Saint Paul, assigning a "neutral" research partner responsibility for much of the system's data-related activities was viewed as a successful way of managing these challenges.

In this report, we discussed providers' engagement with and trust in data systems and how the cities are building their capacity to use data. In each of the nine cities, system leaders have been generally successful in making the case for maintaining a low-stakes orientation to using the data collected through their MIS as of the end of 2014. This low-stakes approach was regarded as fundamental to providers' willingness to participate. All parties recognized the importance of learning from the data through conversations, skills training, and collaboration prior to tying the data to funding decisions or other "higher stakes" value for the data. For example, providers and system leaders worried that data suggesting that the afterschool system was not making afterschool opportunities available to the most vulnerable youth or that programs were not positively affecting student's academic progress would jeopardize their future funding.

The importance of bringing together the right "team" to support key aspects of implementation emerged as a theme across the nine cities. Having players willing and able to use their political capital on behalf of the afterschool system was important to securing both the financial and human resources needed to build and maintain a data system. Having a mayor and city council members that recognized the value of investing in an afterschool data system for their own agendas created strategic opportunities to position afterschool at the center of city conversations about improving outcomes for their children and youth. Key afterschool system stakeholders also helped current and potential partner institutions and organizations to recognize how the data system could strengthen their own organizations' work.

34. Goren 2012. Roderick 2012.

System partners also have brought relevant knowledge and technical capacity to afterschool data systems. In some cities—Denver, Nashville, and Louisville—expertise initially came from technology and data specialists within the school district. In other cities, notably Baltimore, Grand Rapids, and Saint Paul, research partners played a significant role in supporting system-building work. As described in Chapter 3, Grand Rapids' research partner proved adept at helping its ELO Network develop indicators and data integration strategies that informed the development of the MIS that minimized the burden on providers without compromising data quality.

The experiences of the Next Generation cities suggest that there are some roles and functions that are crucial to developing data systems. The people who carry out these roles and functions are administrators and technical/database experts who are either formally part of the afterschool system staff or are employees of system partners or contracted research entities. Where they are housed is less important than whether their specified job responsibilities include database development and maintenance.

The development of a database infrastructure and interface is a complement to, rather than a substitute for, engaging system stakeholders in building data systems. This engagement work takes time, as the experiences of Fort Worth, Saint Paul, and Grand Rapids illustrate. In 2014, without a strong coordinating entity in place, the Philadelphia system was struggling to convince providers from all of its partner agencies to use its new database. Philadelphia's challenges suggest the importance of focusing on people and processes, not just technology, in developing a system to collect and use data to inform system-building activities.

There was a sense among afterschool system stakeholders that when coordinating entities use funding as leverage, providers adopt data systems more rapidly. Our evidence is not yet clear on this point, although the conversation about engaging providers or obtaining their "buy-in" to the data system seemed different in systems where coordinating entities lacked this leverage. Leaders of an unfunded local network have to find other incentives to foster participation. For example, Sprockets in Saint Paul has been able to engage more providers in its data system each year without tying participation to funding; providers seem motivated to use the data system to answer questions about their programs and the system as a whole. Network leaders seek ways for providers to direct their own program improvement plans and inform decisions about allocation of resources, which in turn fosters their participation in the system. Nonetheless, some stakeholders have expressed concern about whether providers would be willing to financially support the system if grant money were not available to support the MIS and associated resources.

PROCESSES IN DATA SYSTEM DEVELOPMENT

Processes are another key factor in how system building is unfolding in the Next Generation cities. One theme reflected in the cities' approaches was to start small by focusing on one domain or aspect of the afterschool data system and then building additional elements. These pilots or incremental efforts can help to ensure that the cities "got it right" before going to scale. As Foster-Fishman and Watson argue, "small wins increase momentum for change,"[35] and the leaders of Next Generation cities were well aware of the potential of data to help them advocate on behalf of their systems. The decision to focus on a particular subset of the data system may arise from practical, financial, or philosophical considerations as part of a larger rollout strategy.[36] Examples of starting small included concentrating system-building work with a subgroup of providers (Denver, Saint Paul), a subgroup of students (Baltimore, Nashville), a city region (Nashville), or a small set of data elements (Louisville, Philadelphia).

---

35. Foster-Fishman and Watson 2012.
36. This issue arose not only with respect to the development of data systems, but around larger issues many cities face in deciding about which providers are part of a city afterschool system.

Starting small isn't without challenges. A subset of data or a subset of programs cannot paint a complete picture of the entire scope of an afterschool system. System leaders had to balance anticipated benefits of leveraging a proven strategy for their data-related activities with potential costs such as perceptions of the system not moving forward quickly enough, losing provider interest, or losing a key political window to advance the work.

Another theme that emerged from exploring the contributions of processes to system building was the importance of formalizing the routines and practices. Establishing rules for data collection and entry, such as explicit definitions for data fields, became increasingly important as data began to flow into systems. Similarly, data systems required effective human and/or technological strategies to manage and enhance the quality (reliability and validity) of the data collected and, in turn, the reports that were generated. Developing a standard definition of how attendance is measured is one example of where formalization and shared understandings contributed to the ability to collect higher quality data. Without consistency across providers, what was entered into the system reflected the "garbage in, garbage out" challenge that faces data systems more broadly. Further, stakeholders need high-quality data to collectively establish comparable quality standards across the diverse programming delivered by network providers.

A key challenge to establishing routines, norms, and practices was turnover among afterschool frontline staff. Informants in all of the cities with established MIS reported that turnover affected data collection and entry. System stakeholders were learning that they needed to provide ongoing introductory trainings in using the MIS and using data. Coaching and manuals also helped to mitigate the effects of turnover and to further the development of more experienced staff. For example, Denver had developed multilevel training sessions by the end of 2014, and other cities had identified the need to invest in a more flexible approach that would ensure consistency among new users of the system while promoting the development of more sophisticated data uses among more stable users.

TECHNOLOGY IN DATA SYSTEM DEVELOPMENT

Technology is a third key factor affecting how data systems unfolded in the cities. The decision to build, buy, or adapt databases interacted in important ways with the contexts in which databases were being developed. Much of the prior research on the development of MIS for afterschool systems has focused on the costs in dollars and benefits of building, buying, or adapting databases. However, the decisions of the nine cities suggest that relationships with key partner agencies and local context also influence the practical costs, benefits, and implications of these decisions. For example, system leaders with the option of adapting an existing database viewed it as one that would cost less in dollar terms than building or buying a new database from scratch. Most cities that pursued this option were able to do so because partner agencies were willing to share their databases. As a result, cities that implemented a composite MIS were able to invest fewer resources in database development. However, this strategy limited their ability to customize their databases to align with the primary goals and purposes of their afterschool system. In contrast, the three cities that implemented a self-contained MIS invested significant amounts of time and funds in developing their databases, which delayed their ability to use data in the ways that they anticipated, even though the MIS was tailored more directly to address the goals of the afterschool systems. Thus, the work of building databases and making choices about technology reflected and responded in important ways to available resources, local context, and the dynamic nature of key relationships and partnerships in the afterschool setting.

As system stakeholders developed their capacity to use data, they requested new data elements and that data be made available in various formats, both aggregated and disaggregated. Providers, for example, did not necessarily see their school-related outcomes

as the only or most appropriate indicators for understanding their impact on youth. Among the cities that were already beginning to systematically use data, there were at least two distinct ways in which system stakeholders hoped to strengthen the usefulness of their databases: (1) they requested additional data elements that were not part of the original build-out of the database, and (2) they started to compare youth who participated in programs to similar youth in terms of grade levels or demographics who did not participate to understand the potential impact of participation. In essence, they wanted to identify patterns to guide their programming decisions.

Technological advances also outpaced the MIS that some cities initially selected to be the cornerstone of their data systems. Some cities, including Baltimore, Jacksonville, and Philadelphia, discovered over time that they needed to invest in a new system in order to collect and analyze the data they needed to improve their programs and systems. Other cities invested considerable time and resources to develop their own MIS, which slowed their ability to produce useful data.

EARLY STRATEGIES IN DEVELOPING DATA SYSTEMS

At this point in our study, it is premature to talk about the effects of the choices the cities have made in developing their data systems. However, a few themes have emerged with respect to the cities' strategies. Other city afterschool systems planning to embark on a similar journey or accelerate their current data strategies might consider these approaches. Here we briefly mention three of these strategies from the decisions and work of these nine cities, with the expectation that others will surface as the study continues. With time, we will also be able to more clearly discern the impact of various strategies in various contexts.

- **Starting small with a pilot to test processes and structures before scaling up.** Examples of starting small included focusing data system development activities on a subgroup of providers or a particular age group, a region of the city, or a small set of data elements. In Denver, for example, this meant not trying to be "all things to all people" and shifting the focus of its system building and data system development to a smaller set of programs.

- **Building human capital and data expertise by establishing relationships with knowledgeable partners and contracting for outside expertise**. Cities relied on various sources of technical expertise in collecting and using data. In addition to using Wallace funds to hire a data manager or knowledge manager, or drawing on expertise from existing partners, some afterschool systems contracted with an outside research partner, often a nonprofit or university organization with expertise in research and evaluation. In some cities, these partners assisted with designing the data system, producing reports, and training program staff. It appears that these more wide-ranging relationships helped afterschool systems to use data for learning and improvement more effectively than limited relationships with research entities.

- **Being prepared for change as technology advances, as frontline staff and leadership turn over, and as city priorities and funding shift**. Afterschool systems' goals may evolve or change, intervention strategies may change, and individuals, partner organizations, and/or institutions might leave the system. Several of the study cities frequently revised plans and goals for the afterschool system as a whole. In some cities, this meant making changes in the goals and structures of their network. For example, Denver, Fort Worth, and Philadelphia modified governance and coordination structures, and Baltimore found new ways for different groups of providers to work together. These changes had implications for the data system, and the aim and the challenge was to establish a system that is "resilient"—that is, flexible and adaptable—in the face of such changes.

Connecting the Dots and Looking Ahead

The use of data in the afterschool field is fairly new and is still evolving. Our findings thus far suggest that afterschool systems will increasingly collect data to help make decisions about how to allocate scarce public and private resources to improve program quality and access. Afterschool systems are using data to assess program quality, professional skills of staff, and access for youth most in need of services. Data also hold the promise of informing and engaging more stakeholders in a system, including providers, funders, partners, parents, and youth themselves. Moreover, the growth of data use has important consequences for other aspects of city afterschool systems. Data use is helping to create new and more exacting expectations about what an afterschool coordinating entity should do, how program expansion should happen, what quality looks like, and the different ways that quality can be measured.

The nine Next Generation cities have faced significant challenges in developing their data systems including:

- changing systems due to outdated MIS or MIS without the capacity to incorporate new types of data,

- renegotiating data sharing agreements because of turnover in a partner organization, and

- hiring new database managers or providing another round of training to providers because of staff turnover.

We expect that high staff turnover and low staff skills, long-standing staffing problems that affect the quality of afterschool programs, will continue to challenge the nine city afterschool systems' efforts to use data. But the work of the past two years also suggests that most of the study cities are strengthening their foundations to weather these challenges. Some cities, for example, have designed ongoing training programs on data collection, analysis, and use, and some have established their coordinating entities as independent nonprofits to protect them from changes in city leadership.

As we reflect on the experiences of nine city afterschool systems, there are several questions we believe are important to pursue in the next phase of this study. Some of these are new questions; others were asked during the first phase the study that we want to further pursue in the next phase.

- As city afterschool data systems mature, how does data use change?

- What is the relationship between the afterschool data system and the other data systems in the cities?

- To what extent do cities extend the concept of continuous improvement beyond its use in the improvement of programs and apply it to the functioning of the system as a whole? What path do cities take in regards to a continuous improvement approach to their system-building work?

- What are the experiences of afterschool providers with the data system and how data are used? How do their experiences influence their capacity and motivation to engage in data use for learning and improvement?

- What are the most effective workforce development strategies to engage and prepare frontline staff to collect and use data to inform their practices and build program quality?

- What are the incentives for providers to participate in the data system in their cities? How do they move beyond using data for compliance purposes?

- What is the value for afterschool systems in developing the capacity for data use in relation to the costs of developing that capacity?

- What people, processes, and technology factors allow a data system to be flexible, sustainable, and forward looking?

In the second half of the study, we will continue to explore the challenges and opportunities for data-use efforts in the heterogeneous afterschool field and in a policy and funding environment in which afterschool is framed as an answer to multiple societal problems such as education, juvenile delinquency, and youth engagement. We will examine how the people involved in afterschool data systems negotiate and manage change within the growing network of partner agencies, including school districts, libraries, parks, and funding entities. We will also explore adjustments that afterschool systems have made in their pursuit of effective data use. Finally, while continuing to deepen our knowledge about data use from afterschool system leaders, we will also look more closely at providers' experiences to better understand how to effectively support them. We look forward to continuing to learn from the nine Next Generation cities on their journeys to develop, expand, and solidify both their afterschool systems and the data systems that support them, and to deepening our understanding of how these efforts can improve the well-being of children and families in their communities.

BIBLIOGRAPHY

Ackoff, Russell L. (1989). "From Data to Wisdom." *Journal of Applied Systems Analysis* 16: 3-9.

Afterschool Alliance. (2014). *Taking a Deeper Dive into Afterschool: Positive Outcomes and Promising Practices*. Washington, DC. http://afterschoolalliance.org/documents/Deeper_Dive_into_Afterschool.pdf.

Balfanz, Robert, Jennifer L. DePaoli, Joanna Hornig Fox, Erin S. Ingram, Mary Maushard, John M. Bridgeland. (2014). *Building a Grad Nation: Progress and Challenge in Ending the High School Dropout Epidemic*. Washington, DC: Civic Enterprises. http://www.civicenterprises.net/home.

Bodilly, Susan J., Jennifer Sloan McCombs, Nate Orr, Ethan Scherer, Louay Constant, and Daniel Gershwin. (2010). *Hours of Opportunity, Volume 1: Lessons From Five Cities on Building Systems to Improve After-School, Summer School, and Other Out-of-School-Time Programs*. Santa Monica, CA: RAND Corporation. http://www.rand.org/pubs/monographs/MG1037.html. Also available in print form.

Coburn, Cynthia E., and Erica O. Turner. (2011). "Research on Data Use: A Framework and Analysis." *Measurement: Interdisciplinary Research and Perspectives* 9, no. 4: 173–206.

———. (2012). "The Practice of Data Use: An Introduction." *American Journal of Education* 118, no. 2: 99–111.

Deich, Sharon, Meghan Neary, Heather Padgette. *Governance of City Afterschool Systems: A Scan and Analysis*. Washington, DC: Cross & Joftus. Manuscript in preparation.

Durlak, Joseph. A., and Roger P. Weissberg. (2011). "Promoting Social and Emotional Development is an Essential Part of Students' Education." *Human Development* 54, no. 1: 1–3.

Durlak, Joseph A., Joseph L. Mahoney, Amy M. Bohnert, and Maria E. Parente. (2010). "Developing and Improving After-School Programs to Enhance Youth's Personal Growth and Adjustment: A Special Issue of AJCP." *American Journal of Community Psychology* 45, no. 3-4: 285–293.

Eccles, Jacquelynne, and Jennifer A. Gootman, eds. (2002). *Community Programs to Promote Youth Development*. National Research Council and Institute of Medicine. Washington, DC: The National Academies Press.

Every Hour Counts. *Every Hour Counts Measurement Framework: How to Measure Success in Expanded Learning Systems. (*2014). New York, NY: Every Hours Counts. http://www.afterschoolsystems.org/files/4060_file_Every_Hour_Counts_Measurement_Framework.pdf.

Farnham, Lija, Gihani Fernando, Mike Perigo, and Colleen Brosman, with Paul Tough. (2015). "Rethinking How Students Succeed: A Wave of Noncognitive Skill Initiatives Holds Promise for Making Teachers More Effective and Students More Successful." *Standard Innovation Review*. http://ssir.org/up_for_debate/article/rethinking_how_students_succeed.

Fiester, Leila. (2004). *Afterschool Counts! A Guide to Issues and Strategies for Monitoring Attendance in Afterschool and Other Youth Programs*. New York, NY: The After School Project, Robert Wood Johnson Foundation. http://www.theafterschoolproject.org/uploads/After_School_Counts-v1.pdf.

Foster-Fishman, Pennie G., and Erin R. Watson. (2012). "The ABLe Change Framework: A Conceptual and Methodological Tool for Promoting Systems Change." *American Journal of Community Psychology* 49, no. 3-4: 503-516.

Gerstein, Amy. (2015) "Shifting the Norms: From Data for Compliance to Data for Strategy." *Gardner Center Perspectives*, John W. Gardner Center for Youth and Their Communities. https://gardnercenter.stanford.edu/news/shifting-norms-data-compliance-data-strategy.

Goren, Paul. (2012). "Data, Data, and More Data—What's an Educator to Do?" *American Journal of Education* 118, no. 2: 233–237.

Halpern, Robert. (2002). "A Different Kind of Child Development Institution: The History of After-School Programs for the Low-Income Children." *Teachers College Record* 104, no. 2: 178–211.

———. (2003a). *Making Play Work: The Promise of After-School Programs for Low-Income Children*. New York, NY: Teachers College Press.

———. (2003b). *The Challenge of System-Building in the After-School Field: Lessons from Experience*. Discussion Paper. Wellesley, MA: National Institute on Out-of-School Time. http://www.erikson.edu/wp-content/uploads/halpern_system.pdf.

———. (2006). "Critical Issues in Afterschool Programming." *Monographs of the Herr Research Center for Children and Social Policy* 1, no. 1. Chicago, IL: Erikson Institute.

Halpern, Robert, Julie Spielberger, and Sylvan Robb. (2001). *Evaluation of the MOST (Making the Most of Out-of-School Time) Initiative. Final Report. Summary of Findings*. Chicago, IL: Chapin Hall Center for Children, University of Chicago. https://www.chapinhall.org/sites/default/files/old_reports/70.pdf.

Hayes, Cheryl, Christianne Lind, Jean Baldwin Grossman, Nichole Stewart, Sharon Deich, Andrew Gersick, Jennifer McMaken, and Margo Campbell. (2009). *Investments in Building Citywide Out-of-School-Time Systems: A Six-City Study*. Philadelphia, PA: Public/Private Ventures. http://www.wallacefoundation.org/knowledge-center/after-school/coordinating-after-school-resources/documents/investments-in-building-citywide-out-of-school-time-six-city-study.pdf.

Holleman, Martha A., M. Jane Sundius, and Eric J. Bruns. (2010). "Building Opportunity: Developing City Systems to Expand and Improve After School Programs." *American Journal of Community Psychology* 45, no. 3: 405–416.

Johnson, Elaine, Fran Rothstein, and Jennifer Gajdosik. (2004). "The Intermediary Role in Youth Worker Professional Development: Successes and Challenges." *New Directions for Youth Development* 2004, no. 104: 51–64.

Kingsley, Chris. (2014). "Focus on Data sharing: Building Formal Connections to Local Systems to Boost Afterschool Impact." American Youth Policy Forum, Better Together Conference. http://www.aypf.org/resources/focus-on-data sharing-building-formal-connections-to-local-systems-to-boost-afterschool-impact/.

Larson, Reed W. (2000). "Toward a Psychology of Positive Youth Development." *American Psychologist* 55, no. 1: 170–183.

Larson, Reed, Robin Jarrett, David Hansen, Nickki Pearce, Patrick Sullivan, Kathrin Walker, Natasha Watkins, and Dustin Wood. (2004). "Organized Youth Activities as Contexts for Positive Development." *Positive Psychology in Practice*: 540-560.

Little, Priscilla M.D., Christopher Wimer, and Heather B. Weiss. (2008). "After School Programs in the 21st Century: Their Potential and What it Takes to Achieve It." *Harvard Family Research Project, Issues and Opportunities in Out-of-School Time Evaluation* 10: 1–12.

Mahoney, Joseph L., Maria Parente, and Edward F. Zigler. (2009). "Afterschool Programs in America: Origins, Growth, Popularity, and Politics." *Journal of Youth Development* 4, no. 3: 25–44.

Mandinach, Ellen B. (2012). "A Perfect Time for Data Use: Using Data-Driven Decision Making to Inform Practice." *Educational Psychologist* 47, no. 2: 71-85.

Mandinach, Ellen B., Margaret Honey, and Daniel Light. (2006). "A Theoretical Framework for Data-Driven Decision Making." Paper presented at the annual meeting of American Educational Research Association, San Francisco, CA.

Mandinach, Ellen B., Luz Rivas, Daniel Light, Cricket Heinze, and Margaret Honey. (2006). "The Impact of Data-Driven Decision Making Tools on Educational Practice: A Systems Analysis of Six School Districts." Paper presented at the annual meeting of American Educational Research Association, San Francisco, CA.

Mandinach, Ellen B., Edith Gummer, and Robert D. Muller. (2011). *The Complexities of Integrating Data-Driven Decision Making into Professional Preparation in Schools of Education: It's Harder Than You Think.* Alexandria, VA, Portland, OR, and Washington, DC: CNA Education, Education Northwest, and WestEd. http://educationnorthwest.org/sites/default/files/resources/Gummer-Mandinach%20full%20report.pdf.

McCombs, Jennifer Sloan, Susan J. Bodilly, Nate Orr, Ethan Scherer, Louay Constant, and Daniel Gershwin. (2011). Hours of Opportunity, Volume 3: *Profiles of Five Cities Improving After-School Programs Through a Systems Approach.* Santa Monica, CA: RAND Corporation. http://www.wallacefoundation.org/knowledge-center/after-school/key-research/Documents/Hours-of-Opportunity-3-After-School-Programs-Systems.pdf.

Nagaoka, Jenny, Camille A. Farrington, Stacy B. Ehrlich, and Ryan D. Heath. (2015). *Foundations for Young Adult Success: A Developmental Framework. Concept Paper for Research and Practice.* Chicago, IL: University of Chicago Consortium on Chicago School Research. http://files.eric.ed.gov/fulltext/ED559970.pdf.

National League of Cities. (2012). *Building Management Information Systems to Coordinate Citywide Afterschool Programs. A Toolkit for Cities.* Washington, DC: Institute for Youth, Education & Families. http://www.nlc.org/Documents/Find%20City%20Solutions/IYEF/Afterschool/YEF_MIS%20Toolkit_2012.pdf.

Roderick, Melissa. (2012). "Drowning in Data but Thirsty for Analysis." *Teachers College Record* 14, no. 11: 1–9.

Russell, Christina A., Monica B. Mielke, and Elizabeth R. Reisner. (2009). *Evidence of Program Quality and Youth Outcomes in the DYCD Out-of-School Time Initiative: Report on the Initiative's First Three Years.* Washington, DC: Policy Studies Associates, Inc. http://www.nyc.gov/html/dycd/downloads/pdf/2012/OST_Evaluation_Report_September2009.pdf.

Simkin, Linda, Ivan Charner, Caitlin Dailey, Eric Watts, Hannah Taub, and Abidemi Adelaja. (2013). *Is Citywide Afterschool Coordination Going Nationwide? An Exploratory Study in Large Cities.* Durham, NC: FHI 360.

Smith, Charles. (2013). *Moving the Needle on "Moving the Needle": Next Stage Technical Guidance for Performance Based Accountability Systems in the Expanded Learning Field with a Focus on Performance Levels for the Quality of Instructional Services.* Ypsilanti, MI: David P. Weikart Center for Youth Program Quality, a division of the Forum for Youth Investment, Updated. http://www.cypq.org/sites/cypq.org/files/publications/Moving_the_Needle_FINAL.pdf.

Spielberger, Julie, Tracey Lockaby, Leifa Mayers, and Kai Guterman. (2009). *Ready for Prime Time: Implementing a Formal Afterschool Quality Improvement System by Prime Time Palm Beach County, Inc.* Chicago, IL: Chapin Hall at the University of Chicago. https://www.chapinhall.org/sites/default/files/Prime_Time_Report_04_18_09.pdf.

United States. (2011). Office of Management. Department of Education. *Federal Register*. December 2, 2011, vol. 76, no. 232, p. 75614. https://www.gpo.gov/fdsys/pkg/FR-2011-12-02/pdf/2011-30683.pdf.

Vandell, Deborah Lowe, Elizabeth R. Reisner, and Kim M. Pierce. (2007). *Outcomes Linked to High-Quality Afterschool Programs: Longitudinal Findings from the Study of Promising Afterschool Programs.* Washington, DC: Policy Studies Associates, Inc.

The Wallace Foundation. (2013). *Better Together: Building Local Systems to Improve Afterschool (A Conference Report).* New York, NY: The Wallace Foundation. http://www.wallacefoundation.org/knowledge-center/after-school/coordinating-after-school-resources/Documents/Better-Together-Building-Local-Systems-to-Improve-Afterschool.pdf.

Weiss, Carol H. (2013). "Knowledge Creep and Decision Accretion." *Science Communication* 1, no. 3: 381–404.

West, Darrell M. (2012). *Big Data for Education: Data Mining, Data Analytics, and Web Dashboards.* Washington, DC: Governance Studies, The Brookings Institution. http://www.brookings.edu/research/papers/2012/09/04-education-technology-west.

West, Martin.R. (2014). *The Limitations of Self-Report Measures of Non-Cognitive Skills.* Washington, DC: The Brookings Institution. http://www.brookings.edu/research/papers/2014/12/18-chalkboard-non-cognitive-west.

Yohalem, Nicole, Alicia Wilson-Ahlstrom, and Diana Yu. (2005). *Youth Program Quality Assessment and Improvement: Celebrating Progress and Surfacing Challenges. A Meeting Report.* Washington, DC: The Forum for Youth Investment, Impact Strategies, Inc. http://forumfyi.org/files/ProgramQualityMtgRpt.pdf.

Protocol for Year 1 Interviews: Data Use in Afterschool Systems
System-level Stakeholders and Research Partners

INTRODUCTION

This interview will help us understand where (city name) is in developing the capacity to use data. I'll be asking you about:

- the organizations involved in this work and how they collaborate,

- what you've accomplished together and key developments along the way, and

- what has been supportive and challenging.

I also have questions about:

- providers' engagement and concerns and

- the current status of data use, including costs and benefits.

Finally, because (city) has a partnership with a research entity, I have some questions to understand that partnership better.

We have a lot of ground cover so I'll try to let you know along the way where we are in the interview and what the topic is. I may ask a question that you may not know how to answer. Just let me know and we'll move on. If you have an idea of who might be best able to respond, that would be helpful.

Before we get into our conversation, I have a list of purposes here describing uses for data. I'd like you to indicate how important you think each one of them is to (city) on a scale of one to five, with one meaning not important and five meaning very important. We'll use this information in the interview. It's easiest to ask you for it upfront.

- Identifying community needs for afterschool programs.

- Increasing student participation in after school programs.

- Identifying and reaching out to struggling students for after school programs.

- Improving the quality of after school programming.

- Monitoring and holding program providers accountable.

- Enabling collaboration across stakeholders with different perspectives.

- Generating evidence to support public investments in afterschool programming.

- Satisfying the reporting requirements of funders.

- Informing the decisions of front-line staff.

- Informing decisions at the system level.

BACKGROUND: ROLE AND RESPONSIBILITIES OF INTERVIEWEE AND THEIR ORGANIZATION

Objectives:

• To understand the interviewee's role in the afterschool system,

• To understand interviewee's responsibilities with regard to data use and the role of their organization in the data use work.

My first set of questions is about your role and responsibilities in the afterschool system, particularly in relation to data use. As part of this, I have some questions about what "data use" means to you.

What is your role in the afterschool system in [CITY]? How long have you been involved in the afterschool system? Are you a volunteer or paid staff member in the afterschool system?

Probe for:

• Professional position and title; Role in organization

• Length of time in position

• How did you become involved in the field of afterschool time?

• OR What experience did you have in the field of afterschool prior to this?

What are your responsibilities with regard to use of data in the afterschool system and how have these changed or developed since the start of the systems work?

• What training/experiences have best prepared you for the use of data in your current role?

BACKGROUND TO PARTNERSHIP RELATIONSHIPS AND GOALS

Objectives:

• To understand the partner goals for data use, whether there is consensus on goals and outcomes, and the nature of the collaboration.

• To probe on the school district as a partner.

• To also probe on the involvement of the broader stakeholder community in the partnership.

My next questions are more about the collaboration of the organizations involved in the data use efforts and their goals.

Would you briefly describe the role of your organization (or committee, etc.) with regard to the efforts to use data in the afterschool system?

• What kinds of skills or capacities does your organization contribute?

Which organizations in the city are most involved in the efforts to develop the capacity to use data in the afterschool system? Have there been changes in the organizations involved since the start of the systems' work and if so, why?

• Who do you see as leading the efforts? Have there been changes in leadership and if so, why?

What do the partners expect to accomplish by developing the capacity of the afterschool system to use data?

- Do they share the same goals for data use? Why or why not?

- Do they agree on shared outcomes? Why or why not?

I have a list of purposes here describing uses for data. I'd like you to indicate how important you think each one of them is—from not important to very important and explain why.

- Identifying community needs for afterschool programs.

- Increasing student participation in after school programs.

- Identifying and reaching out to struggling students for after school programs.

- Improving the quality of after school programming.

- Monitoring and holding program providers accountable.

- Enabling collaboration across stakeholders with different perspectives.

- Generating evidence to support public investments in afterschool programming.

- Satisfying the reporting requirements of funders.

- Informing the decisions of front-line staff.

- Informing decisions at the system level.
  - *Do you think your partners would agree with you?*
  - *Does the list leave anything out?*

What has helped the collaboration of the partner organizations around data use since the systems' work started? What has hindered the collaboration?

(For select interviewees): What are the interests or aspirations of the school district in supporting the use of data by the afterschool system? What are its concerns?

In what ways has the broader stakeholder community, for example funders, diverse providers, community members, parents, or students, been involved in the data use efforts? What strategies have you found to be effective at engaging them? What have been the challenges?

- Probe in particular on the provider community to understand who is included and who is left out.

- Probe on stakeholders of particular interest in that community, for example, community groups in Saint Paul.

ACCOMPLISHMENTS AND DEVELOPMENTS TO DATE; FACILITATORS AND CHALLENGES

Objectives:

- To understand what the city has accomplished to date and important decisions points as related to specific tasks of developing an information system.

- To understand challenges and facilitators.

The questions I ask next are intended to help us understand what you've accomplished so far in moving toward data use in the afterschool system, what has allowed you to make progress, and what has been challenging for you:

What do you see as the primary accomplishments for the afterschool system as it has moved toward using data in the last two years?

I'd like to understand the critical or important decision points you've gone through in developing your data system. There are four areas I'd like to focus on in my questions:

- First, what were the critical or important decisions points made with regard to **designing the data system**? What were primary considerations in terms of collecting data? Integrating data? What about considerations concerning who would have access? Who was involved in the design?

- Second, what were the critical or important decision points in **identifying what data elements and indicators to include** in the system? Who was involved?

- Categories of indicators include: Participation, program quality, school outcomes, social/emotional indicators, juvenile justice, additional demographic, health, child welfare, professional development

- Third, what were the critical or important decision points in **identifying or developing shared outcomes**. Who was involved?

- Fourth, what were the critical or important decision points in structuring the collection and sharing of data, specifically with respect to data sharing agreements and data ownership? Who was involved? What, if any, considerations were made for issues of consent or confidentiality?

Do you have plans to connect data on quality with data on participation or outcomes? Why or why not?

Now that we've discussed what you've accomplished and the process you've gone through, I'm interested in understanding what has helped (city) or presented challenges for (city) in making progress toward using data.

How do you think the afterschool system has helped or created challenges in your efforts to use data?

- Probe on coordinating entity—as part of city government or separate, as funder or not.

- How do you think mayoral support has helped or created challenges?

- How do you think the school district support has helped or created challenges?

- Provider community?

- Technical expertise available to you?

- Research expertise?

- Wallace TA providers in particular? Any other technical assistance?

- Is there anything else about your city or the resources and support available to you that you think has been an obstacle or a support in the work you are doing?

ISSUES VIS-À-VIS PROVIDERS

Objectives:

• To get a sense of the response of providers to an afterschool data system and how their concerns, if any, have been addressed.

• To understand concerns about data collection by providers and if/how these have been addressed.

Providers are important stakeholders. They are a source for a lot of the data. They may have their own data systems. They may be held accountable to a lot of different outcomes. They are (or will be) key users of the system. The next questions are about providers and their involvement in and response to this work.

What has been the response of providers to the efforts to develop an afterschool data system? What do they see as the benefits? What have their concerns been? How have these been addressed?

Probe:
• concerns about multiple funders, reporting requirements, outcomes;

• concerns about maintaining own data system and/or burden of work in participating in other systems.

What, if any, are your concerns regarding the collection of data by providers? How have or are you addressing these?

RESEARCH OR DATA PARTNERS

Objectives:

• To gather background information on the relationship between the afterschool system and the external research/data entity.

• To understand perceptions of the value of the external entity's work and challenges in the partnership.

(For Project Lead): Do you have a research or data partner? This would be an organization or an individual who's working with you to develop the capacity of the afterschool system to use data.

We'd like to better understand how afterschool systems work with research or data partner. The next questions are about this partnership.

When and how did the partnership start? How has your work together developed or changed over time? How has the Wallace project advanced this work?

How do you do your work together around afterschool data use?

• how often do you meet

• what do you meet about

• how do you decide on an agenda for the work

• how do you coordinate and manage your work together?

What contributions has your partner made to building an afterschool system?

OR
What contributions have you made as a partner to building an afterschool system?

What challenges have you experienced working with a research or data partner?

OR
What challenges have you experienced working with the afterschool system?

STATUS OF DATA USE, INCLUDING COSTS AND BENEFITS

Objectives:

• To get a sense of how data is being used.

• To begin to get at the issue of the value of data use and to specify the activities and efforts that are "cost ingredients."

We've been talking about the partnership efforts around the development of the data system. My next questions are about what you've learned about the use of data, including some of the costs and benefits.

Could you describe the ways data is currently being used in the afterschool system and any plans for using data in the future?

What have you found to be the plusses and minuses for the afterschool system in trying to make use of data?

• Probe: What do you see as the value for kids of the efforts to use data?
  *Expanding participation?
  *Improving quality?
  *Sustaining the afterschool system?

We want to understand what it takes to use data at the systems level in terms of people, time, money, and effort.

• Probe: If you to advise another city interested in using data in its afterschool system, what would you include in a list for them to consider as important activities or efforts?

What do you expect it will take to sustain data use?