

PAUL YOUNGMIN YOO, ANAMARIE A. WHITAKER, JENNIFER SLOAN MCCOMBS

Putting Data to Work for Young People

A Ten-Step Guide for Expanded
Learning Intermediaries



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Cover: Students at Harlem Lacrosse in Boston complete their practice with a team activity that fosters collaboration and teamwork. Photo credit: Mark Curreri Photography, Boston After School & Beyond.

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Preface

Expanded learning intermediaries are nonprofit organizations dedicated to making after-school and summer programs better and more accessible. Knowing what data to collect and how to use them is crucial to intermediaries looking to have productive conversations with their stakeholders, make sound decisions, and improve the way they work. Even as expanded learning intermediaries become more prevalent, there remain few resources to help them with their data efforts. This guide aims to fill that gap.

In 2014, Every Hour Counts, a national coalition of expanded learning intermediaries, released a measurement framework to help communities think about what data to collect, how to collect them, and how to use them. The framework also aims to guide intermediaries on how to use the data to coordinate continuous improvement efforts, how program efforts can improve youth outcomes, and how to identify system strengths and areas for improvement. Every Hour Counts then engaged the RAND Corporation to evaluate efforts in three cities (Boston, Massachusetts; St. Paul, Minnesota; and Providence, Rhode Island) to put the framework into practice. This guide draws from the RAND evaluation with Boston After School & Beyond, Providence After School Alliance, and Sprockets. It offers practical, research-based advice to those in the expanded learning field who work with data, or want to work with data. This study was undertaken by RAND Education and Labor, a division of the RAND Corporation that conducts research on early childhood through postsecondary education programs, workforce development, and programs and policies affecting workers, entrepreneurship, and financial literacy and decisionmaking.

This study was commissioned by Every Hour Counts, a coalition of citywide organizations that increases access to quality learning opportunities, particularly for underserved students. For more information and research on these and other related topics, please visit its website at www.everyhourcounts.org.

More information about RAND can be found at www.rand.org. Questions about this guide should be directed to sloan@rand.org, and questions about RAND Education and Labor should be directed to educationandlabor@rand.org.



Participants of ASTRO's Take CoMMAnd program have fun warming up in the gym (Providence).

Acknowledgments

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We are grateful to The Wallace Foundation for its editorial guidance, specifically Gigi Antoni, Melissa Connerton, Lucas Held, Katherine Lewandowski, Pamela Mendels, and Edward Pauly. Special thanks to Daniel Browne, who worked with us significantly to make technical information accessible and understandable to the intermediary leaders who are the audience for this document. Rebecca Fowler from RAND provided expert copyediting of the document and Dori Walker worked on the design. During the quality assurance and production process, Cathy Statz provided valuable insights. External peer review was conducted by Stephani Wrabel and Elizabeth Devaney. Their feedback and suggestions improved this guide.



Providence After School Alliance AfterZone youth race cardboard boats they designed and built during Save the Bay's Explore the Bay program.

Expanded learning intermediaries are nonprofit organizations dedicated to making after-school and summer programs better and more accessible for children and youth. They do this by coordinating efforts and resources in a given community, knitting programs together into a cohesive system, helping individual programs function at a high level, and pushing the system as a whole to provide the greatest benefit to as many young people as possible.

Data are a crucial part of this work. There is a variety of data that intermediaries can collect, including the number of program slots, program enrollment, staff participation in professional development, program quality indicators, and outcome measures, such as test scores and social-emotional assessments. This information can help intermediary leaders and staff make decisions about how best to allocate resources, what type of support to provide programs, and how to get more young people into programs.

Many intermediaries, however, waste time and energy collecting the wrong data in the wrong way. For data to be useful, they have to be accurate, complete, and captured at the right scale, whether that's at the student, the program, or the whole-system level. Data gathered in a disorganized or sporadic fashion are unlikely to meet these criteria. To get the benefits of data, therefore, intermediaries need to think about what to collect, how to collect it, and how to use it.

In 2014, Every Hour Counts, a national coalition of expanded learning intermediaries, released a measurement framework to help do this, with an intentional tri-level focus on data at the system, program, and youth levels.¹ The framework also aims to guide intermediaries on how to use the data to coordinate continuous improvement efforts, program efforts to improve youth outcomes, and how to identify system strengths and areas for improvement. Every Hour Counts then engaged the RAND Corporation to evaluate efforts in three cities (Boston, Massachusetts; St. Paul, Minnesota; and Providence, Rhode Island) to put the framework into practice. This guide draws on the research of Every Hour Counts and relevant publications.²

To get the benefits of data, intermediaries need to think about what to collect, how to collect it, and how to use it.

RAND researchers reviewed the quality of the data that the intermediaries in the three cities collect; the measurement tools they use; the condition of their databases; the way they store, process, and use data; and the resources—human, material, and financial—that they bring to bear on their data-related work. The review revealed a number of organizational, technical, and political challenges. Some are specific to individual cities and intermediaries, but others are likely shared by intermediaries across the country. These include how to decide what data to collect to meet the intermediary’s goals, how to develop long-lasting policies and practices for collecting and managing data, how to use data in a timely and meaningful way, and how to examine connections among the data at system, program, and youth levels.



Students show off their final projects to friends and family at Thompson Island Outward Bound Education Center’s summer program (Boston).

We developed a ten-step plan to help expanded learning intermediaries address these challenges:

Ten Steps for Effective Data Selection, Collection, and Management

ONE

Set explicit goals for data collection and use.

TWO

Sketch out how the data will be visually presented.

THREE

Hire an experienced in-house point person for data.

FOUR

Adopt policies and technology for securing and organizing data.

FIVE

Create an inventory of data to be used and a “dictionary” of definitions and rules.

SIX

Establish clear-cut data collection procedures.

SEVEN

Train staff in how to work with data and why they are important.

EIGHT

Develop a process and a timeline for analyzing and reporting data.

NINE

Create a visual aid to track the flow of data.

TEN

Regularly evaluate and troubleshoot the data system.

Throughout the guide, we illustrate the steps using examples from the three cities we studied.



Members of ASTRO's Take CoMMAnd program gather as a team to close out their training (Providence).

ONE

Set explicit goals for data collection and use

Expanded learning intermediaries should not collect data just for the sake of doing so. They should do it to inform their own policies and practices, help their program partners get better, improve student outcomes, and communicate with stakeholders, such as funders, policymakers, school and program staff, and community members.

To determine what data to collect, start by making a list of your key stakeholders, what they need or want to know, and how they are likely to use the information. From there, you can figure out the specific pieces of data you will have to track down, whether it be at the student, program, or system level; how often to collect and present those data; and in what form.

Program directors or leaders, for example, need attendance data to make decisions about how to improve program attendance. They may want attendance records for individual students so they can know which and how many students attend regularly, attend frequently, attend infrequently, and so on, but they might also want program- and system-level attendance patterns related to, say, student characteristics (e.g., disciplinary issues in school) or how many weeks into a program students tend to drop out (see Table 1 as an example). At a minimum, then, the intermediary will need to collect attendance data at the student and program levels, as well as information on student characteristics, and will need procedures to make sure that data collection is consistent from program to program. Ideally, the directors or leaders would get at least some of these data on a weekly or even daily basis, so they can make adjustments in real or rapid time.

To determine what data to collect, start by making a list of your key stakeholders, what they need or want to know, and how they are likely to use the information.

TABLE 1

Data Needs for Program Directors or Leaders

Stakeholder Group	Goal	What Do We Need to Know?	Data to Collect
Program directors	Improve program attendance	# or % attenders # or % low attenders # or % no-shows # or % dropouts Analyses: by week, by student characteristics, by site Comparison: similar programs	Daily attendance, individual youth level Youth attendance linked to program site Youth characteristics Program characteristics

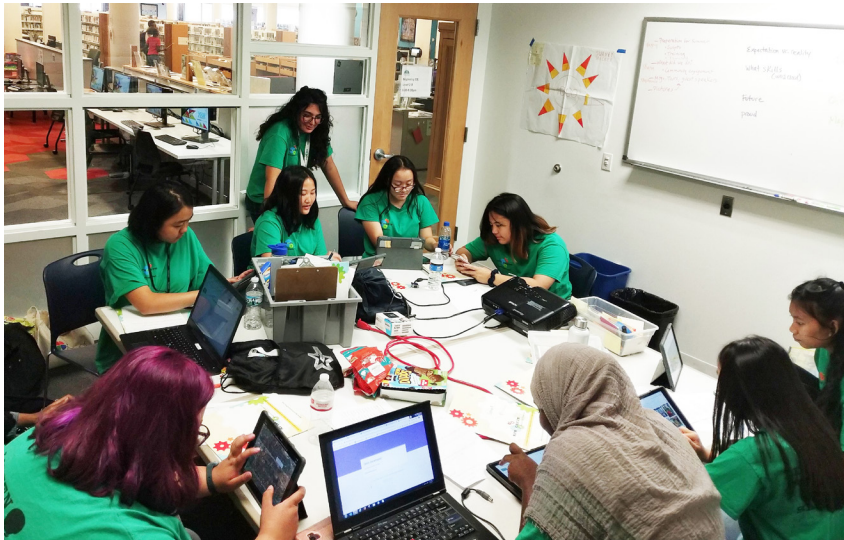
Having gone through the exercise of making a list, you can now decide whether it is possible to collect the data in question in an efficient, reliable, and complete way and, if so, whether the value of the data is worth the investment in staff time and other resources. Any data you collect should be connected to one of the four broad goals mentioned above: (1) informing system policies and practices, (2) supporting program partners, (3) improving student outcomes, or (4) communicating with stakeholders.

EXAMPLE FROM THE FIELD

Setting Explicit Data Goals

Problem: Over the course of several years, some of the expanded learning intermediaries in our study found that they were collecting more data than ever but were not using or even analyzing the material any more, or any better, than before. One intermediary in particular had begun to question why it was collecting certain information and why the collection was happening as frequently as it was.

Solution: Each intermediary identified and articulated its goals for youth participation and outcomes, for program performance, and for the system as a whole. They then determined what data they would need to support those goals. All of the intermediaries emerged from this process with a renewed understanding of the purpose of their data efforts and how to communicate that purpose to stakeholders. One decided to drop certain data collection activities (e.g., reducing the number of student surveys administered), while another looked to pilot new ways of measuring youth outcomes.



The Sprockets Community Engagement Team develops a group presentation using data from a citywide survey project on after-school access (St. Paul).

TWO

Sketch out how the data will be visually presented

Just as architects use sketches and models to communicate their design ideas, intermediary staff can draft graphs, tables, and other visual representations of the data that staff aims to collect.

Just as architects use sketches and models to communicate their design ideas, intermediary staff can draft graphs, tables, and other visual representations of the data that staff aims to collect. It can be difficult for intermediaries to engage people connected to a program in a conversation about data, and even an empty table or mock graph can serve as a helpful starting point. Intended users may be surprised by how much or how little information the intermediary intends to provide or have feedback on the way it is presented. In most cases, all it takes is pen and paper to get a sense of how ideas will translate into products with specific advantages and limitations.

Let us go back to our program directors' request for student attendance data. You might start by sketching a line graph with the weekly attendance rate for the system as a whole as the y-axis and time, divided into weeks of the month, as the x-axis. (This type of graph could also be used to compare the attendance rates of individual programs or of grade levels within programs.) You could then share this sketch with the program directors to get their feedback. They may consider it inadequate for their needs and have suggestions for improving it or adding other graphs to create a full dashboard. Likely, program staff will need training or coaching on how to read and interpret the graph as intended. You are now closer to an end product that the directors can put to good use.



THREE

Hire an experienced in-house point person for data

Working with data often leads to mistakes, and these mistakes can have consequences. If program-level data are not collected in a consistent way, for example, you might be unable to use them to compare programs. If student names are not matched to the right identification numbers, their data may need to be thrown out. Poor design may make it hard to understand the information that a graph or chart is meant to convey. To help prevent and correct mistakes of this kind, expanded learning intermediaries should have someone on staff whose time is solely dedicated to data collection, management, and analysis. This data coordinator or evaluation manager can ensure that requests for data are easy for program staff to understand and fulfill, set procedures for proper data collection and use to be carried out by program staff, put quality assurance measures in place for intermediary staff, and provide training on all of the above to intermediary and program staff.

The data coordinator should have some prior experience working with data, as well as ongoing professional development opportunities. Even intermediaries that work with an outside research firm or university can benefit from having a point person for data on staff. Your research partners can help with collecting, processing, analyzing, and reporting data, but you will need someone on your own staff with know-how in all those areas to make the most of what your partners can offer. The in-house data coordinator can act as a liaison to your research partners, making sure that the reports they provide meet your needs and helping staff and other stakeholders make sense of the information the reports contain.

The data coordinator should have some prior experience working with data, as well as ongoing professional development opportunities.



Students from Haynes Early Education Center enjoy the beach after using their scientific discovery skills with New England Aquarium staff (Boston).

FOUR

Adopt policies and technology for securing and organizing data

Start by listing all your current consent and data protection procedures and determine whether they are adequate for your and your partner's needs.

Collecting data, particularly data about individual young people, is a responsibility. To avoid a situation in which data go undocumented or are stored in a disorganized or insecure way, you will need a setup that includes permission to gather and use the data you need, a digital system for housing everything in one place, and measures for keeping the data protected. All of that takes careful planning.

Start by listing all your current consent and data protection procedures and determine whether they are adequate for your and your partner's (e.g., the local school district) needs. If you are receiving or seeking U.S. Department of Education funds, you need to comply with the Family Education and Rights Privacy Act (FERPA).³ You might also have, or want to establish, a memorandum of understanding with your local school district or other partners, allowing you to share data with each other. This document should have provisions for the secure transfer and storage of information. (For more information about data security procedures and sample documents, consult publicly available resources.⁴)

The next step is to decide on a management information system (MIS) to house and organize your data. An MIS is technology that stores data, makes them accessible to a network of users, and, in some cases, performs analysis of the data at the user's request. An MIS may also have security features to help prevent unauthorized access. You can purchase a commercial MIS or develop one in-house. Some off-the-shelf systems come FERPA-compliant and provide a simple point-and-click interface for entering data, managing documents, and generating reports. The National League of Cities, an advocacy organization for local governments, offers a free tool kit with guidance on building your own MIS, a comparison of the commercial systems on the market, and a cost calculator for the various options.⁵

Coming up with a solid plan for securing and organizing data will take time and expertise. Throughout the process, make sure to get advice from legal counsel, IT professionals, and data experts and to consult existing resources, such as the National League of Cities tool kit.

FIVE

Create an inventory of data to be used and a “dictionary” of definitions and rules

You know what your goals are and what questions you will need to answer to achieve them. Now it is time to get down to the nitty-gritty details. What specific pieces of data will you have to collect to get the answers you are looking for? Enter each one into a spreadsheet or database, along with a brief description. That is your data inventory. Make sure to keep it up-to-date so you know when each piece of data has been collected, where it is stored, and who is responsible for it.

When compiling and maintaining your inventory, it is vital that you assign a unique identifier to each student, program, site, and any other individual entity you are tracking. That way, you will be able to combine data sets collected from different locations or different periods, giving you a better picture of the system overall. For example, linking program observations conducted by your research partners with administrative records from the programs and school district could help you answer such questions as how the social and emotional climate of a program relates to student attendance. There are four basic guidelines for unique identifiers: (1) Every entity (e.g., youth and program) should have an ID, (2) two entities should never have the same ID, (3) one entity should never have two different IDs, and (4) all data related to an entity should be labeled with the corresponding ID. If you have a data sharing agreement with the local school district, it makes sense, if possible, to use the same ID for students.

In addition, collecting the same baseline information—name, date of birth, and grade level—as your partners will make it easier to match student records and get the various data systems “talking” to one another, even in cases in which IDs are not available.

What specific pieces of data will you have to collect to get the answers you are looking for? Enter each one into a spreadsheet or database, along with a brief description. That is your data inventory.

A good data dictionary is as detailed, precise, and self-explanatory as possible so that staff do not have to make assumptions when collecting or using data. The first rule of thumb is to define everything.

EXAMPLE FROM THE FIELD

Using Your Data Inventory for Self-Assessment

Problem: One of the intermediaries in our study gives its program partners flexibility about what data to collect. For example, programs could adapt a student survey to suit their interests by, say, dropping questions related to academics and keeping only those related to social and emotional learning. This flexibility is a way of encouraging programs to keep up with data collection and make use of what they collect. On the other hand, it means that there is no one common data set that all the programs can use to learn from one another. In reviewing this intermediary’s data inventory, we found that, although the programs were collecting a lot of information, few had data on both program quality and student outcomes, so it was not possible to analyze the relationship between the two.

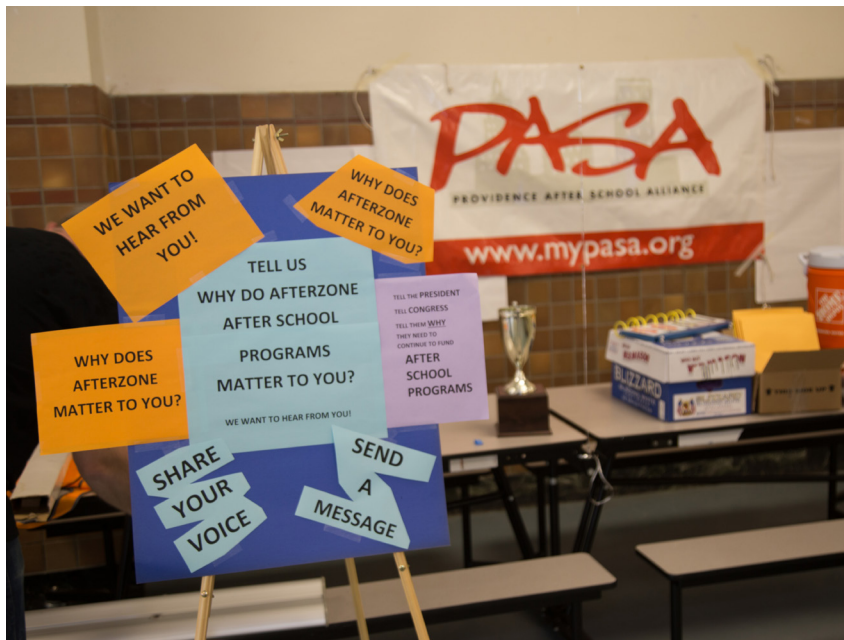
Solution: The intermediary took our review of its inventory seriously and has since convened a group of stakeholders, including representatives from expanded learning programs in their system, city government, the local school district, and the larger community, to reevaluate its approach to data, establish priorities for data collection and use, and recommend improvements.

Along with your inventory, you will need a more comprehensive breakdown of each piece of data—what it means, how it is formatted, where it comes from, and how it relates to other data you are collecting. A good data dictionary (also called a *codebook*) is as detailed, precise, and self-explanatory as possible so that staff do not have to make assumptions when collecting or using data. The first rule of thumb is to define everything. Even a term as seemingly straightforward as *program* can refer to a unit of time (e.g., spring semester), a single activity in a day (e.g., computer programming), or the site where activities take place (e.g., Middle School A).

Another essential function of your data dictionary is to set rules about how to categorize and “count” information. Take the attendance example: Should a student be counted as present for showing up for only the first ten minutes of the program? What if the student leaves before the program is over? If you answer these questions and make sure the answers are applied consistently, you will have a reliable definition of *attendance*. What about such a statement as, “there are 200 middle school students in the program”? The definition of *middle school* may seem self-evident, but in some schools, it starts with grade 7, while in others it includes grade 6.

Your data dictionary should also specify what **values**, or descriptive

information, to assign to each piece of data you intend to collect. If, for example, you are using a survey, checklist, or other instrument, the data dictionary should include a separate entry for each question, indicating the question number, what constitutes a valid answer (e.g., a scale of 1–5), and the name of the instrument (because the same answer, whether it is a number or a word, such as “rarely” or “sometimes,” can have different meanings or values, depending on the instrument). The data dictionary should also specify variable type—whether it is “string” or text, such as “always, sometimes, or never” or numeric, such as having a value of 1–5, with the numbers clearly defined. You should also include the date the data were collected because some data points (e.g., age or grade level) change over time. See Table 2 for sample data dictionary entries.



The Providence After School Alliance solicits feedback with a display board at a youth and family event.

TABLE 2

Sample “Data Dictionary” Entries

Variable Name	Variable Description	Variable Type	Source
Programname	Program name: <i>Program</i> refers to the organized set of activities that are designed for youth.	String	Administrative record
Idprogram	Program ID (e.g., P2008): 5-character alphanumeric code	String	Administrative record
Idsite	Site ID (e.g., S101): <i>Site</i> here refers to the physical location where the program operates 4-character alphanumeric code	String	Administrative record
Session	The specific year or term of the program (e.g., 2016SU is summer of 2016)	String	Administrative record
Idyouth	Youth ID (e.g., A23457): 6-character alphanumeric code Same as the youth’s school ID	String	Administrative record
days_program	The number of programming days offered at the site	Numeric value > 0	Administrative record
youth_grade2017F	Youth grade in fall 2017 1-character numeric value	3–12	Administrative record
days_registered	The number of programming days the youth is registered for at the site	Numeric value > 0	Administrative record
days_attended	The number of programming days the youth attended where the youth participates for at least half of the day’s programming	Numeric value ≥ 0	Administrative record
attendance_rate	The attendance rate derived from days_attended divided by days_registered	Numeric value 0–1	Administrative record
PQA_A_q1_1	Item 1 of question 1 in Program Quality Assessment A (1= not at all, 2 = sometimes, 3 = frequently, 4 = almost always)	Numeric value 1–4	Program Quality Assessment A

A final tip: Hold on to your past data inventories and dictionaries, so you can keep track of changes in the way you collect, store, and label data from year to year or program cycle to program cycle. That way, there will not be confusion when you, or a research partner, undertake a multiyear study of your work.

Establish clear-cut data collection procedures

Just as important as specifying what data to collect is laying out exactly how to collect them. Without step-by-step collection procedures, you may end up with data that are not accurate enough to be useful. Here are some tips for putting procedures in place and making sure they are followed:

- **Put your procedures in writing.** The person or people responsible for a given data collection activity should have a written set of instructions that includes guidance on how to safeguard the quality of the data. For example, students often do not know their ID number or enter it wrong when taking surveys. To prevent this, you should provide the teachers or instructors administering your survey with instructions that remind them to enter the right ID numbers for students before they start answering questions. Or, better yet, prepopulate the student ID in the survey.
- **Define key terms.** As with your dictionary, your procedures should spell out the meaning of all terminology related to data collection, storage, analysis, and training.
- **Check procedures against your data dictionary.** You will need to reconcile any inconsistencies between the two. If, for example, the procedures say to drop the first three questions when administering a survey, the dictionary should not include those questions or should clearly state that the questions should not be included in analyses. Similarly, the entry for attendance in your dictionary should match up with your procedures for counting a student as present or absent.
- **Document other relevant information.** It is helpful, when possible, to supplement the data being collected with documentation that provides additional context—such as where survey questions are from, previous challenges with administration, or the approximate time it takes to administer the survey. Your procedures should include this practice.
- **Pay special attention to data transfers.** Data are at their most vulnerable when they are being transferred from one party to another. There are security risks, such as sending files by unencrypted email. There are also risks to data quality, such as sending files in the wrong format or without proper instructions. At a minimum, you should have procedures in place that explain how to securely transfer

Without step-by-step collection procedures, you may end up with data that are not accurate enough to be useful.

You may also consider creating a rubric for each data file you receive that includes all the items the file should contain and what to do if items are missing or formatted incorrectly.

data. You may also consider creating a rubric for each data file you receive that includes all the items the file should contain and what to do if items are missing or formatted incorrectly. A rubric of this kind can be particularly helpful for keeping track of data that you get from multiple sources, such as attendance data for individual programs.

- **Monitor how the procedures are being followed and adjust accordingly.** No matter how much thought you put into your procedures, there will likely be some variables you have not accounted for. For example, the programs in your network may have different ways of categorizing the race and ethnicity of their youth. Updating your procedures to include more-explicit instructions about what categories to use and then making sure your program partners are all on the same page may be enough to address the issue. Certain programs, however, may be obligated by funders to use different categories from the ones you prefer. In that case, you may need to “clean” the data once they have been collected to eliminate inconsistencies.
- **Determine when and how to clean your data.** Data cleaning is the process of fixing errors (e.g., misspelled names or incorrect birth dates), filling in missing information (e.g., student ID numbers), reconciling inconsistencies in the way data are labeled or categorized (e.g., race and ethnicity), and purging duplicate records. For example, to deal with inconsistencies in the way programs categorize race and ethnicity, you may need to combine categories into larger groupings. Be specific in your procedures about exactly when and how data should be cleaned.

SEVEN

Train staff in how to work with data and why they are important

On their own, written procedures, no matter how thorough, are no match for human error. Entering data into an MIS is not always intuitive and might not seem to be a high priority to busy program staff. That is why training is so important. Everyone who plays a part in your data efforts needs to understand why data are relevant to their work, why accuracy is essential, and how to work with data the right way.

A 2010 RAND report on eight cities working with data to increase access to, and improve the quality of, expanded learning programs found that there were substantial need and demand among program staff for training in the use of their city's MIS. Most staff who received such training reported that they found it “very” or “extremely” useful.⁶

Training can take the form of in-person sessions, webinars, or phone calls. Given that staff turnover in expanded learning programs is high, you may need to provide training on a frequent or ongoing basis.

Your training plan should take account of who needs training and what they need to know to preserve the accuracy of the data they collect and to effectively interpret and apply the data they receive.

Everyone who plays a part in your data efforts needs to understand why data are relevant to their work, why accuracy is essential, and how to work with data the right way.



The Sprockets Community Advisory Council reviews network data to inform future engagement projects (St. Paul).

EXAMPLE FROM THE FIELD

Training Program Staff to Conduct Peer Observations

Problem: One of the intermediaries in our study had been providing its program partners with reports and graphic presentations of data for some time. Over the years, though, the number of programs in the network grew and so had the cost of collecting data. Using paid, professionally trained observers to rate the intermediary's programs had become particularly expensive.

Solution: To cut costs, the intermediary decided to shift to a model whereby program staff would observe and rate their peers. The challenge now was to ensure that the observations continued to produce timely, reliable data. This meant developing a pipeline to recruit, select, train, and certify the observers and, if necessary, retrain them after the first round of observations. Training focused not only on how to properly observe and rate a fellow program but also on how to enter and process the data accurately and on time. This new approach calls for more communication and coordination than before, and as the intermediary continues to test out the approach, it will likely need to tweak its training and procedures.



Youth workers discuss priorities based on feedback from the Sprockets network (St. Paul).

EIGHT

Develop a process and a timeline for analyzing and reporting data

You have a plan for securing and organizing your data, an inventory of the data you want to collect, and procedures for how to go about collecting them. Now you need a process, along with a timeline, for analyzing the data once you have them and reporting what you find to your stakeholders. These are the basic questions you need to answer as you develop this process:

- **What types of analysis will you be doing? What data do you need for each type and when will those data be available?** Suppose you want to use data to inform decisions about budgeting. That will take one type of analysis. Programming decisions may take another, and policy yet another. Make sure you have a clear sense of what data you will need for each and what date you will need them by.
- **How much staff time and external support will it take to analyze the data?** To nail down your timeline, identify the staff members responsible for carrying out each task and estimate how many hours over how many weeks or months the tasks are likely to take them. If school district staff, independent researchers, or other outside partners will be involved in a task, account for their time too. Some types of analysis, such as tracking weekly attendance rates at each program site, take a lot of up-front investment and preparation (e.g., designing a dashboard to automatically generate reports) but should be relatively low maintenance thereafter. Others, such as analyzing the relationship between program quality and attendance, have more moving parts and may be more demanding time-wise.
- **Who needs the findings and when do you need them?** Once you have analyzed your data, you need to get them into the right hands, in the right format, at the right time. Some types of information are more time sensitive than others. For example, if you plan to analyze attendance patterns, the idea is to deliver the findings to your program administrators at a point in their operating cycle when they are able to act on them. Your timeline should start with the collection of the data and extend to the delivery of the findings to their intended users—and you should update the timeline every year.
- **What supports do your audiences need to understand and use the findings appropriately?** Different audiences will have different levels of experience with interpreting and applying data. For example,

Once you have analyzed your data, you need to get them into the right hands, in the right format, at the right time.

some might not understand the difference between a causal and a correlational connection and therefore might be quick to jump to inappropriate conclusions. Some might need professional development, such as coaching or workshops to interpret and determine how best to use results.



Program partners receive their Program Report for Improvement and System Measurement (PRISM) at Boston After School & Beyond's summer debrief.

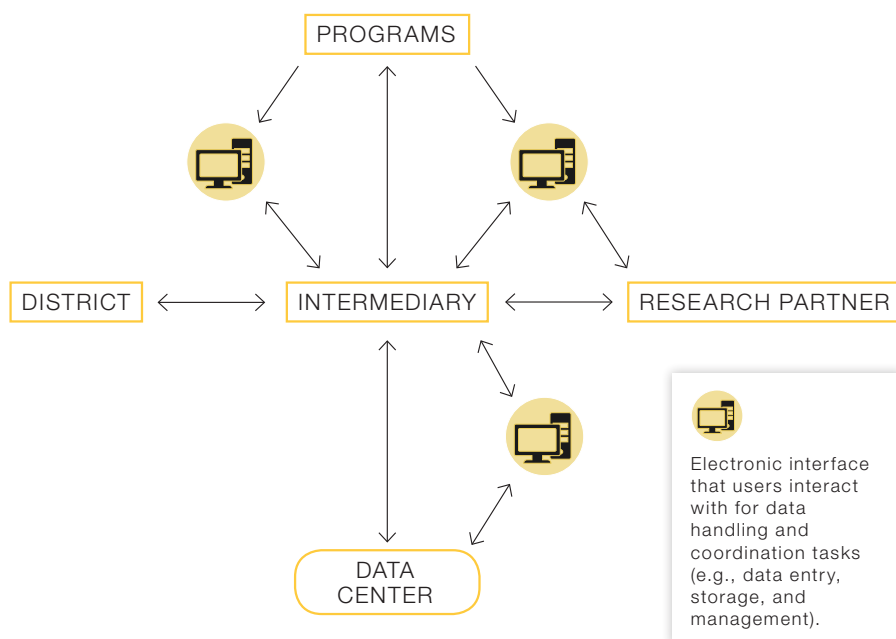
NINE

Create a visual aid to track the flow of data

Even with the right MIS, a thorough inventory, explicit procedures, and trained staff in place, it can be difficult to keep track of data as they move from point A to point B. A visual aid will give you a bird's-eye view of your data system, including the source of each piece of data, the means of transfer (i.e., your MIS or some other technology), the procedures for transfer, and the recipients of the data. The visual aid should help you identify gaps or inefficiencies in the system, coordinate all the people and activities involved, and set appropriate expectations for when data will be available. Figure 1 presents a simplified diagram of a data system.

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Figure 1. Simplified Diagram of a Data System



At the bottom of the diagram in the figure is the **data center**, the final destination for all your data. The data center could be, for example, your MIS or a secure server. Data can be entered into and retrieved from the data center directly or through an electronic interface, such as Salesforce, a commercial MIS, or Survey Monkey, an online survey platform. It may take more than one interface to move data between the data center, your office, the programs in your network, and your other partners. Keep in mind that each interface you use is an interface you will have to devote time and resources to managing.

This is a simplified diagram. You can use it to create your own, more comprehensive, visual aid, identifying the specific route that each piece of data will take. Table 3 shows an example of a data route, including each location the data will pass through and the activity that will take place at each stop. In this case, programs collect survey data on youth using paper and enter the data into Survey Monkey. The intermediary downloads the data from Survey Monkey and reviews them for completion and accuracy. This is the current location of the data, according to the table. Once it completes its review, the intermediary uploads the data into the MIS. Research partners will then clean and analyze the data to produce reports for the intermediary. The partners will then upload the clean data to the MIS, which can also create standard reports. You may want your own data routes to include additional information, such as the date of each handoff, the person responsible for sending the data, and the person who received it.

TABLE 3

Data Route for Student Survey

	Location 1 Program	Location 2 Survey Monkey	Location 3 Intermediary	Location 4 MIS	Location 5 Research Partner	Location 6 MIS
	ENTRY	STORAGE, TRANSFER	REVIEW	STORAGE, TRANSFER	CLEANING, ANALYSIS, REPORT	STORAGE, REPORT
STATUS	✓	✓	✓			

↑
In this example, the data are currently with the intermediary (the last row with a check mark).

Regularly evaluate and troubleshoot the data system

Despite the best-laid plans, no data system ever works perfectly 100 percent of the time. Maybe not everyone is following procedures. Maybe your training is inadequate. Maybe you have too many items in your data inventory to realistically tackle or your data routes are too complicated. Maybe the data you end up with do not help you meet your goals as anticipated, or maybe your goals have changed altogether. These things happen, so it is important to stay on top of what is happening in your data system, conduct periodic performances evaluations, and make course corrections as you go.

EXAMPLE FROM THE FIELD

Troubleshooting a Data Collection Tool

Problem: One intermediary in our study directly employs a coordinator in each of the programs in its network. Although it could not afford to conduct a formal quality assessment of every activity taking place in the network, it wanted the coordinators to have the information they would need to help programs improve. With this in mind, the intermediary created a quality checklist that the coordinators could use when they conducted walk-throughs of programs—a good idea, but the execution was too ambitious. The checklist had more than 40 items and asked for information that was difficult for the coordinators to observe, such as the quality of time devoted to reflection. Not only did the coordinators have trouble using it but the intermediary staff had trouble making sense of the data it produced. What was supposed to be a quick and easy way to aid the coordinators in their work had become something more akin to a full-blown program evaluation tool.

Solution: Learning from this experience, the intermediary reduced the checklist to ten items, removing the ones that were too cumbersome. Before putting the checklist back in the field, intermediary staff took time to think through how it related to their overall data goals and inventory and how they would talk with the coordinators about the information it produced.

It is important to stay on top of what is happening in your data system, conduct periodic performances evaluations, and make course corrections as you go.

Conclusion

The ten steps in this guide do not cover every facet of data collection and management. Think of them as a starting point on your data journey. The destination: effectively using data to benefit the programs, communities, and young people you serve.

Notes

¹ Every Hour Counts, *Every Hour Counts Measurement Framework: How to Measure Success in Expanded Learning Systems*, New York, 2014 (<https://www.everyhourcounts.org/resource-library>).

² Existing resources of possible interest to expanded learning intermediaries include J. Spielberger, J. Axelrod, D. Dasgupta, C. Cerven, A. Spain, A. Kohm, and N. Mader, *Connecting the Dots: Data Use in Afterschool Systems*, New York: The Wallace Foundation, 2016; K. P. Boudett and J. L. Steele, *Data Wise in Action: Stories of Schools Using Data to Improve Teaching and Learning*, Cambridge, Mass.: Harvard Education Press, 2007; and K. P. Boudett, E. A. City, and R. J. Murnane, *Data Wise: A Step-by-Step Guide to Using Assessment Results to Improve Teaching and Learning*, Cambridge, Mass.: Harvard Education Press, 2013. The Carnegie Foundation for the Advancement of Teaching identifies others (see S. Park, S. Hironaka, P. Carver, and L. Nordstrum, *Continuous Improvement in Education*, Stanford, Calif.: Carnegie Foundation for the Advancement of Teaching, 2013).

³ U.S. Code, Title 20, Education; Sec. 1232g, Family Educational and Privacy Rights.

⁴ For a discussion of data security and FERPA, see C. Kingsley, *Building Management Information Systems to Coordinate Citywide Afterschool Programs: A Toolkit for Cities*, Washington, D.C.: National League of Cities, Institute for Youth, Education and Families, 2012. For sample data sharing agreements and legal guidelines for data sharing, see M. McLaughlin and R. A. London, *From Data to Action: A Community Approach to Improving Youth Outcomes*, Cambridge, Mass.: Harvard Education Press, 2013. The U.S. Department of Education has a webpage that lists resources for protecting student privacy under FERPA; see Student Privacy Policy Office, U.S. Department of Education, “Resources,” webpage, 2019 (<https://studentprivacy.ed.gov/resources>).

⁵ C. Kingsley, *Building Management Information Systems to Coordinate Citywide Afterschool Programs: A Toolkit for Cities*, Washington, D.C.: National League of Cities, Institute for Youth, Education and Families, 2012.

⁶ Jennifer Sloan McCombs, Nate Orr, Susan J. Bodilly, Scott Naftel, Louay Constant, Ethan Scherer, and Daniel Gershwin, *Hours of Opportunity, Volume 2: The Power of Data to Improve After-School Programs Citywide*, Santa Monica, Calif.: RAND Corporation, MG-1037/1-WF, 2010 (<https://www.rand.org/pubs/monographs/MG1037z1.html>).