Defining Data Capacity for Two-Generation Approaches

THE ANNIE E. CASEY FOUNDATION

introduction

The two-generation approach to breaking the cycle of poverty in families is grounded in the theory that addressing the needs of parents and children simultaneously in an integrated way yields better outcomes than implementing programs focused on just a single generation's needs. Fundamental to the success of two-generation programming is having high-quality data to drive decision-making processes. Data are used to track participant progress and help inform the program design, services and equitable practices that will empower families and support them in achieving their goals.[1] But in advancing two-generation approaches, the ability to collect high-quality data and use those data efficiently and effectively remains a common challenge.[2] In the two-generation field, there is a tendency to classify an organization's data capacity as either emerging or mature. This categorization mistakenly assumes a singular dimension for assessing data capacity and standard definitions; in fact, organizations can vary on their level of development across the different components of data capacity.

"Data capacity" is used commonly throughout the two-generation field; however, the term lacks a standard definition — it can refer, for instance, to a data system, staff skills or reporting capacity. The semantic differences can complicate discussions about data needs and issues.

> "DATA CAPACITY is the ability to have the RIGHT DATA, at the RIGHT TIME, in the RIGHT FORM, to the RIGHT PEOPLE."
>
> *Paige H. Teegarden, general manager, empowOR by CSST Software*

We define **data capacity** as the technical, management and human resources to collect, use, share and store data. Building data capacity involves not only increasing individual and organizational abilities, but also intentionally creating a culture in which data-driven practices, processes and decision making are valued. This type of culture — one that explicitly promotes the accuracy, utility and importance of data — can support implementation successes. The data required for programming become less of a "box to check" and more of a "way we do our work." Common definitions and a more comprehensive understanding of the term could facilitate interactions across the two-generation

field among practitioners, researchers and funders and within individual organizations. This brief will present a precise definition of data capacity that outlines its individual components, including corresponding examples from the field of how two-generation implementers have developed aspects of their data capacity.[3]

data capacity components

Data capacity is a multifaceted concept that includes three key components: technical capacity, policies capacity and staff capacity. These capacities, although conceptually distinct, are interconnected and influence each other in overall capacity-building and programming applications.

technical capacity

policies capacity

staff capacity

TECHNICAL CAPACITY

Technical capacity includes both hardware and software. For many in the two-generation field, the first step in building data capacity is to become more technically savvy and sophisticated, which requires acquiring the fundamental tools. Up-to-date computers, devices and their associated technology are necessary as program coordination becomes integrated across service providers. Ultimately, inadequate technology hinders the development and evolution of a two-generation approach, while appropriate technology enhances service delivery on the front end and data utilization on the back end.

Hardware. Technical hardware includes physical tools such as computers, tablets, mobile phones and network infrastructure to collect, store, access, analyze and report data. While there may be some purpose for paper and pencil at various points in the data life cycle, using tools to electronically complete the work increases efficiency in terms of staff time and resources. For instance, automated reporting is faster than manually creating a report, and the resource savings increase when the report is regularly required, as with quarterly board reports, annual funder reports and similar items.

> "A PAPERLESS SYSTEM has streamlined the tremendous amount of paper required by funders and allows for easy monitoring at an administrative level. This effort did not happen overnight and required thoughtful planning and years of staff training. The greatest benefit is the transformation from being a 'check the box and make sure the paper is there' agency to a truly data-driven decision-making agency with an army of data at our fingertips."
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> *Darin Preis, executive director, Central Missouri Community Action*

Software. Technical software are programs, applications or data systems[4] run on the hardware. It is not uncommon for two-generation organizations to require the use of numerous software products — Microsoft products, management information systems (MIS)/client management systems (CMS), tracking systems and analytic programs — to accommodate case management, report processing and data analysis needs, but each system is often limited to specific family members or services. A child care provider might have a mandated program (for example, Head Start grantees are required to use ChildPlus), while a housing assistance provider uses its own MIS/CMS and a workforce development provider works with yet another program. Complications can arise when trying to connect family service records and data across multiple systems, particularly as most systems cannot link to other systems. Manually linking parent, child and family data introduces room for error and requires much staff time and effort, resulting in increased costs for organizations. For example, if a staff member compiles an Excel spreadsheet to calculate the number of services individual families received using administrative data from System A, child-level data from System B and parent-level data from Systems C and D, potential errors can result from pulling data from four separate places (e.g., incorrectly linking data from different families in the Excel sheet). An example of high-level software capacity is a fully integrated data system that links information records about each family member across all service providers.

> "IN THE PROCESS of linking records and data within the family, we discovered the importance of changing our approach in the way we do business and how indispensable it is to examine our work through an outcomes lens. Every resource needed to be centered on the family and their aspirations. Not only did child and adult outcomes improve, but family wellness assessments steadily progressed and our organization dropped its silos to function in a more holistic manner."
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> *Duane Yoder, president, Garrett County Community Action Committee*

POLICIES CAPACITY

Policies capacity refers to the knowledge and resources needed to develop and maintain all the formal and informal regulations, practices, guidelines and agreements regarding data. It includes three dimensions: (1) data sharing among external partners, (2) data access by staff and (3) data privacy. Data policy decisions typically come from leadership laying out what information needs to be collected, and how that information is to be shared and protected. All aspects help to answer the question, *How do we do business?*

Data sharing among external partners. Data sharing among external partners is typically required to efficiently implement an integrated service model in order to provide the full scope of services requested by various families and individuals. Strategies for data sharing include establishing formal agreements, such as memorandums of understanding (MOUs) and data-sharing agreements among organizational partners, and obtaining appropriate consent forms from participants. Using these formal agreements, all parties will have clarity and consent for what is shared and how it is shared. Accounting for multiple organizations' legal responsibilities and internal practices can be a complex process, but once data-sharing protocols are in place, they can prove to be enormously beneficial to all the organizations involved.

Data access by staff. Two-generation organizations must also decide which staff members can see, edit, quality check, manipulate and report on specified aspects of family information. These decisions and practices are based on the type of staff (management, frontline), the type of service (child care, workforce, housing, education, finance) and which family members the program serves. Organizations then must establish guidelines to determine who needs access to data (and why) and how that access will be granted. Key questions for organizations to consider include:

- How will staff use the data?
- What data elements are needed by which staff?
- What data will inform each service provider's work? (For example, would access to children's school attendance information improve the support frontline housing staff provides to parents?)

Organizations also need to determine what level of information staff need to access to enhance their work without the data becoming overwhelming and inconsequential. For instance, perhaps housing staff do not need to see children's daily school attendance records but would be served by seeing a warning if a child's absenteeism has increased — a potential indicator that there is a stressor in the family preventing the child from going to school.

> "The ability to **ACCESS DATA** through an integrated data system is extremely important to the **PROVISION OF** comprehensive, **INTEGRATED** whole family work."
>
> *Wonda Winkler, executive vice president, Brighton Center*

Data privacy. All aspects of policies capacity must keep an eye toward protecting individual privacy, because data privacy is a human right and people should have a voice in how their data are used. Sharing personal and sensitive information might be necessary, but responsible service provision calls for implementing the appropriate safeguards to secure this information. Data privacy protocols include staff practices and technological protections to secure private, confidential and sensitive information, as well as the incorporation of current state and federal compliance policies. Although not limited to two-generation settings, information privacy practices are an elemental concern as partners work to integrate data across service providers.

STAFF CAPACITY

Staff capacity refers to the expertise and capabilities within the organization to efficiently and effectively use data. It includes information technology (IT), data operations and leadership. These skills and expertise are not limited to one person in one specific role; rather, the capacity should be considered across all staff within the organization. As described in the previous sections, technical capacity provides the tools and policies capacity provides the guidance on how to complete daily activities and practices. Staff capacity completes the picture by ensuring there are people with sufficient skills to use the tools and enact the guidelines. This capacity is not limited to hiring practices; it also includes intentional and recurrent staff training.

Information technology. Organizations need to have sufficient IT expertise to assess and address their hardware and software needs, and to train staff on using new technology. When developing an integrated data system, the ability to speak the languages of both social service programming and IT is a critical skill. That is, staff must be able to translate their program's needs into technical requirements and specifications as they communicate with data system vendors, who might not be experienced with two-generation programming, as well as translate technical information for program staff who are unfamiliar with technological jargon. If this level of IT expertise is not currently within their staff's skill sets, organizations should consider bringing on additional internal staff or seeking external consultation.

> **"OUR OUTCOMES-DRIVEN FOCUS** at Warren Village has included the integration of software into our workflow. In the last two years, we have seen the great potential of software, and ancillary IT infrastructure, to drive quality and growth for our two-gen model. We have also seen the limitations and negative impact of software not aligned to our model and a larger IT framework that comes with sporadic support."
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> *Ethan Hemming, president and CEO, Warren Village*

Data operations. Staff also need the competencies to collect, enter and make use of data. The initial steps of obtaining information from families, entering the data into a data system and checking data quality are critical because all further applications of the data presume that the information is complete and accurate. Inaccurate or incomplete data can introduce errors later during interpretation of the data. For example, missing information could unintentionally indicate that families are not participating in services or making progress toward their goals — which, in turn, could lead to imprecise programmatic decisions to eliminate underutilized or ineffective services. Staff must also be able to use and interpret data for case management purposes. The ability to interpret data to help families navigate services is crucial for two-generation approaches. Data are the means of communication across providers serving multiple members of the family, and staff need the ability to use them proficiently. Beyond case management, organizations also need data operations expertise for performance management, which includes continuous quality improvement of existing services *(What can we do better?)* as well as performance evaluation *(Is what we are doing making a difference?)*. High levels of performance management expertise — leading to sufficient and quality data — position a program for future independent evaluation to test outcomes, which can provide the evidence of program success necessary to secure additional funding and long-term program sustainability. This capacity also enables organizations to communicate program findings to funders, donors, boards, partners and families.

> **"PUTTING SYSTEMATIC DATA** front and center in LIFT's decision making has helped us challenge assumptions and assess program fidelity — both key to ensuring we can continuously improve service to LIFT's most important stakeholder, our families."
>
> *Kristy Arnold, executive director, LIFT-DC*

Leadership. Leadership support and commitment, including from the board and executive levels, are critical to an organization's data mission. Their support allows for the necessary allocation of resources and investment in building and maintaining data capacity. For example, staff must have sufficient time designated to perform data-related activities, and budgets need to accommodate capacity-building activities such as attracting, hiring and compensating skilled staff; purchasing and maintaining data systems; and providing professional development. Ultimately, a long-term commitment and strategy are required to fully build capacity, as it is a process that spans multiple funding years and budget categories.

considerations for building data capacity

As with all aspects of two-generation implementation, the key to sufficient capacity is finding the best fit for the organization, taking into consideration local context, internal resources and participant needs. All two-generation organizations have the capability to build their data capacity, and resources are available to aid in capacity assessment and improvement.[5] Evaluating and calibrating capacity creates a stronger data culture — which ultimately helps to facilitate optimal service delivery for the families being served.

ENDNOTES

1 Sommer, T. E., Chase-Lansdale, P. L., Sama-Miller, E., Ross, C., & Baumgartner, S. (2018). *Conceptual frameworks for intentional approaches to improving economic security and child well being* (OPRE report #2018-03). Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. Retrieved from www.acf.hhs.gov/sites/default/files/opre/conceptual_framework_brief_2018_03_b508.pdf. And, The Annie E. Casey Foundation. (2017). *Operationalizing equity: Putting the Annie E. Casey Foundation's racial and ethnic equity and inclusion framework into action.* Baltimore, MD: Author. Retrieved from www.aecf.org/resources/operationalizing-equity

2 For a detailed discussion, see The Annie E. Casey Foundation. (2018). *Advancing two-generation approaches: Integrating data to support families.* Baltimore, MD: Author. Retrieved from www.aecf.org/resources/advancing-two-generation-approaches-integrating-data

3 While other key data terms, such as data governance and integrated data systems, are also common in two-generation work and are related to data capacity, they are beyond the scope of this brief.

4 Data system, a common term in the field, refers to the software packages and processes used to store and use data; it does not align with a computer science definition of an operating system.

5 Informing Change. (n.d.). *Evaluation capacity diagnostic tool.* Retrieved from http://informingchange.com/uploads/2010/06/Evaluation-Capacity-Diagnostic-Tool.pdf. And, Geary, E., Poes, M., Iannone-Walker, M., Porter, R., Callis, A., Buckless, B. & Day, P. (2018). *Data system improvement toolkit.* Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. Retrieved from www.jbassoc.com/resource/data-system-improvement-toolkit

ABOUT THE ANNIE E. CASEY FOUNDATION

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701 ST. PAUL STREET BALTIMORE, MD 21202 410.547.6600 WWW.AECF.ORG