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Building Capacity to Effectively Share and Use Data (Blog Post)

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In child welfare, the need to utilize meaningful data to ensure that the services provided are effective in supporting children and families represents a continuing challenge. There is a large volume of data from sources that are internal and external to child welfare agencies; and it increases almost exponentially on a regular basis. It is difficult for leaders and practitioners to quickly and meaningfully synthesize, make use of, and share new information with colleagues who need it to make sound decisions. Even when data is transformed into knowledge, challenges remain around the preferred method of ensuring information reaches the individuals who can utilize it. Data visualization provides a dynamic way to meet stakeholders' unique needs to support data sharing and use. This blog post highlights why and how child welfare agencies can build capacity to share and use data through visualization.

Why visualize your data?

Take Advantage of Increasingly Available Data

Data is increasingly available about all aspect of our lives, particularly when it comes to our work. The growth in the availability of data can seem overwhelming, but when managed it can provide opportunities. Child welfare leaders, for example, can rapidly put more accurate and reliable information in the hands of managers so they can make more sound decisions and act on the most recent information. Data visualization can provide "big data" or analytics in a human-centered way. A human-centered approach shifts the data from being reported as it is captured to how it is used. For example, instead of tracking the number of cases on a worker's caseload, a human-centered approach accounts for the complexity of the case and the worker's existing workload.

Bring Data to the People

Data visualization can communicate information in a clear, concise, and engaging way. Engaging visualizations draw the attention of decision makers (e.g., managers), while clarity and brevity increases the likelihood that data will be understood and used to make decisions (e.g., [Cawthon & Moere, 2007](#); [Patton, 2008](#)). Engaging decision makers with data visualization requires careful consideration the who will use the information and how, while incorporating strong design principles that leverage human visual perception.

Drive Evidence-Based Decision Making

Decision makers may be legislators, judges, directors, administrators, managers, or supervisors. They are increasingly encouraged or required to use data to drive policy and practice. Attitudes, accessibility, and other factors influence the use of information in

policy and practice decisions ([Palinkas et al., 2016](#)). Decision makers interest in and concerns about the feasibility of obtaining and using data to guide their work and provide practical insights on how agencies may close the gap between research and practice ([Parrish & Rubin, 2011](#)).

How to build the capacity of your agency to visualize, share and use data

Child welfare agencies need to understand the elements that are key to their capacity to effectively visualize, share, and use information effectively. The key elements include the needs of different agency audiences (e.g., leaders, managers, frontline workers, and partners), how agencies share data (e.g., visualization), and how agencies use data (e.g., data driven culture). Below these elements are detailed and considerations described (see Figure 1).

Figure 1. Stages to ensure data visualization solutions are useful and sustainable



What are Your Agency's Information Needs?

To understand your agency's information needs, you should consider (1) what is motivating them to use data, (2) the capacity of individuals and teams to work with the data they have access to, and (3) what they intend to use data for.

1. **Motivations** of individuals and teams to obtain and use data may be internal or external. An internal motivation could be a desire to increase the use of data to drive decision making. An external motivation may be the requirements of an oversight agency or a measure that is driven by practice standards. These different reasons for obtaining and using data should inform how your agency should channel resources in the areas of visualizing, sharing and using data.
2. **Goals and Objectives** for different types of workers to obtain and use data may vary widely. If a decision maker, for example, wants to be knowledgeable about the strength of their child welfare workforce (goal) or have real-time data about the number of job vacancies (objective) data visualization tools can help be useful.
3. **Context** includes the assumptions, expectations, and attitudes about data use among individuals and the culture of the organization overall. Contextual factors, such as the availability of resources (e.g., internal staff capacity, time, and money), organizational

practices and leadership support for evidence use, and the extent to which an agency culture is data driven, may influence how data can be visualized, shared, and used.

Understanding the data needs of your agency in these ways should inform how the organization approaches building capacity to visualize, share and use data.

How Can Your Agency Build Capacity to Visualize, Share and Use Data?

There are a variety of strategies agencies can use to more effectively visualize, share, and use data, including:

- **Data Collection & Management** systems should be setup to allow for routine or automated visualization and reporting of key indicators. Practically, this means ensuring data are available in formats that allow agency analysts or partners to efficiently analyze and visualize data. Efficient data collection and preparation systems allow for the most timely and relevant data to be visualized and reported to those that need it most to make sound decisions.
- **Visualization Skills** should be a professional development priority for agency analysts and research partners. Now more than ever before options exist for everyone from the most novice analyst to the seasoned researcher to develop their skills to analyze and visualize data to promote use. Agencies can consider a variety of software platforms for visualization that range from free and open source, to resource intensive and state of the art. Agencies should balance the costs (i.e., software costs and professional development) against the extent to which any data visualization platforms meets their data needs in terms of the consideration detailed in the previous section of this post.
- **Leverage Existing Communication Channels** (e.g., web-conferences, face-to-face meetings, websites, e-mail or other web-based mechanisms, and written materials) that people are familiar with to share data visualizations in ways that are familiar, convenient, and sustainably supported by the agency.
- **Brief workshops** (e.g., 30 minutes or less) with key stakeholders to demonstrate data visualization tools and learn more about how they prefer to obtain, use, and share data. As can be seen in Figure 2, below, child welfare supervisors from a large urban agency reported they more often search for information themselves or attend meeting to obtain information, rather than contacting or relying on expert sources. Such workshops can take the format of traditional in-person meetings and webinars, or more easily replicated videos, e-learning, or micro-learning.

Figure 2. How Supervisors/Managers Gather Information



- **Identify “gatekeepers” or “champions”** (respected/influential team members) who are excited about using data visualization to more easily obtain current and vital data to drive their work, and can promote new data viz efforts in meetings or by highlighting them in reports or newsletters.

Evaluate and Pivot

Data visualizations are only as effective as their utility for front-line workers, managers, and leaders. To ensure data visualizations are vital sources of information for your agency, they need to be routinely evaluated and improved. To maintain the utility of data visualizations agencies should evaluate their effectiveness at the individual and agency levels.

- **Individual users** should be routinely engaged to gather feedback about how they obtain, use, and share visualizations, and their suggestions for improvement. User feedback can be gathered electronically (e.g., via survey) or through real-time discussions (e.g., think-a-louds) to inform future data visualizations or improve existing reporting. You may want to ask your target audience questions such as “How do you use this reporting in your work?”
- **Agency** data leaders should routinely revisit data dissemination goals, objectives, and investments to determine if data visualization and other information dissemination tools continue to be reasonable and appropriate. As the agency data use needs and culture evolve, information tools such as visualization should evolve to meet them.