Putting the Pieces Together:
Guidebook for Fact-Based Decision Making to Improve Outcomes for Children and Families

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About the Technical Assistance Partnership for Child and Family Mental Health

The Technical Assistance Partnership for Child and Family Mental Health (TA Partnership) provides technical assistance to system of care communities that are currently funded to operate the Comprehensive Community Mental Health Services for Children and Their Families Program. The mission of the TA Partnership is “helping communities build systems of care to meet the mental health needs of children, youth, and families.”

This technical assistance center operates under contract from the Federal Child, Adolescent and Family Branch, Center for Mental Health Services, Substance Abuse and Mental Health Services Administration, U.S. Department of Health and Human Services (HHS).

The TA Partnership is a collaboration of two mission-driven organizations:

- The American Institutes for Research – committed to improving the lives of families and communities through the translation of research into best practice and policy.

- The National Federation of Families for Children’s Mental Health – dedicated to effective family leadership and advocacy to improve the quality of life of children with mental health needs and their families.

For more information on the TA Partnership, visit the center’s website (http://www.tapartnership.org).

About This Guidebook

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Introduction

Are you overwhelmed by demands to be more “data-driven” in your practice? Has the latest agency management decreed yet another set of dashboards to guide agency decisions? Are you inundated by numbers that are impenetrable, make little sense given what you know, don’t reconcile with the numbers you keep about your own caseload, or are about issues that seem only marginally related to what you do and what you can influence?

Or maybe you are one of the lucky ones, working in a system of care with a well-developed, fact-based, decision-making culture?

Whether frustrated by numbers or comfortable with using data in daily decision making, this practical guide will help you use data to determine whether the best outcomes for children and families are being achieved.

What if you learned that your division had the highest average rate of out-of-home placement in your organization? Or that your teen peer-to-peer support program had the highest rate of psychiatric hospital reentry of all the peer-to-peer programs in your system of care? Wouldn’t this kind of information provide an incentive to reevaluate your practice with colleagues and determine how better outcomes might be achieved?

This guidebook unbundles the “data puzzle” and gives you important basics that will help you more effectively identify, use, and evaluate and monitor practices, services, and outcomes for children, youth, and families involved in a system of care. Data (both qualitative and quantitative) provides evidence, taking the emotion and guesswork out of what can be tough calls in making decisions. With an effective data-driven, decision-making system, states, tribes, counties, and communities can more easily analyze performance data by important subgroups, challenge assumptions, and address problems (Messelt, 2004). The facts become the key driver for quality improvement activities.

This guidebook is intended to be useful to human service systems that support young people and their families across a comprehensive array of services within a system of care, including child welfare, mental health, juvenile justice, education, and health care (Figure 1). Each of these systems may have different goals and use data differently to determine child and family outcomes.
This practical guide focuses on the data necessary to build virtually every element of the infrastructure of a system of care (Figure 2). Promoting shared accountability for results across a system of care aligns the work of the system around common goals, helps set priorities, and instills pride in system accomplishments and outcomes (Hodges et al., 2007).

Management by data, data-driven planning, or fact-based decision making describe the same concept: using the very best information to achieve the very best outcomes for children and families. In its most basic form, data-driven decision making is about collecting appropriate data, analyzing that data in a meaningful fashion, getting the data into the hands of the people who need it, using the data to increase program efficiencies, and communicating data-driven decisions to key stakeholders. In short, the facts will help justify directing limited resources to target populations or areas of service need and add credibility to your conclusions (Schrepf & Brown, 2011).

This guidebook presents the four pieces of the data puzzle (Figure 3):

1. The **data** itself: what you need and where to get it.

2. The **analysis** of the data: common approaches to understanding the meaning of the data.

3. The **presentation** of results of the analysis.

4. The **communication** and dissemination of those results.

This guidebook also includes a variety of real-life and hypothetical examples illustrating key points. In addition, as we explore each element, we follow the stories of three jurisdictions—Virginia,
New Jersey, and Erie County, New York—that have made, or are in the process of making, progress in improving outcomes by using data to inform a wide range of practice and policy changes.

### Virginia: Asking the Right Questions

Governor Tim Kaine was elected governor of Virginia in 2005. His wife, Anne Holton, was a former juvenile court judge who made the needs of Virginia’s children and families one of her primary advocacy issues during her tenure as the state’s first lady.

“The system was totally reactive,” says Judge Holton. “We would wait until things were really awful at home, and then we’d remove the children, and maybe we’d find another family for them. Things would fall apart there, and we’d put them in a group home. They’d run away, so we’d lock them up in some institutional setting. In many cases these were really smart and interesting kids and the system clearly was failing them.” (Walters, 2010, p. 4)

Asking the right questions was the key to designing and sustaining a fact-based, decision-making culture across human service systems. Judge Holton knew from experience that the system had focused for far too long on process: what they did (e.g., number of cases investigated, number removed from home, length of stays in care) rather than on what they accomplished.

That simple paradigm shift—from “what do we do?” to “what have we accomplished?”—began the process that fundamentally changed Virginia’s approach to supporting families and using data to strengthen family-centered practice.

### New Jersey: Demonstrating Accountability to Stakeholders

In 1999, Children’s Rights, an advocacy organization, brought litigation against the New Jersey Division of Youth and Family Services (DYFS). In 2003, the suit resulted in a consent decree between the DYFS and Children’s Rights. The decree contained a significant number of specific performance measures and goals—both for process and for outcomes—that would establish the basis for New Jersey data collection and analysis for many years to come.

By 2006, although some significant progress had been made, all parties agreed to a modified consent decree that provided even greater room for collaboration and defined the need for a new practice model—as well as supporting data, data analysis, and management, and quality systems to support it. In New Jersey, critical indicators came from litigation and resulted in tracking and communicating data essential to demonstrating accountability that systemic reform has occurred and that outcomes are improving.

### Erie County, New York: Creating a System of Care

Erie County has a population of approximately 920,000 and includes Buffalo—the second largest city in New York and the third largest poor city in America. Stakeholders in the community were concerned that there were simply inadequate resources for children at high risk of mental illness. Key-child serving agencies—including the departments of social services, juvenile justice, and mental health—collaborated with families to prepare an application to Center for Mental Health Services for funding to implement a system of care. The grant was successful and was awarded to Family Voices in 2004.

From the beginning there was a commitment to the system of care values and guiding principles. Data across all of the systems informed fact-based decision making to reduce institutionalization of youth with serious mental health challenges and reinvest savings into community-based services and supports. From the beginning, they had to link financial data and results to their process and outcome data.
Section 1 (data) discusses what data you need to make decisions and where to find the data. Section 2 (analysis) discusses how to understand the data once you have it. Section 3 (presentation) explains how best to present your analysis: how to tell your story. Section 4 (communication) describes how to disseminate the results and consider with others what the results mean.

Concluding comments summarize how using data for decision making can improve services, service delivery, and, ultimately, outcomes for children, youth, and their families. Appendices provide resources for more information, including a list of sources for data and examples of data indicators (Appendix A) and an annotated bibliography for further reading (Appendix B).
1. Using Data

It doesn’t matter whether you are a new agency head frustrated that you can’t get reliable numbers of children in out-of-home care or a social worker perplexed by an apparent relationship between autism and physical abuse. In both cases you need to go through some kind of process to determine exactly what you want to learn and then identify the core data necessary to do so. Any decision can be informed by the data that explain the problem and will support the direction you want to take to address it (National Federation of Families for Children’s Mental Health, 2009).

There is a simple and universal answer to “what data do I need?” and that is, it depends on what question you are trying to answer. Understanding system intent determines the types of data collected. Systems participating in the system of care will need to make strategic decisions about what data will be collected based on a shared understanding of what they want to achieve (Kukla-Acevedo et al., 2008).

Whatever you are trying to do—whether it is to create a new data system, improve an existing data system, design progress reports, or better understand the people being served in the system of care—you need to go through a five-step process:

1. Articulate the questions you need to answer, being sure they are linked to the overall outcomes you hope to achieve.

2. Identify the core data you need to answer the questions and collect only what you need and what will be of value, not just an added burden to collect.

3. Determine whether the data you need are currently available.

4. Define major gaps where data are not available, incorrect, incomplete, or don’t make sense.

5. Plan a strategy to fill the gaps and obtain the right data.

The process of conducting all five steps can be formal or informal; based on a small core group or given as a charge to a much larger committee; supported by staff members in-house or contracted facilitators; conducted over a very short period, such as a morning retreat, or over a long process.

Regardless of how you establish the process for defining the questions and identifying core data elements, there are a few considerations to keep in mind right from the start.

First, leadership is critical—both in communicating an overall vision and philosophy of what is to be achieved and in ensuring the operational and practice rigor needed to develop and use reliable data to inform decision making. Data indicators that are established are based on the principles and values and serve as “building blocks” for holding systems accountable for achieving outcomes for youth (Casey Outcomes and...
Decision Making Project, 1998). Leaders will need to continuously demonstrate and model at meetings at all levels of the organization that managing by data is the norm. The leader's job is to create a “safe place” for people to question what the data tells us and be open to exploring the meaning of the data.

Second, key stakeholders need to be won over to the idea that numbers and other data are not useful solely for data analysts or other “data wonks” (Webster, Needell, & Wildfire, 2002). Don’t default to data analysts or information technology (IT) staff when you identify the questions you are trying to answer and what you need to know. IT staff can help you to assess what data exist and where the gaps might be, but only those who are providing and receiving services, including children, youth, and families, can define the right questions.

A change in perspective and an expectation that they will be at the table is crucial for all stakeholders to become data-driven and outcome-focused (Jamieson & Bodonyi, 1999.) Leaders, direct service workers, supervisors, managers, youth, and families should all be included in the process. The questions need to come from people engaged in the actual practice and service delivery. By managing by data, stakeholders can play an important role in asking not only what the current status is but “what practice changes are necessary to move the numbers?” Recognizing that significant change takes time; measuring the small incremental improvements over time ensures stakeholders stay engaged.

Third, focus diligently on the right questions and the data needed to answer them. The right questions are going to be those questions that will help you determine whether you are achieving your priority outcomes. When you consider the outcomes you wish to measure, you may want to determine what works and what doesn’t work. In that case, the question is not “did he or she participate?” but “how did participation in the program improve a child’s success?”

For example, let’s assume you have determined that keeping children and youth safely in their own homes in the community, avoiding out-of-home placement in a residential facility, group home, or psychiatric hospitalization, is the primary goal. You will want to ask, what is our entrance rate of children placed in out-of-home settings compared with previous years? What are their presenting needs? How is the decision regarding placement determined? In a year or so, you are going to want to know how that picture has changed. In 5 years you are going to want to know that out-of-home placement is no longer the norm and that you have created a system of care adequate to support children and youth in their own home by providing access to community-based services, supports, and resources.

A very insightful caseworker shared, “Data doesn’t do the work; it just tells you what work should be done.” However, don’t get distracted by how you are going to transform practice to get a different result than you expect to find when the data are analyzed. That can come later.

Don’t agonize over trying to make the key questions and/or source of data perfect. They never will be. Inevitably, both the questions and the core data will evolve as broader and broader exposure to families, additional practitioners, advocates, and others occur, and as you learn from early efforts. Your initial questions will be refined, benchmarks will change, and data indicators will be modified. This iterative process will improve the quality of the data and inform decision making.

New Jersey: Reflecting on the Data

In New Jersey, the Commissioner of the Department of Children and Families has hosted annual leadership summits to review progress made in key outcome areas. Longitudinal data illustrated through charts and graphs is used to discuss the priorities and areas of focus for the upcoming year.
It is unrealistic to expect large planning groups to reach total consensus on what is important to know and why. Beware of discarding critical questions just because they are controversial. For example, you might have a long-standing debate in your agency about the right balance between safety risk and family reunification. You may argue for a long period about how to raise questions so that you can test appropriate approaches. In the end there may be no resolution, and it will be tempting to put those questions aside. Regardless of the controversy, leadership needs to say, “just get the data.”

Different parts of your agency—and indeed different parts of any system of care—may have different key questions and core data needs. Different organizations within the system of care will have different goals and priorities and different data needs to demonstrate success toward those goals. For example, juvenile justice focuses on public safety, education focuses on academic achievement, child welfare focuses on child and youth safety and permanency, and mental health focuses on child and family well-being and functioning. In addition, what your financial manager and your clinical director need to know are not necessarily the same. Although ultimately, the diverse data will need to be incorporated into a single, overall integrated data system, which is not the essential challenge. Instead, it is to identify the questions regarding the most important challenges facing your system, services, or child and family outcomes. Creating an organizational culture that fosters the discipline to be accountable for answering those questions is the greatest hurdle to overcome.

**Common Data Types and Their Uses**

When you are thinking about what type of data you need to answer any particular question, you should keep in mind that generally there are several types of data you will most frequently encounter: point-in-time, longitudinal, process measures, and outcome data. These different types of data have different uses and different users.

*Point-in-time data* refers to exactly what it says: a specific point in time and what variables looked like at that point—a snapshot of one moment in time. Data is simple, timely, and easy to understand and use. For example, say that on May 31, 2011, the Department of Children and Families had 7,100 children in a placement out of the home. If a major goal is the reduction of out-of-home care, you could look at two separate points in time (today and 1 year from now) to determine whether there were any changes. However, point-in-time data to explain events that happen over time can be misleading and will provide a limited picture about the youth and families being served, how long they have been receiving services, and whether they are achieving their goals.

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**New Jersey: Learning to Use Data for Decision Making**

In September of 2010, New Jersey’s Department of Children and Families (DCF) announced a new fellows program designed to provide an opportunity for 100 experienced staff to attend an 18-month seminar series in which they will be exposed to best practices in using data to support improved case practice and outcomes for children and families. DCF implemented an ambitious curriculum to help provide the participants with the tools and skills they needed to become effective consumers and users of data—and, most importantly, compelling storytellers about the impact new practice and practice reform was having on outcomes for children and families. DCF was very smart to recognize that being analysts and data and policy wonks was not what drew most people to social work as their profession. This curriculum was designed to give the “new social worker” the tools and skills necessary to enhance their practice in this information age.
Longitudinal data are collected over time. There are many methods for collecting longitudinal data, including time-series, cohort analysis, and statistical correlations. Longitudinal data, collected at determined dates or key decision points, will determine whether a pattern is discernible. Longitudinal data is often used to measure systemic improvements over time. For example, how, when, and why placements shifted from congregate to community-based care. You could also divide the population into cohorts (by entry into care in successive years) to see whether there was change comparing one cohort to the other. For example, understanding issues of disproportionality requires tracking the percentage of minority at key decision points throughout the system, including referral, placement, and discharge.

Process measures measure performance of a process. They provide information that can be acted on quickly when a process provides data indicating something is or is not working as intended. Process measures are familiar to staff, relevant at the caseworker level, and current. For example, in June, 92% of children in child welfare custody had face-to-face contact with their caseworker.

Outcome data are the “big picture” measures of system performance, especially when looked at over time. For example, the median length of stay for children who entered a system in 2003 was 12.4 months, and in 2009 that median stay had declined to 9.5 months.

Both point-in-time and longitudinal data can involve a variety of things:

- **Volume of activity**: how many cases, how many children, how many referrals.

- **Descriptive characteristics**: age, gender, ethnicity, employment status, economic status, family composition, adults and siblings in home, address, ID numbers (e.g., SSI, Medicaid).

- **Clinical/diagnostic data**: functional assessments, diagnostic results, health assessments, treatment plans, treatment progress, treatment outcomes.

- **Status/case progress**: where a particular case is at any time and at any point in the process (e.g., intake, diagnostics, temporary placement, referral to services).

Virginia: Changing the Practice

To focus on what was being accomplished, Virginia articulated a new vision for the agency about using data, one fully integrated with practice. According to Matt Wade, Outcomes-Based Reporting and Analysis (OBRA) Manager, Virginia Department of Social Services, “The practice of collecting and sharing data and information is a nonnegotiable part of how we continually learn and improve. We will use data to inform management, improve practice, measure effectiveness, and guide policy decisions.” To support this vision, the agency created an OBRA unit. Their job was to begin designing outcome measures and producing reports that could inform management, improve practice, measure effectiveness, and guide policy practice.

When OBRA initially produced management reports, as is predictable when you start any management-by-data effort, field staff were highly skeptical. The centrally produced reports had numbers they didn’t recognize and that couldn’t be reconciled with their own local data. Some of the results seemed counterintuitive. Even though OBRA had a very small staff, they made a critical decision to go out to every field office and sit down with all staff and go through their numbers in some detail. It produced epiphanies for many field offices. Not only did they find that the highest percentage of errors was the result of coding problems in the local office (an almost universal problem in any system), but clarification of the terms and definitions used to design the report made it possible for local staff to reconcile their own data. The data even became useful! Virginia’s ultimate goal is to have both the data report and the data sets available to every staffer via the Web for transparency and availability to all, including policymakers and the media.
• **Disposition**: final placement, reunification, permanency outcome.

• **Financial**: revenues and expenses associated with cases, interventions, and dispositions.

• **Research**: evidence developed through various types of research about the efficacy of various interventions and the correlation between factors influencing a given case or group of cases.

Although these categories are not entirely mutually exclusive, they are helpful to use as a checklist when trying to match data needed with questions to be answered.

Below are some examples of key questions that a system of care might ask and the kinds of data that would be helpful to answer the questions:

• Can long-term psychiatric hospitalization be significantly reduced?
  – **Volume**: How many hospitalizations (entries) were there in a given period?
  – **Descriptors**: What was the age, sex, ethnicity, family status, living circumstances, and education of those hospitalized?
  – **Clinical**: What was the functionality of the child/family at referral? Were there other medical/mental health diagnoses or presenting problems? What was the functionality or diagnosis at each subsequent stage?
  – **Process/status**: What was the origin of the case/referral source? What was the status in other human service systems? What was the treatment plan? What was the median length of stay for those who entered care in a given year?
  – **Disposition**: What was the behavioral and social functioning at completion of an intervention? Was there permanent connections made with family, guardian, adoptive parents, or others?
  – **Financial**: What was the total case cost from referral to disposition? What were the revenue sources for costs? What are the costs at each stage of processing/intervention?
  – **Research**: What were the alternatives to psychiatric hospitalizations for children? What were the existing community-based services for youth with serious emotional challenges? Were the psychiatric placements disproportionately occurring for various ethnic groups?

Another question might be:

• **What percentage of juvenile first-time offenders can be diverted from the court system?**
  – **Volume**: What is the number of first-time offenders? What number entered into diversion services?
  – **Descriptors**: What are their ages, genders, races, family status, living circumstances, and education levels?
– Clinical: What were the circumstances of the arrests/charges? What were the findings at the initial screening? What are the nature and stability of their family/community relationships?

It is worthwhile to explore resources that identify key indicators that the system can track. Appendix A (Sources for Data and Examples of Data Indicators) identifies a few of those resources.

**Mapping Your Questions and Data Needs**

It is essential to know the origin or basis of your data when you are trying to provide information or make a point.

Recently, a group of key stakeholders met to discuss services with representatives from the judiciary, child welfare, health and mental health, and external advocates. A member of the stakeholder group put up a slide that said, “Our current caseload is 1,000.” The member then proceeded with a number of other slides about programs and services.

While some general discussion ensued, no one raised any questions about the 1,000. What was it? 1,000 kids? 1,000 cases? A duplicated or unduplicated count? At a specific point in time? On average, over a period? Cumulatively for the year? Obviously, it meant nothing without these qualifiers and definitions. Good instinct to use a number, but it needs to be explained to be meaningful.

Remember that the information you need or want may be either quantitative (things you count or statistically correlate) or qualitative (things you observe or believe). Any type of human services data could be either. Both are often necessary. In recent years, human service systems have found that formal "quality service reviews" are a key part of their quality improvement systems and yield considerable qualitative data. When combined with quantitative data, the ability to focus in on areas of strengths and weaknesses in performance contribute significantly to achieving better client outcomes.

New York City’s Administration for Children’s Services is a perfect case in point. Once a week senior staff and relevant caseworkers meet—with the director present—to review critical performance measures and review one or more current cases. The indicators provide the quantitative data, and the case presentation provides an opportunity to explore qualitative and quantitative issues. Both types of information are essential to transformation of practice and corresponding policies and procedures.


**Using a Matrix to Organize Your Questions and Data Needs**

When you are conducting a process for defining the questions and identifying core data, a matrix can help organize your thinking. Anytime you need to sort out “what do we need to answer?” and “what do we need to know to answer it?”—developing a matrix can get you off to a good start.

A matrix could list data types across the top and the questions to be addressed down the left axis. Not all types of data are required for every question, so every cell need not be filled (Table 1).
Table 1. Example of a Data-Needs Matrix

<table>
<thead>
<tr>
<th>Critical Data Element</th>
<th>Current Month</th>
<th>Year to Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment: How many referrals are assigned promptly?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referrals assigned within 10 days.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length of Stay: How long do youth of different ages stay in care?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current enrollees (ages 0–5, 6–12, 13 and older) length of stay less than 12 months.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in Child and Adolescent Functional Assessment Scale (CAFAS):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do youth demonstrate improvement while in care?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of those enrolled with change ≥10 points at 6 months.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adapted from “Critical Data Dashboard,” by Child and Adolescent Treatment Services, Erie County Department of Mental Health, New York, March 2010.

Alternatively, the left axis could list key decision points in your process (e.g., referral, intake, screening, assessment, investigation, custody, placement) and the data cells would include what you need to better understand the children and families served in that phase in the process.

The total number of children being tracked in these charts may be small and so caution should be used in interpreting the results when comparing cases from one month to another. The results may indicate a wide variation in the percentage of change. For instance, 1 of 3 referrals assigned in 10 days is 33%, but 2 of 3 referrals assigned in 10 days would be 66%.

Where Can You Find the Data You Need?

After you have settled on key questions and core data needs, you can search data systems and records available to you and determine how many of the core data elements exist and are accessible in some form. Don’t limit yourself to just the case management or business data system that you use. Think about the data you have identified and strategize about where and how that data could be acquired or collected. In a fact-based, decision-making culture, operational, financial, policy, and regulatory data are all treated as assets of the agency and system, not the purview of a single office.

To get the requisite data, you may need to:

- Extract data from multiple data systems used in your own agency or program
- Generate a data set from manual records or case notes
- Add additional data elements to your case management screens to begin collecting particular data elements
• Explore the feasibility of obtaining data from other agencies or programs. At the state, county, and local levels, there are considerable data resources that are used for various purposes. For example:
  – Child care coordinating council (available slots by age groups and the cost of slots)
  – Head Start (community needs assessment)
  – Social services (children in foster care)
  – Health department (immunization, WIC participation, early intervention)
  – United Way (community assessment report)

• Access national databases, including the U.S. Census, as well as private and nonprofit research institutes and centers to get data sets for comparison (Appendix A).

It is never impossible to find specific information, even if the only solution is to begin collecting it now and accept that historic data may not be possible. “We don’t have it,” “we can’t do it,” or “it’s not possible” are simply unacceptable answers. Be creative, be smart, and think about multiple sources for the same data elements. Even consider entering manual data into a database if that is the only way it can be done. For example, Medicaid numbers may be available only in hard copy from the state agency.

Coping With Data Limitations

Just because you have found the data you think you need doesn’t mean it is guaranteed to be accurate. Like virtually every other aspect of human services, common sense and good judgment are as important to using and interpreting numbers as they are to good counseling and compassionate care.

A clear and consistent timeline for reviewing periodic reports, submitting corrections, and seeing revised results is helpful. The process should be explicit about who is responsible for entering data, assuring data accuracy, and correcting errors when found. Opportunities need to be provided to bring data-reporting issues to light and give workers a chance to enter missing information and correct documentation errors (Jacobsen, 2007). A strong Help Desk or other supports for the staff who enter data will go a long way in helping users and overcoming data limitations.

Data Systems

While having some data is better than having none, weak or limited data systems will result in pressure for better and better solutions. Don’t disregard national or proprietary data systems that may be available and may save significant time and effort. Some states, for example, have taken advantage of

Use Tools That Make Data Timely, Accessible, and Interactive

Casey Family Programs invested in a product called SafeMeasures to be used across Virginia so state data could be uploaded twice a week and shared with counties who could see it, use it, and correct it if it is not accurate.
SafeMeasures©, a measurement system developed by the Children’s Research Center, National Council on Crime and Delinquency (http://www.nccd-crc.org/nccd/initiatives/safemeasures.html). Several states have used the Results-Oriented Management System developed by the Kansas University School of Social Welfare (https://rom.socwel.ku.edu/ROMTraining/). Another system used by some states is the Integrated Database of Child and Family Programs developed by Chapin Hall Center for Children. This database incorporates and links data from multiple human service agencies.

Accessibility of Data

Fact-based decision making cannot be transformative for the organization or across a system of care unless people understand and believe in the facts. Breaking data down for availability at the state, regional, office, and/or unit and worker levels encourages use of reports, provides transparency, heightens interest, and even promotes a sense of healthy competition. Such data clarifies where performance is strong, where improvement is needed, and where action should be taken to strengthen practice and build on strategies that work (National Child Welfare Resource for Organizational Improvement, 2010).

To help people both understand and believe the data, you have to:

- Ensure accessibility of the data, not just at the summary level but down to the individual data reflecting each direct service worker’s own caseload or practice.

- Help staff understand how data is entered and compiled and how they can validate the data if something looks amiss.

- Create a credible process for correcting coding or other administrative errors and foster a willingness and capacity to correct structural or organizational deficiencies that undermine data accuracy.

- Hold safe (nonpunitive) forums to promote collective responsibility for data integrity and to have the opportunity to discuss implications for individual, group, and overall agency or system practice.

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**Getting the Right Data**

A juvenile justice facility had a long-standing process for recording and reconciling census data. They maintained a daily census, but (a) it was always taken in the morning and therefore did not include any children released or transferred that day, and (b) it recorded a discharge or transfer only when the case file for that child was closed in the case management system by the individual caseworker. It was not uncommon for there to be a lag of 1 or more days between the actual discharge/transfer and the closing of the case file. Further, these actions were generally not fully reconciled (for the previous month) until the third week of the current month and not necessarily reflected in the data system until the month-end census. Consequently, when each prior month’s “results” were published on the 10th of the current month, they did not reflect the actual discharges and transfers still administratively pending.

Because of this long-standing process, the monthly reports often reflected census statistics in excess (sometimes significantly) of the actual facility capacity. Managers and caseworkers were frustrated because the numbers simply did not reflect reality, and outside observers and advocates were concerned about perceived overcrowding problems. A change in policy and a change in the database—recording the discharge or transfer when the child physically left the facility—was what was needed.
Summary

To know what data you need, you have to determine what questions you are trying to answer and the general and specific information needed to answer them. Once you know the questions, finding the data you need requires organizational and policy flexibility, familiarity with information systems used in the agency, a willingness to digitize manual records and information if necessary, and, if appropriate, a willingness to explore data sources outside of the organization.

The use of data is a function of its quality. The more transparent the data are throughout an organization, the greater the potential for data accuracy. Across a system of care, there will be a collective responsibility for data integrity—it becomes everyone’s job.

These are the most important questions you need to ask yourself and your colleagues as you begin to create a fact-based, decision-making culture:

- What are we trying to accomplish—our goals and stated outcomes?
- What will indicate whether we have accomplished our goals?
- How much of the data do we have, and is it accessible and usable?
- For data we don’t have, how can we begin collecting it?
- What internal administrative training, IT system, policies, or communication barriers do we need to overcome to make the process of identifying and collecting data better?
2. Conducting Analysis

You don’t have to be a trained researcher, analyst, or statistician to be able to use the data you are collecting to analyze a problem. Data analysis is simply compiling, evaluating, and presenting data to support and illustrate answers to questions that have been raised. The goal is to highlight useful data and suggest conclusions to support decision making.

In general, the simpler the analytic method the easier it is to present and communicate the results. While the tendency might be to go “wide” with data to look at many things, realistically going “deep” to examine issues in depth is more productive. Qualitative tools—such as case reviews, focus groups, and interviews—enable you to further analyze a measure or an issue.

Once you know the questions you are trying to answer and the data you can generate, you can define your measures and actually undertake the calculations, such as:

- **Totals/sums**: total cases, total children served.
- **Ratios**: rate of placement per 1,000 children in the population, number of girls referred to total referrals, number of juvenile offenders admitted with prior offenses to total admissions.
- **Averages**: median (the number in the middle of a list of numbers arranged from lowest to highest), mode (the number in a list of numbers that occurs the most often), and mean (the sum of all data divided by the number of data—the average length of time in care, average census per day, average results of functionality assessments at intake, etc., which can be affected by an outlier or number far outside the normal range and therefore should be used with caution).
- **Variance analysis**: nominal or average changes in a given factor from period to period or from a baseline such as the approved budget to the actual result (e.g., year-to-date spending).

As you probe more deeply into the relationship between the services offered and the short, intermediate, and long-term outcomes for children and families, you will also encounter a variety of statistical tests designed to measure the causal relationship between different variables and/or the relative statistical significance of different results.

**Types of Analysis**

There are many ways to analyze data. We describe some of the most frequently used.

There are two kinds of longitudinal analysis used most frequently: time-series and cohort analysis. **Time series** (Figures 4 and 5) analyze different variables at predictable points in time over a period (e.g., compare expenditures over time for out-of-home placements in one county versus the entire state or track reductions in psychiatric hospital stays over time). Time series are used to identify seasonal relationships, cyclical patterns of behavior, or other trends or patterns that might affect policy or procedure with respect to practice.

Cohort analysis has also become popular in child- and family-serving agencies. **Cohort analysis** looks at specific groups of people who share some major factor in common (e.g., all children entering child juvenile facilities in 2011). You might look at all children who received mental health services between
ages 5 and 8 who were subsequently admitted to a psychiatric hospital between ages 15 and 20. Cohort analysis can be used to determine whether interventions and service delivery resulted in different outcomes for different cohorts, and why.

A incidence, prevalence, or gap analysis can be important tools for identifying need and available services. For example, a prevalence analysis in New York City revealed that there are significant numbers of children within community districts in New York City with mental health needs, which can be used to identify necessary treatment slots. Table 2 illustrates a portion of the data collected from that study.

Over time, the population in a system of care, costs, and services will change. Based on the rates of change, you can predict future rates. Predicting growth helps systems anticipate the need for increasing or decreasing human services. To find the annual percentage change, you need to know the initial population, the ending population, and the number of years. To calculate percentage increase, first subtract the greater number from the smaller number to find absolute change. Divide the absolute change by the original number and multiply your answer by 100.

Forecasting models attempt to predict both the volume and the outcome (e.g., the number of children likely to be admitted to psychiatric hospitals in the next year). They are also frequently used to predict cost and revenue in child-serving agencies and systems. A forecasting model uses actual data from prior periods to predict future behavior. Some models assume that future behavior will continue to mirror current behavior. They may be based simply on what happened to one factor each month of the prior
and current year (e.g., total expenses). They then project that behavior going forward and may or may not take into account other factors such as change in prices (inflation) or known changes in policy (such as a reduction in the rate of federal reimbursement for administrative expenses). They can also be used to examine policy effect on systems (such as what would happen if I reduce my intake by 5%).

Table 2. Prevalence of Mental Health Disorders Among New York City Children Ages 5–17

<table>
<thead>
<tr>
<th>Community Districts</th>
<th>Total Number of 5 to 17 Year Olds</th>
<th>Serious Emotional Disturbance: Total Prevalence (10%)</th>
<th>Mental Health Disorders: Total Prevalence (20.0%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staten Island</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Willowbrook</td>
<td>32,568</td>
<td>3,257</td>
<td>6,514</td>
</tr>
<tr>
<td>South Beach</td>
<td>23,294</td>
<td>2,329</td>
<td>4,659</td>
</tr>
<tr>
<td>Tottenville</td>
<td>29,908</td>
<td>2,991</td>
<td>5,982</td>
</tr>
<tr>
<td>Total</td>
<td>85,770</td>
<td>8,577</td>
<td>17,154</td>
</tr>
<tr>
<td>New York City Total</td>
<td>1,343,715</td>
<td>134,372</td>
<td>268,743</td>
</tr>
</tbody>
</table>

Adapted from New York City’s Children and Mental Health: Prevalence and Gap Analysis of Treatment Slot Capacit Report, January 2012.

More complex and technical statistical analyses are necessary to explore the relationship between intervention and outcomes. There are many studies that demonstrate the evidence that different programs and interventions are successful in addressing particular mental health issues and behaviors (e.g., evaluations of multisystemic therapy [MST], parent-child interaction therapy [PCIT], or trauma-focused cognitive behavior therapy [TF-CBT]). However, it is important to recognize that an evidence-based program will only yield reliable outcomes if it is faithfully executed with the intended population.

While understanding the meaning of analysis is critical, it is also important to balance the research results against experience and common sense. If the results just don’t make sense, spend time with colleagues and/or the researchers and talk it through to break down the meaning behind the numbers. Consider the implications of the findings for you, your practice, your agency, or the system of care.

Incorporating Standard Analyses Into Your Daily Practice

Agencies and systems that are trying to establish a fact-based, decision-making culture often start with periodic monitoring reports. These include a standard and consistent set of measures or specific analyses. There are numerous ways to select the measures or analyses that you want to routinely produce. Different stakeholders will want to know different things. There is a popular saying that “what you measure is what you manage,” and the experience of many indicates that it is true. “If you don’t identify it, it won’t get counted. If you don’t count it, it won’t get measured. If you don’t measure it, it won’t be in the budget. If it isn’t in the budget, nothing will happen.” Ken Martinez, TA Partnership.

If you are just starting to use data in your practice, the most important thing is not that all the measures are exactly right, but that the reporting gets started. Useless measures will rapidly fall by the wayside because they won’t help anyone inside do a better job and they won’t help anyone understand how well they are performing. Time and use will let you know if you need to modify or enhance your measures.
There are important caveats to remember when you are starting to develop a monitoring system, dashboard, or similar data tracking tool:

**Measures should be closely aligned with the priority outcomes you hope to achieve.** If you are trying to significantly increase the use of community-based resources in your practice, then you have to keep your eye on trends in community referrals and whether those services are actually being delivered. Tracking the number of licensed children’s mental health providers under contract to your agency, for example, tells you nothing about whether you are making referrals and whether those services are actually being delivered. What you track needs to match up with what you are trying to accomplish.

**Measures should be simple and transparent.** It won’t help anyone if the measure is so complicated and opaque that people not only can’t figure out what it is supposed to measure but haven’t got a clue how it was calculated. A really strong monitoring system will rely on clear measures and ensure that users understand the data values used, dates the data were extracted and/or analyzed, the organizational entity that prepared the data, and the methodology for collecting the information. Assumptions or definitions that explain the measure must be easily understood. Experience show that when it is possible to share the raw data it helps builds confidence in the analysis.

**Data limitations or weaknesses should also be transparent so that users can balance them against the results.** Data will never be perfect. Sometimes it is difficult to change past practice and behavior so that common errors are avoided. Knowing about potential weaknesses in the data brings attention to them and may accelerate people’s willingness to correct the policy or practice.

**Measures should be actionable by particular users.** What is being measured should be able to help a worker, supervisor, manager, or client to do something differently and should be informative and relevant to their work. Share measures that are most relevant—and actionable to certain departments, systems, and levels of staff.

**Measures are dynamic, not static.** It is fine to measure change or refine measures over time provided that the changes are clearly explained in subsequent reports. Analyzing your practice is a learning exercise, not simply a reporting one. As you align goals with results, you will discover that you may have missed some key factors when you started, or you may have defined certain measures in a way that is

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**Defining the Most Important Measures**

Virginia identified the state’s top priorities and focused on demonstrating progress on them. To focus on performance, the transformation effort centered on six key indicators—data points that easily could be tracked and were clear signs the system was turning in the right direction. Those indicators included:

- Total number of children in foster care
- Number of children in family-based care, including in the care of a relative
- Number of children in congregate care
- Length of stay in foster care
- Discharges to permanence (connecting children to family rather than allowing them to age out of the system without connections)
- Number of children who returned to the system because of repeated maltreatment

Virginia set directional goals for each of the measures—for example, they wanted congregate care placements to go down and placements in family-based and kinship care settings to go up. These results were produced monthly and were made available at the statewide, countywide, and individual-office levels.
not as accurate as it might seem. Each individual agency needs a degree of flexibility in its measurement system to accommodate this learning.

**Developing Data Dashboards to Track Progress**

A *dashboard* is simply a shorthand version of key measures that is easy to read and understand, widely disseminated, and recognizable to people at all levels of the organization. As a colleague noted recently, “Anybody can design a dashboard. You can copy someone else’s, gin up a set of measures that make your policymakers happy, or just reconfigure standard reports that you have been preparing for years.” But this is not the point. The key is to determine what you are trying to accomplish as an agency or system, and then align measures with those goals so that everyone—including children and families—can be engaged in defining what is most important, tracking it over time through their own experience, and understanding the impact on the system as a whole.

A dashboard can:

- Be a formal or informal process
- Evolve over time
- Involve a small group of designers or a very large group of participants from all disciplines in the agency or system

Dashboards are most effective when they reflect a small set of critical facts—ideally just three or four measures that are at the heart of the mission of an organization and demonstrate performance of the agency in achieving its mission. These facts will be regularly produced, widely disseminated, and easily understood by multiple stakeholders.

**Benchmarks and Comparative Analyses**

You may also frequently encounter pressure internally or externally for the performance of your agency or system of care to be compared with other jurisdictions.

Benchmarks, best practices, and other national or professional standards can be informative as long as the limitations are clearly understood. Many states, have found it more relevant to compare their performance for current years against past years, especially using longitudinal data.

Comparative analysis among different human services systems is difficult. You may not be able to define “apples to apples” easily. Different terminology, significantly different practice models, or disparate cultural norms can render the analysis incorrect. Also, things that may be best practice in one environment may not even be feasible in another.
A Hierarchy of Measures

A county has come a long way in establishing a system of care. One of the system’s primary goals is to keep a larger percentage of seriously emotionally challenged children in the community with their families. They have, again over a fairly long period, settled on the definition of “seriously emotionally challenged,” and all points of intake in the system now use a common assessment tool to make that determination.

The county board wants to know, overall, whether they are succeeding in having a larger percentage of these children maintained in the community and with their family. They also want to know whether the cost of this policy is greater or less than the former practice of placing a very high percentage of these children in out-of-county residential care.

Administrators in the systems want to know the extent to which in-county placements increase the probability of a permanent home placement or not.

Clinical staff are concerned about whether the in-county placements are efficacious (i.e., are the children’s behaviors improving as measured by testing functionality?) and the level of support that has been required to keep children in their own home when possible.

Under the broad rubric of “seriously emotionally challenged” children a hierarchy of measures is provided that informs each of these stakeholder groups. A dashboard is created that starts with the broadest measures for the policymakers and drills down to detailed measures of clinical progress and individual staff decision making.

Nevertheless, almost anyone can come up with examples of how other people do things that appear better than what your own system is reporting. Just as it is important to educate the consumers of your measures and data about the methodology and data sources you are using, it is important to educate them about the detailed differences—the “apples to oranges”—that can be present in benchmarking and comparative analysis.

Summary

You don’t have to be a math wizard to be an effective consumer of data in your practice. You do need to demand that the analysis be transparent and the methodology be clear so you can be confident that the results are accurate.

Measures used in dashboards, scorecards, monitoring reports, or other periodic assessments of progress are data analyses. Make sure they are clear, simple, and objective in their narrative conclusions. Be flexible and update or refine your analysis as you learn more about what is happening in the system of care and its relationship to child and family outcomes.

Using data to manage can be transformative if the data are:

- Clearly linked to overall goals
- Simple and transparent
- Actionable by the stakeholder groups to whom they are tailored
- Consistent enough from report to report to become easily recognizable by all participants in the system of care
What do you need to ask yourself when you are choosing the analytics or measures that will be most important to your system of care?

- What are the most important things we are trying to accomplish?

- What is the simplest and most straightforward way to measure whether we are making progress toward those accomplishments?

- How are we going to guarantee the most accurate analysis of the data possible? What will we do to ensure that the data and the meaning of the data are accurate?

- Are we sure that we understand the methodology of results on which we are basing policy?

- Is the analysis of our data actionable? Can it impact what people do in the organization?

“If you don’t identify it, it won’t get counted. If you don’t count it, it won’t get measured. If you don’t measured, it won’t be in the budget. If it isn’t in the budget, nothing will happen.” Ken Martinez, TA Partnership.
3. Telling Your Story Through Presentation

Presentation is about using the data to tell your story and about the children and families you serve. Consider the difference between (a) telling a legislator that families you know are unable to access services and (b) showing a legislator that 80% of the 3,000 families you polled stated they were unable to access services (Schrepf & Brown, 2011).

For the most part, it is no longer necessary to write special programs for standardized reports, as many can be created or generated in spreadsheet applications (like Excel) with a fairly limited amount of expertise. Many applications have presentation options that are “built-in.” You can use a database to develop your analysis, and then use one of the predesigned table formats, graphs, or charts to present results clearly and professionally.

Contemporary applications can also help you maintain data integrity in your reporting. If the analysis and presentation are fully integrated, it is much more difficult for you to miss a critical number or fail to catch an erroneous formula in a cell.

Nothing will undermine a management-by-data effort faster than reports that are incomprehensible, baseline data that are contradictory from month to month, or formats that change every time they come out. How you present the data and how you maintain quality control are critical.

In thinking about presentation, keep in mind the following key considerations:

**Clear and simple always trumps complicated and dense.** Whether you are using graphics or numeric tables, make them as clear and simple as you can without losing the importance of your analysis. Design presentations for your average viewers, not statisticians and economists—and make sure that they will understand the data. The Erie County system of care actively engaged families in both the design and the implementation of the data collection process and the reporting system to present data that are most compelling in reallocating resources to better meet the needs of families.

**Settle on a standardized format as soon as possible.** Changing how a key dashboard or monitoring report looks from month to month can be quite irritating. Although you might not get it right the very first time, try to settle on a recognizable standard as quickly as possible. You want anyone, anywhere in the system of care, to look at a screen or bulletin board and immediately recognize the signature design of the dashboard. Use a standard time frame on your reports and specify whether you are reporting on a monthly, quarterly, or annual basis. Remember there are calendar years, state fiscal years, and federal fiscal years, so indicate which you are using when reporting an annual number.

**Avoid “data-speak” in expressing the key results.** Which would you rather read?

*Result A:* The result of calculating a ratio with specific gender as the numerator and total new admissions in May as the denominator, resulted in a finding that 80% of new cases in May were girls.

*Result B:* 80% of new admissions in May were girls.

You can have a footnote, attach a methods sheet that shows the formula for each measure, or provide a guide to the dashboard on a central website.
To help ensure data quality, link your tables and narrative directly to the underlying data and calculations as much as possible. It is always better to have your data and analysis linked to tables and presentations directly. This is easily done in most spreadsheet applications. By linking, you can be sure that changes in the raw data or calculations will automatically roll through your presentation. It is easy to have an erroneous formula or number (e.g., using March admissions for the April report), and catching them before publication often doesn’t happen. Use the power of the software to help you maintain this quality control as much as possible.

Create opportunities for an interactive review of the results in your presentations where possible. People love to create “what if?” scenarios. There is nothing that people like to do more than test the data themselves or imagine how outcomes might have been different if their pet theory were in place. Simple what-if models are relatively easy to design. Pivot tables can provide the most powerful interactive tools as they automatically sort, count, total, or give the average of the data stored in one table or spreadsheet and display the results in a second table, showing the summarized data. The user can change the summary’s structure by dragging and dropping fields graphically. A little investment in training so that users can take full advantage of the software you have available can yield epiphanies among practitioners and others.

For example, you might develop a budget model that projected cost based on the number of cases entering the system, the initial placement type (e.g., in-home, out-of-home family setting, out-of-home congregate care), and the provisions of children’s mental health support services in the various settings. The model can be set up so that users can alter any of the variables driving costs. What if the ratio of in-home to out-of-home care were flipped? What if the number of referrals for mental health support services doubled as a percentage of total caseload? What if the number of cases entering the system could be reduced by 15%? In each case, what happens to the budget for the upcoming year?

These models can often help users and their projected audiences internalize the relationships between complicated factors in a way they cannot understand otherwise.

Be careful to present the results objectively. You want to stimulate discussion, but you want it to come from the numbers, not from something subjective in what you say about them. The importance of consistent reporting is that it should stimulate reflection and discussion about the relationship between what people are actually doing and what is being accomplished. People throughout the system should be able to form and express their own opinions about what the results mean on the basis of the data being presented.

Never change a baseline or critical reference number from one report to another without being explicit about the reason for the change. For example, say the May dashboard reports a baseline from 1 year ago of 752 admissions in April. When the June report comes out, the April admissions are reported as 735, changing the marginal, month-to-month trend in admissions for that quarter. What happened? A footnote explains that errors in coding in April of the prior year double-counted 17 cases, thus overrepresenting the number of cases that were admitted that month. A supervisor perplexed by the much larger admission volume for her team discovered the error. The footnote went on to explain that the error was corrected and the quality control that had been in place was improved so that it wouldn’t be repeated. Changing baseline assumptions and numbers can undermine the credibility of the analysis and the willingness of overseers to accept the results and conclusions.
**Encourage people to look for and report errors in logic, math, or interpretation.** Errors in analyses are inevitable. The more you can encourage users and stakeholders to highlight problems if they find them, the better the reports will be over time. The goal is to consistently produce high-quality tracking results.

**Display the results in multiple forms.** People absorb information in different forms. Some like numbers, some like pictures, some only retain facts when they hear them orally, and still others need to write them down to remember them. Presentation is about finding forms of transmitting knowledge that can be internalized by the broadest possible group. Experiment with different graphs, table formats, and even an audiovisual PowerPoint presentation or video that walks through the results and can be accessed when convenient by staff. Figure 6 displays samples of different types of graphs and charts to illustrate trends in teen pregnancy across the state. Some focus the eye (and analysis) more on the trend within the county, while others more readily support cross-county comparisons.

The bottom line is that the data display will be critical for encouraging the usability of the data findings. Combining the visual presentation, along with a data champion or key contact person who can clearly present the data, will ensure the findings are used in a way that will make a difference.

**Summary**

How an analytic report reads is often as important as the results themselves. You need a culture and environment where everyone at every level accepts mutual responsibility for data quality and interpretation. Welcome people who report errors or mistakes. Correct them quickly and gratefully.
Objective reports should communicate effectively to people with very different learning modes—visual, numerical, etc. Seek feedback and experiment until you have a consistent and recognizable format that the majority of participants endorse.

What are the main questions you should ask yourself when thinking about how best to present results?

- Who are my audiences, and how might they best understand the data findings?
- What are the most important findings, and how can they be highlighted objectively?
- How can I ensure quality control in presentations?
- What different media could I use to present the results in the most compelling ways?
- How can I get feedback to make sure that both the analysis and the presentation are relevant and useful?
4. Fostering Communication

You may think the puzzle is solved when you have created a good data set, analyzed it in numerous ways to glean the important results, and developed a report format or formats that present data results in compelling ways.

But the most important part of the puzzle hasn’t yet been touched. To be transformative in an organization, fact-based decision making can’t simply involve numbers on paper. The results have to be broadly disseminated and openly discussed, and adjustments to practice must be made to try and improve outcomes for children, youth, and families.

One of the most important things that consistent reporting and monitoring can do is help to standardize practice across an agency or system of care. That can happen only if differences in performance are raised and considered collectively, and practice or policy is adjusted accordingly. Sometimes significant differences in behavior are not visible without the data. Sometimes indicators and summary statistics often hide variation that needs to be better understood by disaggregating the numbers. By discussing the data and the meaning of the findings, the implications can be addressed.

The events described in the box on the next page could have gone a very different way if staff had been discouraged from the group evaluation of results, if offices with the highest rates of out-of-home placement had been penalized for those results instead of encouraged to reexamine their practice, or if offices with great results were proprietary and secretive about how they did it and what they were doing.

The moral of the story? A well-crafted communication strategy is as important to change as any other single factor. A well-crafted communication strategy includes the following:

**Broad dissemination of data to participants at all levels of the system of care, including a wide range of stakeholders and parents and children.** A good example of broad communication is the Virginia Performs: Measuring What Matters to Virginians website ([http://vaperforms.virginia.gov](http://vaperforms.virginia.gov)). The website tracks benchmark indicators in Virginia for economy, education, health and family, public safety, natural resources, transportation, and government and citizens. Virginia’s Scorecard compares the state’s statistics with those of other states nationally, illustrates trends through easy-to-understand graphs, and provides regional demographics across the state.

Another example is the Kids’ Well-Being Indicators Clearinghouse ([http://www.nyskwic.org](http://www.nyskwic.org)), which provides New York State indicator data on six major life areas (economic security, physical and emotional health, education, civic engagement, family, and community), by county and narratives defining each of the indicators and significance for the major life area. The results illustrate differences between counties, but further analysis of the data is needed to understand what is happening within the county.

For those who are using data internally, the periodic circulation of results on a schedule that can be adhered to, with consistency in measures, methodology, and explanations of both good and bad results, will be critical.
Revealing Underlying Value Conflicts

A state child welfare agency had widely diverse regions: some rural, some urban, some highly stable in population and economy, and some very transient. For at least a decade, the agency’s mission statement included a goal to “keep the maximum number of children safely in their own homes or in permanent familyle settings in their own communities.” Everyone in every office saw this statement in their reception area daily; many also had it prominently in their own cubicle and on the agency letterhead. But three different offices in the organization interpreted its meaning differently.

The agency created a data dashboard with a special emphasis on family strengthening and reunification and encouraged staff within and between offices to explore the meaning of the results.

Office A had the highest rate of out-of-home placement in the state. Office B had the highest rate of permanency planning, with family reunification as the goal. Office C had by far the lowest rate of out-of-home placement—but also the highest incidence of family sexual abuse in the state.

The three office administrators—noting these dramatic differences—decided to collaborate to see whether they could ensure consistent practice across the three areas to achieve results closer to those of Office B. Every month when the data dashboard was released, staff from the three offices had conference calls to review their comparative results and consider how they were operationalizing the agency’s values. It became clear to all that Office A staff needed to be exposed to successful family reunification programs; they weren’t yet convinced that it really could work. Office C staff needed more support on safety issues so that they could anticipate placements at high risk of sexual abuse and intervene to help eliminate the risk or find an alternative permanent result.

Over time, the three offices did achieve similar results, and staff became skilled at both family strengthening and reunification. Within a year, all three offices started posting their results monthly right under the mission statement. The data-driven effort had, in fact, become transformative.

Formal and informal opportunities to discuss and brainstorm results without fear of punishment or discipline. As soon as dashboards or other monitoring or tracking tools are used to penalize individual performance, the incentive for practice reform will be undermined. Systems of care that are successful create a culture that uses quality improvement indicators for positive rather than punitive purposes. They noted the importance of using these data to self-inform, self-correct, self-improve, and self-monitor. The culture emphasizes the use of data to inform staff on how the system of care can be adjusted and how to strive for excellence when serving youth (Kukla-Acevedo, et. al. 2008).

Expect a lot of pushback and protests. Although people will eventually get to a place where they can acknowledge they aren’t doing so well, there is great fear of data being used to point out flaws rather than improve services. There are often four phases of organizational response to data:

- Phase I – “The data are wrong.”
- Phase II – “The data are right, but it’s not a problem.”
- Phase III – “The data are right; it’s a problem, but it’s not my problem.”
- Phase IV – “The data are right; it’s a problem, and it’s my problem.”

Discuss measures in context. If you looked solely at the reduced number of adoptions finalized in a recent year, you might think that permanency efforts had declined when compared to a higher number of adoption finalizations 3 years ago. However, if you examine the picture from a wider lens, you might find that there had been a significant drop in the rate of children entering placement as well as an overall decrease in the number of children waiting for adoptive homes. In this situation, the lower number of adoption finalization is a sign of improvement, not a concern.

Staff and others need “safe havens” to put their assumptions on the table and honestly talk through results. This needs to be a part of their work—not simply something they can do on coffee breaks or after hours. It has to be built into the workweek or in some way structured into the day-to-day demands of practice. As Jacquelyn McCroskey, data committee chair, Los Angeles Children’s Planning Council, stated, “Fast is slow; slow is fast.” Going slow at first to build relationships, and ensure that your data and decision-making are credible will enable you to move more quickly later (Los Angeles Children’s Planning Council Uses the Power of Outcomes and Indicators from Planning to Budgets. Downloaded on March 28, 2012, from Results-Based Accountability™ and Outcomes-Based Accountability™: http://www.raguide.org/RA/los_angelesJ_Childrens_Planning_Council.htm).

Discussions need to focus on problem solving. Are we really placing too many children out of the home? What was the basis for this decision in each case? Are we not uniformed enough both in safety assessments and in functional assessments of children’s emotional and intellectual abilities? What could we do to break this pattern if indeed we are serving families differently than do colleagues in other parts of our system of care or elsewhere?

Making time to step back and reflect on the data and collaboratively problem solve provides an opportunity to improve practices and ultimately improve outcomes for children and families.

Clear, well-designed reports and presentations explain why you have chosen the measures you have chosen and the implications for the system and the community if you succeed in improving results on your key goals. Stakeholders at all levels of the organization and across the jurisdiction need to hear success stories—about the families and children who have benefited from new interventions and approaches that resulted from being accountable to the information the data provided. Even small incremental steps that demonstrate changes in the right direction are worth sharing.

Communicating Through Data Snapshots

The New York City (NYC) Administration for Children provides online community data snapshots. These community profiles provide detailed information, broken down by NYC community district, in the following areas: community demographic indicators, abuse/neglect victimization rates, foster care census and placement information, preventive services enrollment and referral figures, and child care and Head Start enrollment statistics.

Virginia: Using Data to Transform Practice

- **Use real stories to go with the numbers.** Every monthly meeting started out with a family or kid’s story (experience/inspiration) and followed up with data to illustrate the story.
- **Celebrate successes.** We never backed off sharing data at every meeting but made sure to celebrate when the numbers moved.
- **Provide incentives.** Not only were there pressures that the data would be made public to media, but Virginia had a policy change so that there were county fiscal incentives for reducing residential treatment (increase match rate) and increasing community-based services (e.g., wraparound, diversion) by decreasing match rates.
Broadly disseminating the results of the findings takes time and commitment. Those with expertise in social marketing can help get the information out to audiences (e.g., legislators, policymakers, and media) who can act upon the information in ways that benefit children and families. Instead of responding defensively to critics or the media, administrators armed with data can tell a more complete story and help key audiences understand the root causes of the challenges faced by children and families (Messelt, 2004).

**Summary**

The advice on communications is simple:

- Disseminate, disseminate, disseminate. Discuss, debate, and decide.
- Confess sins before others have a chance to hammer you. Toot your horn when you can—but humbly.
- Keep the communication process strength-based—and try to keep media and consumer focus there as well.
- Use results to develop staff—not to discipline them.
- Encourage everyone to use and share data that inform progress toward outcomes.

What questions do you need to ask yourself as you develop a communication strategy?

- Who are my most important internal and external audiences?
- What am I hoping they will do in response to progress reports and monitoring?
- What resources do I need to disseminate as broadly as I want? What media will work best? Does everybody need everything?
- Do we have the right skills available on a full-time basis to design and execute a communication strategy?
- How can I best justify the dedication of these resources?
- What role should children and families play in the communication process, if any?
- How can I ensure quality control and obtain regular feedback about the data and the communication process?
### 5. The Complete Puzzle

You may be wondering whether all this is really worth it. Focusing on data about the children and their families is an important step in improving practice and outcomes. By breaking down the data values, comparing different kinds of data, and looking for strengths, specific problems, and potential solutions can be identified. As the wise caseworker noted, “Data doesn’t do the work; it just identifies the work that needs to be done.”

More transparent internal communication, more effective collaboration among and between service systems, more accessible technology, and a much greater role for children and families are all factors that truly make data-driven, decision-making initiatives successful.

Introducing data-driven decision making can be transformative—that is, providing information to transform systems and the delivery of services for children, youth, and their families. However, to be transformative, a data-driven, decision-making culture needs to:

- Begin by asking the right questions, clarifying what you want to achieve, and collecting the data to answer the question.
- Analyze the data on the basis of research tools as well as shared experiences.
- Share the data.
- Use the data to make informed decisions and for continuous quality improvement by ensuring there is a process for determining how best to resolve identified problems.
- Track accomplishments toward intended goals.
- Reward and provide incentives for efforts to improve practice to achieve outcomes.

**Figure 7. Building a Community System of Care Through Reinvestment of Savings From Residential Downsizing**

System of Care: Change in Total and County Expenditures by Year

<table>
<thead>
<tr>
<th>Year</th>
<th>2005 Total</th>
<th>2005 Local Share</th>
<th>2009 Total</th>
<th>2009 Local Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Treatment</td>
<td>$0</td>
<td>$5,000,000</td>
<td>$10,000,000</td>
<td>$15,000,000</td>
</tr>
<tr>
<td>Blended SOC $'s</td>
<td>$0</td>
<td>$5,000,000</td>
<td>$10,000,000</td>
<td>$15,000,000</td>
</tr>
<tr>
<td>NYS Medicaid Home and Community Based (HCB) Waiver</td>
<td>$0</td>
<td>$5,000,000</td>
<td>$10,000,000</td>
<td>$15,000,000</td>
</tr>
</tbody>
</table>

Adapted from “Critical Data Dashboard,” by Child and Adolescent Treatment Services, Erie County Department of Mental Health, New York, March 2010.

Figure 7 displays Erie County’s poster for their change results. It shows a significant increase in total dollars and percentage allocated to community services from 2005 to 2009 while saving more than $2 million in county tax. They reduced the cost of congregate care by more than $10 million annually and...
reinvested the local share of those funds in the system of care. Although budget savings were important, the real goal of transformation was improved outcomes for children and families.

Among the more impressive results to come out of Virginia’s transformation process were $100 million in budget savings in the first 2 years alone, mostly from reduced reliance on congregate care. State spending on congregate care was down 21.5%, whereas state spending on community-based services was up 26.1% (Figure 8) (Walters, 2011).

By changing attitudes about data, encouraging cooperation and collaboration among agency and community partners, and harnessing technology to monitor change, fact-based decision making can be a driving force for system reform and improving outcomes for children and families (Webster, Needell, & Wildfire, 2002). One of the ironies of doing child welfare work—or, indeed, any human services—is that while every case is unique, consistent outcomes can only be achieved with a deep, cumulative understanding of the broadest possible array of cases and ongoing collective and objective analyses of what works best in which circumstances.

Leaders, managers, supervisors, and direct service staff across human services must marry the passion that drew them to the work with data literacy and analytic curiosity so that a sustainable body of knowledge can be accumulated and shared to improve the quality and delivery of services and achieve consistently successful outcomes. Further, demonstrating the value or gaps in services through data is critical to secure adequate resources and funding.

That’s why data matters so much. This guide can serve as an introduction for people who haven’t given it much thought, a reminder for people who know they should pay attention but lost their focus in the face of bureaucracies’ frustrations, and an inspiration for people who can’t resist digging deeper to improve practice and achieve better outcomes for the children and families serve.

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**Figure 8. Key Improvements for Virginia Department of Social Services**

<table>
<thead>
<tr>
<th></th>
<th>Kids in Foster Care</th>
<th>Kids in Congregate Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec - 2007</td>
<td>7,557</td>
<td>1,922</td>
</tr>
<tr>
<td>Oct - 2008</td>
<td>6,040</td>
<td>1,009</td>
</tr>
<tr>
<td>Aug - 2009</td>
<td>5,320</td>
<td>922</td>
</tr>
<tr>
<td>May - 2010</td>
<td>5,940</td>
<td>1,009</td>
</tr>
</tbody>
</table>

References


Kukla-Acevedo, S., Hodges, S., Ferreira, K., & Mazza, J. (2008). *Quality improvement strategies that work* (System Implementation Issue Brief #6, Lessons learned from Successful Systems). Tampa, FL: Research and Training Center for Children’s Mental Health, University of South Florida.


Appendix A: Sources for Data and Examples of Data Indicators

Centers for Disease Control and Prevention – Youth Risk Behaviors (http://www.cdc.gov/HealthyYouth/yrbs/index.htm)


Child Trends Databank – The one-stop source for the latest national trends and research on more than 100 key indicators of child and youth well-being (http://www.childtrendsdbank.org/)

Childstats.gov – Offers easy access to statistics and reports on children and families, including: family and social environment, economic circumstances, health care, physical environment and safety, behavior, education, and health (http://childstats.gov/)

Compendium of National Juvenile Justice Data Sets (www.ojjdp.gov/ojstatbb/comped/index.html)

Directory of Health and Human Services Data Resources (http://aspe.hhs.gov/datacncl/datadir)

Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) – New and current research findings on child development (http://www.nichd.nih.gov/)

Health Indicators Warehouse provides indicators by topic, state, or initiative. (http://www.healthindicators.gov)

KIDS COUNT – State- and city-level data for multiple measures of child well-being (http://datacenter.kidscount.org/)


NYS Early Childhood Comprehensive Systems Planning Initiative – A framework of priority cross-sector goals and outcomes on emotional and physical health, education, family, community, and citizenship, where each life area has a set of goals and objectives that represent expectations about the future (www.nyskwic.org)

National Center for Education Statistics (http://nces.ed.gov/ccd)

National Survey of Children’s Health – Data collected on children’s health that allows for comparisons between states (http://childhealthdata.org/learn/NSCH)

Oregon Benchmarks (OBMs) – The benchmarks measure progress toward Oregon’s strategic vision and are organized into seven categories: economy, education, civic engagement, social support, public safety, community development, and environment (http://benchmarks.oregon.gov/#STEP_ONE)
The Urban Institute – The report *State Mental Health Systems for Children: A Review of the Literature and Available Data Sources* includes appendices listing children’s mental health data sources and findings (http://www.urban.org/UploadedPDF/412207-state-mental.pdf)


Virginia Performs – An initiative of the Council on Virginia’s Future, a performance leadership and accountability system within state government (http://vaperforms.virginia.gov)
Appendix B: Annotated Bibliography


The guide lays out step-by-step instructions for using and presenting data. Topics covered are identifying the purpose of data projects, matching data needed to the salient purposes of disparate projects, mastering organizational tasks, identifying data sources; applying calculations, and presenting data. This guide also reviews the differences between primary and secondary data, the data assembly process, and how to import secondary source data into databases. It provides instruction on how to set up spreadsheets and online databases, as well as how to use mathematics and statistical procedures to manipulate data. This guide also assists learners with the persuasive presentation of statistical data using charts, bar graphs, line graphs, and even geographic information systems (GIS).


The document presents data from a multisite evaluation of a state family support program. The authors discuss their observations of the participating programs’ use of information systems to assist in the data collection process. The results of the evaluation show that programs did not consistently use information systems even when supported by technical support and training. The authors name this problematic phenomena as “nothing in, nothing out,” and discuss its implications for data-based program planning and management.


The publication describes principle-driven, outcome-focused approaches to decision making in child welfare services and applications of these concepts in managed care environments. The purpose of this document is to enhance the understanding of outcomes and outcome components and to provide essential information about the philosophical principles, concepts, and frameworks for core indicators involved in outcome-based child welfare services. Tools included are a matrix of core children’s services outcome indicators, a framework for organizing various outcome domains, and indicators that are appropriate for different communities and systems of care.


The guidebook is intended to help nonprofits seeking to improve efforts to focus on the outcomes of service provision and includes several practical, concise sample schedules and exhibits, including key
Putting the Pieces Together: Guidebook for Fact-Based Decision Making to Improve Outcomes for Children and Families

steps to implement outcome management, suggestions for potential members of outcome management working groups, a sample outcome management system development schedule, sample agendas for working group meetings, focus group steps; outcome-sequence charts, suggestions for linking outcomes to outcome indicators to data sources, and sample report formats. The guide discusses four key areas of outcome management: setting up the organizational process, deciding what and how to measure, analyzing the data, and using the results to improve services.


Designed for child welfare administrators and senior managers to assess their agency’s success in working with children and families, this guide discusses the importance of quality assurance, how to adopt outcomes and standards, how to gather and analyze data and information, and how to use data analysis to make improvements.


The short but informative guide explores systematic ways of analyzing narrative data. The authors provide definitions of commonly used terms and give examples of sources of text or narrative data. The guide deconstructs the data analysis process, laying out uncomplicated descriptions of each step in the process: getting to know the data, focusing the analysis, categorizing information, identifying patterns and connections within data categories, and synthesizing and interpreting data. The guide also includes practical recommendations on ways to increase the integrity of the data reporting process through checking data, identifying data sources, tracking and justifying the choices made, choosing data, addressing limitations and alternatives, and more.


The site has a series of free web-based training modules designed to show participants how to use outcome data to inform improvement efforts, interpret outcome performance data, and establish a results-oriented workplace culture.


The guide provides examples of multiagency collaborations that have employed electronic performance management systems to inform sustainable programming and ensure accountability. Topics of discussion include tactics for getting started with cross-agency data collection collaboration, how to use data to improve outcomes, and program sustainability.
Appendix C: Author Biographies

Elizabeth (Betsy) Cairns Reveal
Elizabeth (Betsy) Cairns Reveal has spent more than 30 years as a senior financial executive in state and local government, higher education, and transportation and as a consultant to public, private and nonprofit agencies both domestically and abroad. In all of these capacities, she is recognized as a fact-based decision maker who uses data and analytics to devise both tactical and strategic solutions. She started her career as a social worker in juvenile justice and her passion for children’s services has continued through a varied career. Ms. Reveal has been the Chief Budget Officer for the District of Columbia; the Chief Financial Officer for Philadelphia, PA, Seattle, WA, Amtrak, and the United Nations Foundation; and the Administrative Dean of Harvard’s Kennedy School. She has worked with child welfare and child serving agencies throughout the United States, with a special focus on using data to improve practice and achieve better outcomes. She is coauthor with the late Gordon Chase of “How to Manage in the Public Sector” (Random House).

Kim Pawley Helfgott
Kim Pawley Helfgott is senior project specialist at the American Institutes for Research where she serves a senior child welfare advisor at the Technical Assistance Partnership for Child and Family Mental Health. She also serves as the associate director of the Western and Pacific Child Welfare Implementation Center, a federally funded Regional Technical Assistance Center that provides long-term support to state and tribal agencies to implement and sustain systemic change in child welfare. Prior to coming to AIR, she served as deputy director for the Child Welfare Information Gateway, an information clearinghouse supported by the Children’s Bureau, Administration for Children and Families. Ms Helfgott has had extensive experience coordinating national initiatives to strengthen human services and improve outcomes for children, youth and families at Volunteers of America, the National Assembly of Health and Human Service Organizations, and the Child Welfare League of America. Prior to her work at the national level, she worked with children, youth and families in residential treatment, community-based mental health, psychiatric, and special education organizations.