...information for practitioners on using data to assist in implementing evidence-based practices.

DATA-DRIVEN DECISION MAKING IN OUT-OF-SCHOOL TIME PROGRAMS

Part 6 in a Series on Implementing Evidence-Based Practices in Out-of-School Time Programs: The Role of Organization-Level Activities

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BACKGROUND

Although many program managers look to data to inform decision-making and manage their programs, high-quality program data may not always be available. Yet such data are necessary for effective program implementation.[1] The use of high-quality data facilitates program management, reduces reliance on anecdotal information, and ensures that data are available for decision-making purposes. Both research and program experience have shown that decision-support data systems are effective tools for gathering high-quality data.[2]

In an effort to expand what is known about decision-support data systems, Child Trends conducted a review of research on this topic. Child Trends also collected data on decision-support data systems as part of a study on the role of organization-level activities in the effective implementation of out-of-school time programs.[i] This brief presents findings from that study and the research review and links these findings to effective strategies for using decision-support data systems in out-of-school time programs.

WHAT ARE DECISION-SUPPORT DATA SYSTEMS?

Decision-support data systems are computer-based systems and procedures,[3] such as a management information system (MIS), which are designed to provide a range of useful information to support decision making and assure effective program implementation. Four types of data typically are included in decision-support data systems for out-of-school time programs and will be discussed in greater detail below: 1) program quality data, 2) fidelity data, 3) outcome data for participants, and 4) staff assessment data.

> *Decision-support data systems are used to assess key aspects of the overall performance of a program, including whether a program has been implemented as originally planned and to what degree the program has met its goals for participants and staff.*

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[i] For this study, Child Trends' researchers conducted in-depth, semi-structured interviews with nine program directors of evidence-based out-of-school time programs (that is, programs which have been experimentally evaluated and demonstrated positive outcomes). Child Trends also held a Roundtable with program staff from eight additional evidence-based out-of-school time programs. The purpose of the interviews and Roundtable was to gather information to better understand how facilitative administrations, systems-level partnerships, and decision-support data systems can help bring about the successful implementation of evidence-based, promising, and innovative program models in the out-of-school time field.

Decision-support data systems have been identified as one of six core implementation components—or *implementation drivers*—necessary for supporting practitioners to implement evidence-based and innovative services effectively. These six core components include:

- Staff selection and recruitment
- Pre-service and in-service training
- Coaching, mentoring, and supervision

- Facilitative administration
- Systems-level partnerships
- Decision-support data systems.[4, 5]

This brief focuses on the sixth driver: *decision-support data systems*.

WHY ARE DECISION-SUPPORT DATA SYSTEMS IMPORTANT FOR OUT-OF-SCHOOL TIME PROGRAMS?

Increasing pressure on out-of-school time programs to meet accountability standards has led to a greater need for high-quality data that can be used to assess program needs and monitor program progress. In addition, data that track participant and staff goals and progress can facilitate effective decision-making and program improvement efforts.[6] The quality of data documentation can directly affect whether a particular program is identified as a "quality program." It also can affect the degree to which the program can demonstrate that requirements have been met and the extent to which children and youth participate in and benefit from the program. Thus, using decision-support data systems has become increasingly important for out-of-school time programs.

SOURCES OF DATA USED TO SUPPORT DECISION-MAKING IN OUT-OF-SCHOOL TIME PROGRAMS

In many ways, the use of decision-support data systems helps to determine the success of an out-of-school time program. Four types of data typically are collected by programs, as noted: program quality data, fidelity data, outcome data, and staff assessment data. A variety of software packages exist that can help out-of-school time programs collect data.[7] However, prepackaged software may not meet the individual needs of programs and may not include measures for all data types, especially in the areas of program fidelity and staff assessment. In such cases, programs may need to adapt a computer-based system or design their own.

Program Quality Data

Program quality data can provide information about overall program quality, as well as about the quality of individual program components, such as youth engagement or family and community partnerships. Specifically, program quality data can help to determine whether individual and organizational program components are operating at a level necessary to meet intended program goals. In cases in which a program is not meeting its intended goals, program quality data can be used to decide how to make changes effectively while maintaining program integrity. Several program directors reported that they used program quality data to determine which program components were having a positive impact on student outcomes and which components were not.[8] With these data in hand, the program directors were able to examine ineffective program components more closely and either eliminate them or modify them in some way (for example, by providing additional staff training or increasing the amount of services participants receive).

Some out-of-school time programs have set standards for program quality that are informed by research on school-age care, youth development, and quality in educational settings.[9, 10, 11] For example, The After-School Corporation's "essential elements of program quality" define indicators in categories such as program environment/climate, administration/organization, staffing/professional development, and program sustainability.[12] Such quality assessment tools provide structures for assessment that can be used by programs for self-evaluation, research, and planning purposes. Similarly, a number of tools have been developed to help programs be reflective, pinpoint strengths, and target areas for improvement, and many of these tools are available at no cost.[13]

Fidelity Data

Fidelity data are used by program managers to evaluate the integrity of program implementation.[14] Data gathered from fidelity measurement tools, such as a fidelity checklist, assess the extent to which a program is adhering to or deviating from prescribed protocols. Fidelity criteria for out-of-school time programs include intervention components, as well as service delivery requirements, such as dosage (i.e., the amount of services that participants receive) and duration (i.e., the length of time that participants receive services). Analyses of fidelity data can be used to:

- *Identify possible reasons for ineffective or inconsistent program implementation*. Successful implementation is challenging, and it takes time and effort to implement evidence-based practices well. Program directors of effective out-of-school time programs interviewed by Child Trends researchers reported collecting data from staff members in order to identify when staff needed additional support and the types of support needed, for example, observation and feedback or increased planning time. Program directors also reported making adjustments to staff training content in order to better align it with staff needs.[15]
- *Create a road map for decision-making around program delivery.* In a recent Child Trends study,[16] out-of-school time program directors noted the importance of gathering fidelity data to discern whether their programs were operating in accordance with research-based program models. The program directors used these data to adjust participant recruitment efforts, as well as the participant-to-staff ratio. Similarly, in an evaluation of The 21st Century High School After School Safety and Enrichment for Teens (ASSETs) Program, fidelity data were gathered on the extent to which the program was being implemented with integrity to the original model. These data were then used to target and improve areas in which staff practices departed from practices in the original program design.[17]

Outcome Data

Information on outcomes among participants is the most common type of data incorporated into decision-support data systems in the out-of-school time field. Measurement of student outcomes can include interviews; observations; school district student data, such as report cards or attendance data; and surveys. Programs often use such data to inform decision-making and improvements to program practice. For example, an evaluation of more than 70 out-of-school time programs in Massachusetts, which examined academic and other outcomes, found little connection between program activities and student performance.[18] These findings led to critical changes in the program's concept and activities. Most notably, the program began to put a greater emphasis on having participants do and complete homework.

Child Trends staff interviewed directors of many programs who said that they used outcome data to determine how well their program had been implemented. For example, one program reported using periodic quizzes to identify participant knowledge and inform staff instruction. Programs also reported that they used participant focus groups to glean insights into the strengths and weaknesses of various program approaches, in addition to monitoring participant progress through examination of grades, school attendance, and test performance.[19]

Staff Assessment Data

In the out-of-school time field, staff members who provide direct services are the people who carry out program interventions. Thus, it is critical to assess these workers' skills regularly. Staff assessment data are helpful to program developers and administrators who must make decisions about restructuring program activities and addressing the training and support needs of their direct service staff to ensure effective implementation.[20] Assessment methods may include observational ratings, interviews, participant surveys, and self-assessments. Using multiple methods for data collection will provide a more comprehensive picture of staff performance than will using a single method.

Findings from the research literature indicate that staff assessment data can promote effective program implementation by providing valuable information about staff:

- *Training and supervision needs.* As part of the Massachusetts After-School Research Study (MARS), staff performance was assessed using the Assessment of Afterschool Program Practice Tool— Research Version (APT-R). Data gathered during this evaluation helped administrators identify staff members who needed further training and coaching to meet high-quality implementation standards. Moreover, with these data, administrators were better able to make decisions about recruiting and selecting staff with specific types of skills that were necessary for effective implementation.[21]

- *Commitment to the new program or practice.* In a case study of a multiyear after-school arts program, staff performance data were collected in an effort to gain insight into staff behaviors and practices that affect the implementation of a new program. Findings indicated that teachers in the program were only marginally committed to the program and that their lack of commitment led to inadequate program implementation. On the basis of these findings, administrators put greater effort into recruiting staff members who were invested in the program's mission and were willing to devote the time required to help advance that mission.[22]

- *Ability to implement the new program or practice.* As part of an evaluation of the New York City Out-of-School Time program, staff members were assessed on their ability to deliver activities and services in accordance with an innovative program plan. Data collected in the evaluation revealed that staff members with certain personality traits were better able to deliver services. As a result of this finding, administrators decided to emphasize interpersonal skills—as well as educational background—when selecting and hiring staff.[23]

INVOLVING STAFF IN THE DATA-DRIVEN PROCESS

Whether the data pertains to program quality, program fidelity, participant outcomes, or staff assessment, program staff working directly with participants will most likely be involved in the data-collection process. Program directors stressed the importance of making sure that staff members understand why the data they are being asked to collect are important and how the data will be used.[24] Once data have been used to inform decision-making, it is important to loop that information back to staff. In the words of one program director, "We need to make sure that staff understand that we are not just gathering information and sticking it on a shelf, but that something is really happening with it."[25]

BARRIERS TO USING DECISION-SUPPORT DATA SYSTEMS

Although decision-support data systems can help out-of-school time programs gather high-quality data, programs often face multiple barriers to fully establishing and supporting such systems.[26, 27] Needed resources often include specialized software or a well-designed management information system (MIS) and, of course, computers. Additionally, in order for a decision-support data system to be used effectively, programs need trained staff members that have time to collect, enter, and analyze data. Before purchasing or setting up a decision-support data system, programs should first prioritize what they need or want to know about their program and balance their need for data with the resources available.[28] Smaller programs, especially, may have to limit data collection at first to a few key measures.[29] As programs expand and build their capacity to collect and analyze data, additional measures and types of data can be phased in.

Programs can institute specific strategies to overcome some of the barriers to using decision-support data systems. For example, programs can look to systems-level partners—such as colleges and universities, nonprofit research organizations, and private foundations—to provide evaluation expertise, training, and funding to support monitoring and evaluation efforts.[30] Other strategies that programs can pursue include incorporating funding requests for data-driven decision-making efforts into proposals to potential supporters, and recruiting and selecting staff members who have experience and interest in collecting, entering, and/or analyzing data.

Within the out-of-school time field, the use of decision-support data systems is fairly new. For this reason, few evaluations of out-of-school time programs focus on the relationship between the use of decision-support data systems and program quality, implementation, or participant outcomes. Even though additional research is necessary to determine best practices for employing decision-support data systems, certain themes about the value of these systems for out-of-school time programs have emerged. On the basis of the current evidence available, we offer the following recommendations and action steps to support the use of high-quality data to inform the implementation of evidence-based practices.

RECOMMENDATIONS FOR USING DECISION-SUPPORT DATA SYSTEMS

- **Start small and focused.** Putting a decision-support data system into place, whether purchasing prepackaged software or designing a system internally, can be challenging and resource intensive. Programs should first prioritize what they need or want to know about their program and balance their need for data with the resources available. As programs expand, so can data systems.

- **Build systems-level partnerships to help develop decision-support data systems.** Programs can look to systems-level partners—such as colleges and universities, nonprofit research organizations, intermediary organizations, and private foundations—to provide evaluation expertise, training, and funding to support evaluation efforts.

- **Collect multiple types of program data.** To incorporate a decision-support data system effectively and to ensure that program data are representative and comprehensive, multiple types of data—program quality data, fidelity data, outcome data, and staff assessment data—should eventually be collected. Each type of data provides useful information for decision-making and program improvement.

- **Keep staff in the loop throughout the data-driven process.** Program staff members working directly with participants are often asked to collect data but not always told why this task is important or how the data can impact decision-making. If staff members are not kept in the loop throughout this process, they may become resentful of the time that is being taken away from their frontline responsibilities or distrustful of the evaluation process, which can lead to poor data or data that are not used.

- **Monitor decision-support data systems.** Program managers and administrators should monitor data systems to ensure that they are capturing data that inform decision making and facilitate program management. If programs are not finding the data that they are collecting to be helpful, continuing to do so without making improvements is a waste of resources.

- **Establish methods to assess staff performance.** Assessment of staff using multiple methods provides a more comprehensive picture of staff performance and of the types of training and coaching needed to implement program practices effectively. Assessment methods may include observational ratings, interviews, participant surveys, and self-assessments.

- **Child Trends**
  The Child Trends Web site includes additional briefs on implementing evidence-based practices, as well as briefs on other topics relevant to out-of-school time programs; available at: http://www.childtrends.org/youthdevelopment. Here are two examples:
  - The research brief *How Can I Assess the Quality of My Program? Tools for Out-of-School Time Program Practitioners* identifies some of the advantages of using program quality assessment tools and suggests a number of tools currently available to assess program quality; available at: http://www.childtrends.org/Files//Child_Trends-2008_02_19_Eval8ProgramQuality.pdf

  - The research brief *Outcome Evaluation: A Guide for Out-of-School Time Practitioners* provides a basic review of outcome evaluations, discusses why they are important and when they are useful, and presents guidelines, strategies, and techniques for their use in out-of-school time programs; available at: http://www.childtrends.org/Files//Child_Trends-2008_01_07_OutcomeEvaluation.pdf

- **Harvard Family Research Project**
  This project and its associated database provide both information and research findings about out-of-school time programs, as well as a number of out-of-school time program evaluations; available at: http://www.gse.harvard.edu/hfrp/about.html
  - This table provides a sampling of software programs that are geared to nonprofit organizations and that include components that may assist in program evaluation; available at: http://www.hfrp.org/evaluation/the-evaluation-exchange/issue-archive/harnessing-technology-for-evaluation/software-programs-for-nonprofit-evaluation

- **The National Implementation Research Network (NIRN)**
  Researchers at NIRN are responsible for developing the framework on which this brief is based (i.e., the six core implementation drivers, one of which is systems-level partnerships). Those interested in more details about the framework can read *Implementation Research: A Synthesis of the Literature*; available at: http://nirn.fmhi.usf.edu/

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