

# Selection and Use of Measurement Tools



Measurement tools are what we use to capture information on whether or not an indicator has been achieved, and to what degree. They can be simple, such as check-lists that a parent can keep to record daily reading with children, appointments kept with counselors, household safety precautions present in the home, etc. They can also be more complicated and require a high level of skill and training to use. The costs of measurement tools vary greatly, but many are in the public domain. Moreover, some programs may find that developing their own tools is the most logical way to measure their effectiveness. Any program, regardless of its size or budget should be able to find an appropriate measurement tool or tools. A brief overview of common measurement tools and strategies follows.

## Surveys/questionnaires/checklists

These tools are standardized written instruments that contain questions about the indicators you are tracking. They can be a series of direct questions that are answered with a yes/no response, a rating scale, unstructured open-ended questions, or a combination.

- *Advantages:* surveys are considered to be an efficient and relatively inexpensive data collection method. They can be conducted in various ways: by mail, in person, over the telephone, or during a class or event. They can be anonymous, if desired.
- *Challenges:* Direct questions with a limited choice of responses give you answers that are easy to add up statistically but they don't give you opinions and more in-depth responses. Open-ended questions are the opposite, as they are harder to summarize for analysis, but yield more personal information.
- *Examples:* for family support programs: customer satisfaction surveys, needs assessment surveys, knowledge assessment surveys, self-report outcome or participant change surveys

## Charts

Charts are graphic checklists of the specific knowledge, skills, and behaviors that you have set as indicators of change. To be effective, they need to be used on a regular basis to track small increments of change.

- *Advantages:* Charts are useful in working with children, youth or participants who may need visual reinforcement of their efforts. They are used in charting behavioral change and skill levels that are built over time.
- *Challenges:* They usually are not a sufficient gauge to determine the extent of the intended change.
- *Examples:* If your indicator target is that youth will improve their school attendance and homework completion, the students themselves could use a chart to track these behaviors on a daily or weekly basis. However, you would need supporting information from the school to confirm that the chart is accurate. This would also be true in job skills training, with a final test confirming acquisition of skills that participants had charted.

## Tests of knowledge/skill attainment

These tools are carefully structured to find out how much progress was made during a specific activity (parenting course, job training, etc.). They can range from very user-friendly forms that combine graphics and content questions developed in-house or with consultants, to carefully researched tools from outside sources with known validity and reliability. Tests can be administered at the end of the activity, or both before and afterwards. These tools may be publicly available (either free or for a fee) or you can construct your own. (See *Bibliography* for other sources).

- *Advantages:* Tests can provide specific information on what has been achieved by the participant during the course of the activity. Administering the test both before and after an activity increases your ability to tie an increase in knowledge/skill/behavior to participation in the activity.
- *Challenges:* Some tests are perceived by family support program staff and participants to be too intrusive. Also their content may not reflect the type of activity that the program provides. Constructing your own program-specific measurement tools can be very time-consuming. Some programs adapt the standardized tests for their own use.
- *Examples:* The effects of parent education classes are usually measured through this kind of test, and a number of copyrighted curriculums come with their own tools. In terms of measuring some of the more intangible effects, measurement tests may help determine the extent of a participant's social support network.

## Interviews

This tool consists of a series of structured questions that are conducted person-to-person or over the telephone.

- *Advantages:* Interviews can yield very in-depth information on a specific activity, service or on the program as a whole. They can be used with participants who may not be comfortable with other measurement tools, because of language difficulties, inability to read, or cultural differences.
- *Challenges:* Care is needed to ensure that interview results are useful in tracking change among a group of participants. The interviewers must be trained to ask the same questions in the same way each time. The resulting information requires a considerable amount of effort to translate into data that can be analyzed and interpreted. Interviews are also time-intensive. Using a random sample of persons to interview, such as choosing every 4<sup>th</sup> person, should be considered if you cannot interview every person.
- *Examples:* Interviews may be used for any program. Most often they are used when participants are not available for other methods like focus groups, or if participants do not function well in a group setting. Interviews can also be used for exit or follow-up feedback from participants who no longer attend. Valuable information on maintenance of changes (such as job retention) that have occurred for these participants as a result of your program can be collected.

## Focus groups

This variation on the interview method uses a structured interview format with a group (usually from eight to ten people). Focus groups combine elements of group dynamics with a structured opportunity to get feedback from participants.

- *Advantages:* This method has several advantages. It allows you to obtain the information of an individual interview while utilizing the dynamic of a group discussion format. Focus groups also give you more opportunity to ask probing questions as compared to many other formats.
- *Challenges:* The challenges are the same as many of those cited under interviews. Other challenges include the need to train the group leaders well, use the same questions with multiple groups whose results can then be compared (not easy with different groups), process the responses soon after the sessions, and state the findings in succinct ways.
- *Examples:* This process could be used in finding out about a range of programs. It may be especially helpful in gauging the effect of a support group on participants or in “fleshing out” the picture of participant benefits from a program. For example, in a program for single young adult parents, focus groups could be used in addition to tests of parents’ increased knowledge of child development.

## Observation

This tool requires first-hand observation of interactions between individuals. This method is often used in home visiting programs to observe the extent of change in the parent-child relationships or in determining the achievement of developmental milestones in children.

- *Advantages:* Observations can be a very fruitful way to obtain information if the person may not be able to report themselves (young children) or if the program wants to add staff observations to self-report tools, like surveys and interviews, in order to more objectively measure change.
- *Challenges:* Observers will need even more extensive training than interviewers, and they will need to follow a detailed guide in order to accurately rate and evaluate what they are seeing. The presence of observers visibly taking notes may be considered obtrusive in some situations, such as parent education settings.
- *Examples:* Early childhood programs use observational tools to assess program quality as well as developmental progress. Home visitors may look for changes in the quality and number of interactions between parent and child.

## Internal Records

This tool may be used in family support programs to chart participants’ progress toward achieving individual or family goals, which could be used for outcome tracking. They are routinely used to record demographic information on attendance records, and are useful in tracking service objectives and in monitoring indicator achievement.

- *Advantages:* Internal records are probably already being kept and can be easily drawn on as necessary.
- *Challenges:* The major challenge here may be in finding the resources (equipment and time) to track outcome achievement in addition to continue maintaining these necessary records.
- *Examples:* Internal records can help you know if you are on target with the number of participants projected for the established outcomes.

## Official Records

Official records are those kept by government agencies, like the health department, and schools.

- *Advantages:* It can be very helpful to obtain official records to track some outcomes, such as child abuse and neglect statistics, school attendance and achievement, and immunization records. Official records are sometimes used to compare rates of change within a participant target population with rates of change in the general population.
- *Challenges:* Official records are not always available to you when you need them. The timing of your outcomes may not match the timing of compiled records, or the agency may not release information due to privacy issues. Also, official records are often not available for the specific geographic area served by family resource and support programs.
- *Examples:* Public records (including Census data), which are available on government Web- sites, can help you know how your target population compares with the general population, and how your participant outcomes relate to trends in the general population.

## Considerations in Selecting or Creating Measurement Instruments and Methods

**An instrument's *reliability* and *validity* need to be considered before making the decision to use it.** Simply put, when the results yielded from a given tool are consistent, then the tool is considered reliable. A tool's validity is related to whether or not it measures what it's supposed to measure. It is possible that the results of your evaluation will not be considered credible unless the tools chosen to measure your outcomes have high levels of reliability and validity documented. Below are general descriptions of reliability and validity, followed by web addresses where more information can be found on the topics.

### Validity

Validity refers to the degree of accuracy that can be expected from a specific measurement tool. It answers the question: "*Will this instrument or method really reflect the indicator it is trying to measure?*" For example, will the social network instrument you are developing accurately reflect the indicators of social networking you have

chosen? Does the parent education questionnaire really fit the concepts of parent/child bonding that you are teaching and want to measure? Validity can be addressed by using standard measurement tools that have already been validated or by pilot testing your own tools to make sure they measure what you want them to measure.

## **Reliability**

Reliability refers to the degree of consistency a particular measurement instrument provides. It answers the question: *“Would the same results occur if different people used this instrument or method at different times?”* Reliability can be addressed by using tools already tested for reliability or cross-checking tools you create with those which have been tested to see if you get the same results. Reliability also will depend on training those who will be using the measurement instruments and instituting some firm guidelines about how the data should be handled. The following web-sites provide more details on validity and reliability. You may wish to refer to them as you make measurement tool selections.

<http://www.georgetown.edu/departments/psychology/researchmethods/researchanddesign/validityandreliability.htm>>

<http://www.socialresearchmethods.net/kb/rel&val.htm>>

<http://www.statpac.com/research-papers/research-process.htm>

## **Other Considerations Related to Test Administration**

### ***Sampling***

Sampling comes into play when it is not possible to “test” every person who participated in the service. It generally means using some impartial, unbiased way to choose a specific number (could be a percent of the total group participating or every fourth name on a list) who would be given the same test. Care needs to be taken that the selection process is random, so that the participant list is not “creamed” to select those participants who are most successful.

### ***Assigning responsibility for administering the measurement tools***

Consider whether staff or program presenters (i.e., Parent Education course teachers) can administer the tools in the course of offering the program activities, or if someone from outside the program needs to administer the tools. These decisions have resource implications and may also affect the reliability of the data.

### ***Appropriateness to participants***

The preferences and backgrounds of the participants should be taken into consideration at all times. This can be accomplished by—

- Pilot testing the proposed tool with the participants who will be using it.
- Finding out participants' comfort level with different types of tools. Written surveys may be perceived as tests, while interviews seem less threatening to some.
- Recognizing the time limitations of busy participants; a quick survey used at the close of a training period may be a better strategy than a focus group.
- Making sure that the language used in the tools is appropriate to the literacy level of participants.
- Being sensitive to cultural traits in constructing the tools.
- Being sensitive to the fact that not everyone can read or write, even in their native language.