

**SAMPLING AND THE MHSIP
CONSUMER SURVEYS:
Techniques, Models, Issues**

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Preface

The Federal Center for Mental Health Services (CMHS) within the Substance Abuse and Mental Health Services Administration (SAMHSA) requires state mental health agencies to annually report results from surveys of consumers served by state mental health agency systems. Almost all states are using the same standardized survey instruments to conduct their surveys—the Adult MHSIP Survey and the Youth Services Survey-Family (YSS-F). However, states vary widely regarding the sample approach and survey administration methodologies used to conduct this survey.

To help states improve the scientific basis of their consumer surveys, the CMHS-funded State Data Infrastructure Coordinating Center (SDICC) at the NASMHPD Research Institute, Inc. (NRI), commissioned this paper. This White Paper provides a review of general sampling methods for mental health consumer surveys; an analysis of the various sampling methods used by states including the identification of the sampling issues inherent to each method used; review the use and application of stratified random sampling by state mental health systems in their administration of the consumer survey; and finally, recommend guidelines in the selection of an appropriate sampling technique. As such, this technical report addresses sampling issues

in a general way incorporating methodological issues and practical approaches that have been adopted by the states/territories. In this sense, the focus of this report is limited and does not cover many of the issues involved in administering and implementing the MHSIP surveys.

SAMPLING AND THE MHSIP CONSUMER SURVEYS: Techniques, Models, Issues

BACKGROUND AND OBJECTIVES

The MHSIP consumer survey was developed and proposed as one of several instruments to measure the domains, concerns and indicators of the MHSIP Consumer-Oriented Report Card, which was developed by a task force of consumers, family members, researchers, and federal, state, and local mental health agency representatives in April, 1996. The consumer survey was specifically designed to measure concerns that were important to consumers in the areas of Access, Quality/Appropriateness, Outcomes, Overall Satisfaction, and Participation in Treatment Planning.

As the MHSIP Consumer Survey was promulgated across the states through various federal grant initiatives, the survey was used and administered in different ways. Some states used the survey for adult consumers of mental health services only, others for adult consumers of both mental health and substance abuse services and others for children's services. Some states conducted mail surveys, others did face-to-face interviews and/or phone surveys. Some states used random and stratified random sampling techniques; others used convenience samples.

Over time, there have been several initiatives to develop a more uniform and standardized methodology and format for reporting of performance measures across the states. The Five-State and Sixteen-State Performance Indicator studies sponsored by SAMHSA's Center for Mental Health Services (CMHS) were part of this journey,

culminating in the development of the Data Infrastructure Grant and Uniform Reporting System (URS) tables.

With the development of SAMHSA's National Outcomes Measures (NOMs), the issues of uniformity and scientific precision are receiving increased scrutiny and have become more urgent. Throughout the history of these initiatives, the MHSIP perception-of-care surveys have been an integral part. Currently, the MHSIP surveys are used to generate several NOMS. Because data generated through these measures are critical to evaluating the mission and vision of SAMHSA CMHS, there is an interest in working with states and territories to assure that the methodology used to collect survey data reflects best practices with regard to survey research.

While the states and territories have made impressive gains in the administration of surveys, (i.e., 55 states/territories administer adult surveys and 54 states/territories administer youth surveys) many are collecting data using convenience sampling rather than random sampling. The use of convenience sampling limits generalizability of results because of potential non-representativeness of the individuals completing the survey when compared to the broader population of individuals receiving services.

Some states have begun to express an interest in moving from the use of convenience samples to using random samples. Interest by several states has also been expressed regarding the use of stratification techniques to assure representativeness of data collected and to be able to relate the results to specific providers and/or populations. However, these techniques are not well understood. The use of these techniques could be greatly advanced if information was generated for the field that is easily understood and

perceived as applicable and useful to the states, and if examples of their successful application were provided.

It is to address these needs and issues that this technical report was commissioned. This report provides an overview of general sampling methods for surveys, describes the relative merits and issues inherent in each method, summarizes the sampling methods currently used by states and territories and finally, recommends guidelines for the selection and application of appropriate sampling techniques.

Please note that this report is **not** intended to be a substitute for textbooks or detailed guidelines for addressing issues related to selecting and implementing appropriate sampling techniques. Rather, this technical report addresses sampling issues in a general way, incorporating methodological issues and practical approaches that have been adopted by the states and territories, and presenting this information for consideration by states as they develop sampling strategies for use with the MHSIP Surveys. In this sense, the focus of this report is limited and does not cover many of the issues involved in administering and implementing the MHSIP surveys. A major aspect of this technical report is to contextualize these issues in terms of the administration and methodologies being used for the MHSIP surveys.

To develop this technical report, data submitted to the National Association of State Mental Health Program Directors Research Institute (NRI) as part of the reporting for the 2007 Uniform Reporting System (URS) tables were used to review trends and current consumer survey related practices. In-depth interviews were also conducted with ten states and the information obtained is included as part of this report.

ESTABLISHING THE POPULATION AND SAMPLE FRAME

The Population and sample frame must be established prior to drawing a sample. According to Minium (1970), "...the population is used to refer to a group of persons or objects for which some measure is of interest". Specifically with regard to the MHSIP surveys, states typically are focusing on individuals receiving or who have received mental health treatment. The establishment of the population frame is impacted by the survey objectives, which is targeted for services and the timeframe associated with services. If the objective of the survey is to generalize the results to the entire population receiving services then the population frame will be broad and all-inclusive. If the objective is to generalize the results of a survey to a sub-population receiving services then the population frame will be limited to these parameters.

Population Frame. The population frame has varied from state-to-state or territory, based upon unique state policies with regard to the target population. Some states target adults with serious mental illnesses (SMI) and children/adolescents with serious emotional disturbances (SED) and their families only. Other states target all individuals with mental illnesses. The timeframe has typically related to the period during which services have been provided to the target population. Again this has varied from state to state with some states setting the timeframe as a full fiscal year and others specifying lesser periods such as six months or several months. An important principle emerging from the survey of states is that the population frame should allow for inclusion of persons that have received services over time. An issue related to such selection is that there is an inherent bias in selecting persons that have stayed engaged with their treatment and often does not include persons that have dropped out. Defining the

population frame so that both ends of the spectrum are included is an important aspect of defining the population frame.

Sample Frame. In survey research, the sample frame simply establishes the parameters or circumstances under which the sample will be drawn. The sample frame specifies each element of the sample population from which the sample is drawn. Factors related to survey implementation and cost sometimes necessitates defining a sampling frame that is different from the population frame. For example, it may not be feasible to contact all persons receiving treatment but it may be possible to contact all persons receiving treatment that have provided a phone number. In this example, the population frame is the entire population receiving services but the sampling frame consists of individuals with a telephone number. The assumption here is that the sampling frame is representative of the population frame but there are potential biases that are inherent in such definition.

The sampling frame should be broad enough to ensure that the sample will be representative of the population frame in terms of characteristics and services received. In terms of the MHSIP Survey, just as the states/territories have used varying population frames, the same has been true in terms of sample frames. Some states have focused on specific target populations that may be subsets of the total population receiving services, and some states have focused on populations receiving specific services. The establishment of the sample frame has often been affected by the objectives of the survey and the availability of information.

Sample Size. Once the population and sample frame has been established, consideration can be given to sample size. According to Israel (1992), the primary factors to consider when determining sample size for a survey are the: (1) level of precision required, (2) confidence level and (3) degree of variability. Simply put, level of precision refers to allowable sampling error. Essentially, the goal is to minimize sampling error such that the results that are reported are reflective of the true value of the population from which the sample is drawn. Closely related is the notion of confidence level which relates to the extent to which the values obtained from the sample are equal to the values of the true population. The recommended confidence interval for the MHSIP surveys when reported for the URS is a 95% level, which essentially means the values obtained for the sample will reflect the values of 95 out of 100 samples selected. Degree of variability relates to the distribution of the attributes in the population. There is an inverse relationship between heterogeneity of the population and sample size. The greater the heterogeneity the larger the sample size that is necessary to gain the level of precision required.

Please note that the premise underlying this discussion is that the sample has been randomly selected and that it is representative of the population. More detail on survey sampling techniques is covered in the section below.

Calculating Sample Size: There are several ways in which to estimate the sample size required for a survey. With the advent of the Internet and the willingness of various institutions and entities to share information, anyone with a computer has access to sample size calculators. These sample size calculators require that the user specify the

confidence level, confidence interval and population size if known. A reference is provided for an “On-Line” calculator.

Another way to calculate the required (completed number of surveys) sample size is to utilize a sampling table. Such tables are based upon specified confidence intervals and precision levels. A third way in which to estimate sample size is to utilize statistical formulas to make estimation. These formulas are available in any number of statistical texts.

In instances where the population is small, the entire population may be surveyed, however, this is not likely to be the case or practical for most states implementing the MHSIP surveys as such an approach would be cost prohibitive.

SURVEY SAMPLING TECHNIQUES

Convenience Sampling

Twenty states report that they use convenience sampling as the sampling technique used for the adult MHSIP consumer survey; 19 states report that this is the sampling methodology used for the youth survey.

What is a convenience sample?

A convenience sample is a non-probability sample of participants selected not for their representativeness but for their accessibility or handiness, as when persons are selected in a specific program or because they happen to show up at a particular location or building. That is, a convenience sample chooses individuals that are easiest to reach. Often this sample does not represent the population of interest and therefore has the potential of having considerable bias.

As the name implies, the sample is selected because they are convenient. This does not mean that recruiting individuals for a convenience sample is necessarily easy. (Although often it is!) The defining characteristic is that the researcher uses whatever individuals are available rather than selecting from the entire population. Because some members of the population have no chance of being sampled, the extent to which a convenience sample – regardless of its size – actually represents the entire population cannot be known.

While good results can be obtained, the likelihood that the data set may be *seriously biased* is the reason that other sampling methods are recommended.

When should a convenience sample be used?

A convenience sample is used when the researcher is unable to access the wider population, for example due to time or cost constraints. Convenience sampling is often used in exploratory research when the researcher is interested in getting an inexpensive approximation of the truth. Such sampling is used in preliminary research efforts to get a gross estimate of results, without incurring the cost or time required to select a random sample. Convenience samples are also used when a researcher doesn't have access to identifying information to define the population frame so that appropriate representative samples can be drawn using sampling techniques prone to less bias where the estimates of precision and error can be calculated.

Another situation in which a convenience sample may be used is when a researcher wants to describe a particular group in an exploratory way. For example, interviewing 25 parents of children with serious emotional disturbances about their experiences may provide valuable insights about stress and coping even though it would

not yield good data about the proportion of parents of children with SED in the general population who share their experiences.

Convenience sampling: Discussion related to MHSIP Survey Administration

Invariably, states that report using convenience sampling techniques generally use face-to-face interviews (except for a couple of instances involving web-based surveys) to conduct surveys. Except for the one state using a web-based survey, all the states doing convenience samples for the youth survey are also doing face-to-face surveys. In interviews conducted with several states, an important objective identified as part of the MHSIP Consumer Survey implementation was consumer involvement. The face-to-face process is viewed as a mechanism for accomplishing this even though the resources required might be greater than for a survey administered through other mechanisms.

Barriers to the use of other sampling techniques have been also been cited by some states using convenience sampling. These barriers include lack of access to contact information for the surveys target populations, a perception that other techniques might result in an inability to generate a reasonable response rate and a perception that other techniques might be more costly to implement.

How should one proceed in this context?

Clearly, the SAMHSA CMHS is moving in the direction of trying to develop consistency, if not uniformity, related to survey sampling methodology. With this in mind, random sampling is clearly the preferred methodology. However, if random sampling is deemed by some SMHAs not to be possible, certain approaches to convenience sampling may need to be considered.

A basic assumption in convenience sampling is that one assumes a homogeneous population. That is, while people are known to be different, the difference is assumed to be probabilistic – thus if 80% of the convenience sample prefer coffee to tea, the conclusion would be that 80% of the population prefer coffee. This homogeneity gets lost if the sample is clearly **not** reflective of the population of interest. For example, if the convenience sample consisted of all the people in a particular program e.g. ACT, this is unlikely to be representative of the general population. However, if the convenience sample consists of all people served during a certain time period, this is more likely to be homogeneous with the larger population of all people served. (Here the assumption is that people served during one month are *homogeneous* or no different than people served in other months of the year.)

Just as in the case of respondents on the survey drawn from a random sample, some states test for the representativeness of their convenience sample. For example, Oklahoma tests for representativeness on age, gender, sex, race/ethnicity, and level of functioning. This is recommended for states that continue to do convenience sampling.

Random Sampling Techniques

According to the 2007 URS summary tables generated by the NRI SDICC, twelve (12) states used random sampling techniques to draw their survey samples for the Adult surveys. Thirteen (13) states utilized random sampling to draw their samples for youth surveys that were conducted.

What is a random sample?

A random sample is a probability sample that is drawn in such a way that each individual in a defined universe (or population) has an equal chance of being included in the sample. Using this technique, the selection of one individual has no impact on the drawing of another individual. Random sampling techniques are utilized when the objective of the study is to generalize the results back to the larger population from which the sample was drawn. The major premise underlying the use of random sampling is that the sample is representative of the universe from which it was drawn within the limits of random or chance errors (McNemar, 1969). Random samples have the following properties: (1) the larger the sample, the more likely it is to be representative of the population; (2) random samples drawn from the same population may differ from sample to sample (assumes sampling with replacement) and (3) the sample may not necessarily duplicate the population in terms of proportionality of various characteristics. The latter two properties underscore the need to determine the representativeness of the samples that are drawn even though they are drawn randomly.

When should a random sample be used?

Random sampling should be used if: (1) the objective is to generalize the results obtained from the sample to the larger population; (2) if there is limited knowledge with regard to the characteristics of the sample; (3) if the universe from which the sample is drawn is known or defined. Although random sampling is highly recommended, as indicated above there may be sources of bias that result from using this technique. One area that is particularly relevant for survey research is that there may be differences in the types of individuals who volunteer to participate in the survey versus those individuals

who do not volunteer. The implication is that the responses of those individuals who volunteer may not be representative of the larger population.

Random sampling: Discussion related to MHSIP Survey Administration

Adult Surveys. In contrast to states using convenience sampling, the states using random samples collected data using several methods of administration: six (6) collected data via mail, four (4) collected data using telephone interviews, two (2) states conducted face-to-face interviews and one (1) state asked consumers to self-administer the survey during a face-to-face encounter. Eleven of the states using random sampling techniques reported response rates ranging from 15.8% to 82%. When the data for these states is broken out by administration type, the following results were found:

Adult Survey		
Administration Type	N States	Response Rate (Range and individual states rates)
Mail	5	19% - 70% Range (19, 31, 36, 59, 70) 1 missing
Phone + Mail	2	50 – 55%
Face to Face	1	82% (1 missing)
Phone + Face to Face	1	51%
Not Reported	1	16%

Youth Surveys. States utilizing a random sampling strategy for sample selection for the MHSIP Youth Surveys also administered these surveys using a wide range of methods with varying results (see table below). Response rates ranged from 12% to 86%.

Youth Survey		
Administration Type	N States	Response Rate (Range and individual states rates)
Mail	7	12% - 57% Range (12, 15, 18, 21, 23, 24, 57)
Phone + Mail	2	39% - 47% %
Face to Face	2	70% (1 missing)
Telephone	2	51% and 86%

Summary: Random sampling provides states with the objective of generalizing results back to a broader population, the basis for doing so when the cautions/response biases described above are attended to. Much of the public intuitively understands the concept of random sampling, thus it would also be reasonably easy to communicate the methodology to lay persons.

Generating a random sample is also relatively easy. Some methods include assigning a number to all cases in the population and using a random numbers tables, (that can be found in any statistics textbook) to select the sample size estimated for the survey. This method is the simplest, yet most burdensome , since most states work with extremely large populations making the selection of a random sample using this method

unwieldy at best. Fortunately, today nearly everyone has access to software that makes the generation of random samples nearly effortless. This brings us to the next two methods. A second approach for selecting a random sample is to generate a computerized list consisting of all members of the population from which the sample will be drawn. Most states have such information available as part of their administrative datasets. This list can then be exported to a Microsoft EXCEL spreadsheet. EXCEL can then be used to generate a random number for each case. This will then serve as the basis for selecting the random sample. A third approach is to take the list created in sample two and import it into SPSS (Statistical Package for the Social Sciences) software. SPSS permits the user to randomly select cases based on users' estimates of sample size.

Systematic Sampling

Systematic Sampling is a special form of random sampling. However, a prerequisite for systematic sampling is that the population list is not organized in any biased way—in other words the list is arranged in random order. A number is generated for each member of the population. Just as with other survey sampling techniques, it is necessary first to estimate the size of the sample. Once this is accomplished, the following formula is used to identify the interval for case selection and to generate the starting point on the list for sample selection. The interval is estimated using the following formula:

$$\text{Interval} = \frac{\text{Population Size (N)}}{\text{Sample Size (n);}}$$

So, for example, if the population size is 60,000 and the sample size is 2,000, interval is:

$$\text{Interval} = 30 = \frac{60,000}{2,000}$$

A random number is then selected between 1 and 30 to provide the starting place on the list for sample selection, for example 8 was selected as a random number. The selection of cases would then be:

8, 38, 68, 98 etc (Note that every 30th case would be selected using 8 as the starting point for case selection).

The advantages of using systematic sampling are:

1. Computer programs exist that are easily used to generate systematic samples and
2. If cases are not computerized, it may be possible to use systematic sampling to select cases as long as you know the size of the population so that the sample size required can be estimated.

It is important to note that if the list of persons (cases) in the population is not random, this could compromise the selection of the sample leading to a biased non-random sample.

Cluster Sampling

Cluster sampling is another form of random sampling. In cluster sampling, clusters of units are first randomly selected and then all cases within the unit are surveyed. Cluster sampling is used to minimize the number of sites selected when there are a large number of sites. One practical reason for using cluster sampling is to minimize travel associated with face-to-face interviews when a fairly large number of sites in widespread areas exist from which the survey sample might be drawn. Cluster sampling might best be considered if the SMHA has decided to conduct surveys using

face-to-face administration. States that wish to generalize sample results to cluster of units, such as regions or a specified number of community agencies whom they fund may consider this method as it provides for some cost efficiencies to the survey process.

Multi-Stage Sampling

Multi-Stage Sampling incorporates two or more techniques for sampling and is essentially used for convenience and efficiency. Multi-stage sampling may use cluster sampling combined with random sampling or cluster sampling, combined with stratified random sampling and/or simple random sampling.

Stratified Random Sampling

According to the 2007 URS summary tables generated by the NRI, four (4) states used a random stratified sampling technique to draw their adult survey samples and four (4) states used the same technique to draw their samples for the youth surveys.

What is a stratified random sample?

A stratified random sample is one that is typically drawn from homogeneous groups into which the population has been partitioned. These groups which are referred to as strata are typically specified based upon knowledge that the surveyor has about the population. Care is taken to ensure that the proportion of cases selected from the subgroups equals the proportion of the subgroup to the full population. The advantage of selecting a stratified sample is that there is likely to be less error associated with the sample than that which occurs through simple random sampling because the defined groups are homogeneous. Additionally, as noted above, in random sampling, it is possible for certain groups to be omitted from the sample based on chance. When a stratified approach is used, there is less of a chance of this occurrence because the sample

is drawn from subgroups or strata that have been identified for the population.

Stratification has the extra added benefit of providing a means of generalizing survey results to the specific groups associated with the strata or variables which served as the basis for stratification. Stratified random sampling has thus been said to be superior to simple random sampling techniques.

Applying the Stratification Technique

As can be inferred from the discussion above, employing a stratification method depends upon knowledge of some key characteristics of the population. A statistical analysis may be performed to partition population data into non-overlapping groups using variables that are thought to be related to the survey that is being undertaken. A random sample is then drawn from each of the subgroups to form the sample.

Non-Proportionate Random Stratified Sampling

Another approach to stratified sampling is to use knowledge of the population to select a disproportionate random sample. This strategy is typically employed if there is a need to oversample to assure that certain groups will be represented in the survey sample. Oversampling or disproportionate sampling is generally applied when the researcher feels that some subgroups are so underrepresented in the population that even if the subgroup responds in numbers that are proportionate to the population, the results may not be generalizable back to the population subgroup. A secondary reason may be that the researcher suspects that one or more groups may fail to respond to the survey in numbers that permit the results to be generalized back to the group(s). Oversampling helps assure that enough responses will be received from the subgroups in question so that they may be included in the analysis and the results generalized back to that part of the population.

Examples that have typically been of focus include: race/ethnicity, severity of illness (e.g. individuals with serious mental illnesses versus those with less serious mental illnesses), geographic location of residence or service (e.g. individuals living in urban versus rural areas) etc. Note that when disproportionate stratified random sampling is used, the results for the disproportionate groups must be weighted using the same disproportionate weights that were used to select the sample before the overall results can be generalized to the population.

When should stratified random sampling techniques be used?

A stratified random sample should be used when a surveyor wants to assure representativeness on particular characteristics or wants to generalize the results obtained from the sample to certain specified groups represented in the population. For example, if the SMHA wishes to report results at the level of geographical regions or at the level of specific community agencies a stratified random sample would be recommended. A stratified disproportionate sample is recommended if important groups are underrepresented in the population and there is a desire to obtain results for the underrepresented sample that can be generalized to underrepresented group found in the population. Stratified random sampling provides more precision in the sampling process resulting in less error than simple random sampling.

Stratified Random Sampling: Discussion related to MHSIP Survey Administration

Adults. In FY 2007, four (4) states reported using stratified random sampling techniques to conduct their adult surveys. The mode of administration varied—one used mail, one used the face-to-face method and one state used a combination of three modes—mail, telephone and face-to-face. Response rates of 12% were reported for the mail survey, and 46% was reported for the combined mode. A response rate of 17% was reported for one state that did not specify survey administration methodology and this data was missing for the fourth.

Youth. Three (3) states reported using stratified random sampling techniques to draw their sample for the youth survey. As with adults, several methods of administration were used: mail and a combination of mail, telephone and face-to-face—the third state did not report this data. The combined methodology mode generated the highest response rate—94%, while the mail survey generated a response rate of 14%. The third state had a response rate of 13%.

Stratified random sampling despite its advantages is the sampling technique most infrequently used by the states although it clearly has great advantages.

FACTORS TO BE CONSIDERED IN SELECTING SAMPLING TECHNIQUES

What factors should be used to guide the selection of sampling techniques used with the MHSIP surveys?

As can be inferred from the section above, a scientific approach is clearly favored over less scientific approaches. There is however a balance between science and practicality. A series of interviews were conducted with ten states currently using a range

of sampling techniques to inform this discussion. Six factors emerged from these discussions that should be considered with regard to the adoption of survey sampling techniques used with the MHSIP surveys. These factors are:

1. Survey Objectives
2. Use(s) of survey results
3. Scientific precision and representativeness
4. Survey administration methodology
5. Costs and resource availability
6. Timing

Survey Objectives. Consideration should be given to the objective or reason for conducting the survey. The states identified a number of objectives including, meeting statutory or grant requirements, performance measurement for agencies with whom they contract, performance measurement related to different geographical regions, obtaining data for indicators included in report cards, using information generated for quality improvement purposes at the level of an individual program or agency etc. Objectives relating to overall state reporting would result in employment of a strategy such as simple random sampling that produces results that could be generalized across the entire state. On the other hand, if the objective is to relate the findings to certain specific groups such as agencies or programs, a different strategy such as stratified random sampling might be employed.

Use(s) of Survey Results. The two uses that are common to nearly all states interviewed were federal reporting and trending data over time. There has been Federal support in the DIG initiative for states to implement random sampling approaches, but

there has been no requirement to date. Recently there has been new attention to supporting random sampling in the MHSIP consumer surveys to strengthen the integrity of data findings, improve performance accountability, and insure appropriate use of data for planning.

States that reported using data for internal state purposes such as comparisons of subpopulations or sub-state regions, emphasized the need for greater precision. Even states that reported that they use the data only to monitor change and trends across time also needed greater precision to ensure comparability of data across time. The best way to ensure comparability is to use consistent science-based sampling techniques that can be generalized back to the broader population.

The bottom line here is that the more the results are used within the state, the greater the need for representativeness and scientific precision. States that are using results for reports to their legislature or for class action lawsuits have to ensure that their results have a strong scientific footing and therefore select random sampling

Scientific Precision and Representativeness. Several states that were interviewed reported that they developed reports for various subsamples of the population such as regions, individual providers etc. This approach requires that a scientific approach be taken to drawing samples that are representative of the survey population and that lessen the error associated with survey results. Clearly, the best techniques for doing so are the use of random and stratified random sampling. Even when these approaches are undertaken, there is still a need to adopt a systematic and routine approach for assessing the representativeness of samples drawn for the surveys that focus on a range of key variables. Currently, when tests to assess the representativeness of a random sample are

performed, they are usually based on consumer characteristics only and they do not usually include representativeness across programs.

Survey Administration Methodology. There is a strong relationship between survey administration methodology and sampling technique. Almost all the states that do convenience samples do face-to-face interviews. The majority of states that administer the MHSIP surveys using mail or telephone surveys utilize random or stratified random sampling; however a few of these states use a multi-method approach to sampling.

Several reasons were provided with regard to the use of convenience sampling over random sampling techniques: (1) Information required for mail and telephone surveys is perceived as unreliable. Some states reported that address and telephone numbers are not collected, or that this information may be inaccurate or out of date. Convenience sampling on site at agencies providing services addresses these issues; (2) According to some states currently using convenience sampling, performing face-to-face interviews using random sampling would increase the costs associated with survey administration and the data collection process. (Interestingly, some states that use convenience samples are planning to test this hypothesis by drawing random samples for face-to-face interviews in the future.) These issues have implications for both cost and the representativeness of the sample.

At least one state using convenience sampling has addressed the methodological issues associated with this technique by performing analyses to test the representativeness of the convenience sample participating in the survey to the broader population. When survey objectives or circumstances require states to utilize convenience sampling, if the samples are selected from a wide range of programs and populations then a test for

representativeness may at least mitigate some of the methodological issues identified in the section above. However when only one or two programs are used to select a convenience sample, even testing for representativeness of the population will not mitigate these issues.

Costs and resource availability. Information obtained from interviews with the ten states was indicative that there is great variability in the resources available and used to conduct the MHSIP surveys. Some states are spending 3 to 4 times the resources of other states. Additionally, several states are not using their DIG infrastructure grants to fund the survey but are using state general revenue funds to support the survey process.

Clearly, resources are directly related to some of the factors discussed above. In general:

- For the same sample size, face-to-face interviews cost more than phone surveys which, in turn, cost more than mail surveys;
- The more accuracy and precision desired, the more the cost; and
- The more the need for representativeness for sub-areas or sub-populations, the more the cost,

Timing. A fifth factor that influences selection and use of sampling techniques is related to survey timing. Convenience samples may be chosen if the time allotted for performing the survey is minimal. In this case convenience sampling may be employed because as the name implies, individuals are selected for the survey because they are where the survey is being conducted. Probability samples such as random and stratified random sampling may take more effort to draw and they require that the surveyor have certain knowledge of the population. If this information is not readily available, a convenience sample may be utilized.

Summary

Each state must weigh and balance these different factors as they choose methodologies for survey implementation and selection of sampling techniques. However, it is clear that greater scientific precision is achieved when random sampling techniques are applied to sample selection. A major thrust of this paper is to encourage and support states to move in the direction of adopting sampling techniques that assure that the results reported are representative of the population receiving services.

RECOMMENDATIONS

1. Where possible, use random sampling. A large number of states (18) are using random or stratified random sampling techniques to draw samples for the MHSIP surveys. Many states that are using convenience sampling are doing so because they project that the cost of doing random sampling for face-to-face interviews would be prohibitive or because they do not have readily available information that is required to use random sampling techniques. . However, some states are beginning to explore whether this assumption is accurate: the incremental costs of doing interviews with a random sample may be less onerous than expected. Clearly, where possible random sampling provides a more scientific approach to survey research. It is also likely to produce results that are more likely to be generalizable to the population.

2. Consider using stratified random sampling if the desire is to generalize survey results back to specific groups that you have identified in an a priori fashion.

3. If it is not possible to utilize random sampling and a convenience sampling technique is the only feasible technique that can be used due to practical constraints, attempt to optimize the representativeness of the sample. If convenience samples are drawn from one or two programs, they are unlikely to be representative the total population of individuals receiving services. . It is recommended that a review of current procedures be undertaken to determine which populations are being excluded and that an effort should be made to broaden representativeness.

4. Test the representativeness of the sample selected and survey respondents against the characteristics of the population frame. At a minimum, this should be done with population characteristics such as age, gender, and race/ethnicity. It is also recommended that if it is possible, test for representativeness of broad categories of programs. For example, it may be possible that persons in a peer support program are representative of the population but persons in the peer support program are not necessarily representative of the population receiving services. Second, because a random sample has been drawn does not ensure that the respondents are a representative group. The recommendation is to test the respondent group against population characteristics as well.

5. Assure that sample size is adequate and that the confidence levels and confidence intervals reasonably reflect scientific practices. If the sample size is not appropriate, it won't matter which sampling technique is utilized. Also strive to assure that the confidence with which the findings are reported are adequate reflecting a high level of confidence in the results that are reported. Generally, it is recommended that states adopt a 95% confidence level and a 5% confidence interval.

STATE REPORTS

MHSIP Consumer Surveys

TEXAS

Objectives

1. Federal Reporting
2. Monitoring state trends over time
3. Reporting on managed care initiative

Population Frame

Adults: Consumers 18 years or older who had received a recent mental health service beyond an intake assessment were eligible for inclusion. The consumers selected were those who had received services over a one-month period two-three months before the survey was administered. In FY 2006, the sample included a separate stratum for NorthSTAR (Medicaid program that covers a sub-area of the state) to obtain data to meet the program's biennial waiver reporting requirements.

Youth: Consumers 17 years or younger who had received a recent mental health service beyond an intake assessment were eligible for inclusion. The consumers selected were those who had received services over a one-month period two-three months before the survey was administered. In FY 2006, the sample consisted of a separate stratum for NorthSTAR (Medicaid managed care program that covers a sub-area of the state) to obtain data to meet the program's biennial waiver reporting requirements.

When using the stratified sample to calculate the overall statewide results, HHSC weighted the NorthSTAR and Community Mental Health strata to their population sizes and used SPSS Complex Samples statistical software to calculate point estimates, 95% confidence intervals (CIs).

Prior to this, Texas used to conduct stratified random samples for each geographic area that comprised the service area for each of the 43 local mental health authorities.

Administration Methodology

Mail Survey: Surveys were mailed to adult consumers and the parents of child consumers, informing them that the survey was voluntary, confidential, and that their providers would not see their individual responses. Parents were asked to send the completed survey directly to HHSC in a business reply envelope within three months.

For the first time in the current survey cycle, Texas sent introductory letters to consumers to inform them about the survey and to determine incorrect addresses ahead of time. Attempts were made to find updated addresses and resend surveys returned unopened.

Sampling Methodology

- Random sampling; stratified random sample every other year
- Used SPSS complex samples
- Parameters: 95%+-5%

Rationale: more scientific and precise

Sample Size

Table 1: Sampling
Texas Adult Mental Health Survey FY 2007

Population Size (December 2006)	# Surveys Sent	# Completed Surveys Returned	% Completed Surveys Returned
50,876	2,069	384	19%

Table 2: Sampling
FY 2007 Youth Services Survey for Families

Population Size (December 2006)	# Surveys Sent	# Completed Surveys Returned	% Completed Surveys Returned
17,861	1880	339	18%

Respondent Representativeness

Table 3: Texas Adult Mental Health Survey FY 2007
Characteristics of Consumers Sent Surveys and Respondents

		Consumers Sent Surveys	Respondents
Gender	Female	57%	60%
	Male	43%	40%
Age	< 40 years old	38%	22%
	40 years or older	62%	78%
Race/Ethnicity	Black	21%	15%
	Hispanic	25%	26%
	White	52%	57%
	Other	2%	3%
Primary Diagnosis	Bipolar	33%	29%
	Major depression	31%	31%
	Schizophrenia	33%	37%
	Other	3%	4%

Table 4: FY 2007 Youth Services Survey for Families
Characteristics of Children Who's Parents Were Sent Surveys and Respondents*

		Consumers Sent Surveys	Respondents
Gender	Female	33%	31%
	Male	67%	69%
Age	0 - 12	57%	59%
	13 - 17	43%	41%
Race/Ethnicity	Black	24%	25%
	Hispanic	33%	34%
	White	40%	38%
	Other	3%	3%
Primary Diagnosis	Attention Deficit Hyperactivity	42%	46%
	Bipolar	15%	16%
	Conduct/Oppositional Defiance	15%	12%
	Major Depression	17%	16%
	Other	11%	10%

*Characteristics reflect the child, not the parent

Resources

- Approximately \$40,000 in staff time and materials
- Not covered by DIG

MASSACHUSETTS

Objectives

1. Federal Reporting
2. Monitoring state trends over time
3. Comparing performance of specific programs (case management, supported housing, etc.)
4. Comparisons across geographic regions

Population Frame

The population frame was identified as the universe of persons receiving specified services from the Massachusetts Department of Mental Health.

In the 2007 survey, this population comprised of:

- The parents or guardians of children and adolescents receiving case management services (hereby referred to as “Family Case Management”)
- Children/adolescents age twelve and older in residential programs
- Persons receiving adult case management services,
- Persons receiving Supported Housing

Administration Methodology

The Massachusetts Department of Mental Health (DMH) has contracted with the University of Massachusetts Center for Mental Health Research Services (CMHSR) to administer their MHSIP Consumer Satisfaction Survey to clients of the Department and provide an analysis of the results to the Department.

A two phase data collection approach was used for the service types of Adult Case Management, Supported Housing, and Family Member Case Management: Phase 1- Telephone Survey, and Phase 2- Mailed Questionnaire. Anyone whose input was not gathered in Phase 1 was solicited for inclusion in Phase 2. For the Child/Adolescent Residential Programs, we employed a similar Telephone Survey Phase for the majority of these programs and a Face-to-Face Interview Phase for one program per Area selected by DMH.

For the telephone interviews, Massachusetts used the WINCATI system. WinCATI handled all call assignments across the interview stations. In addition to managing active and ongoing calls, WinCATI recorded several final dispositions or outcomes for calls to respondents. These dispositions allowed CMHSR to track which respondents should receive a mailed survey in the next phase of data collection and which should be added to a list for DMH updating.

The outcomes tracked by WinCATI included:

- Completed (*inactive*)
- No Answer/Busy/Call Back (*active, sent mailed surveys*)
- Disconnected Number (*active, sent mailed surveys*)
- Respondent does not live at Number—Respondent does not live at the telephone number provided by DMH (*sent to DMH for updating*)
- Deceased (*inactive*)
- Language Problem, Mail Survey—Respondent needs a translated survey mailed to them.
- Soft Refusal—Respondent did not want to do telephone survey, but might complete mailed survey (*active, sent mailed surveys*)
- Hard Refusal—Respondent refused ANY survey participation (*inactive, removal from survey sample, no further contact*)
- Incomplete—Respondent completed less than half of the survey (*inactive*)

One advantage of using WinCATI is that the program provided for simultaneous data collection and data entry. That is, once the interview concluded, little additional effort was required to utilize the data. Since interviewers could not enter out-of-range responses, data cleaning of quantitative data was also minimized. The WinCATI data easily exported to a format read by the statistical analysis program SAS which was then merged with data from subsequent collection phases.

For the mail survey component, participants received three mailings intended to enhance the project's overall response rate. This phase was based on Dillman's Total Design Method, and incorporated key elements such as persuasive cover letters that were individually signed in blue ink, and multiple mailings to improve the rate of return.

Sampling Methodology and Sample Size

Stratified random sample of 1,758 individuals for the service types of Adult Case Management, Family Member Case Management, and Supported Housing, along with the entire population (N=116) of Youth (ages 12-18) in the Child/Adolescent Residential Programs statewide, making a total sample size of 1,874 individuals. For this sample, individuals were randomly chosen from each service type within the six Areas of DMH.

The goal was to achieve 45 responses within each cell, derived from a power analysis that was conducted prior to this year's survey. Based on the response rate to last year's pilot survey, Massachusetts determined that they would need to attempt to contact up to 100 consumers within each Area for each service type (i.e., n=600 per cell) in order to achieve 45 responses per Area for each service type.

Sample selection began with DMH generating a de-identified list of all consumers with open enrollments in the above services at the time that the universe was drawn. Working with this data, the sample was stratified by area and type of service within each area.

From these populations, individuals were randomly chosen, as in a simple random sample.

In order to increase the likelihood of achieving the desired responses per cell, once the samples were drawn, DMH distributed to each Site Office in each of the six Areas, a list of all persons associated with that Site who had been selected to participate. The Site staff were asked to review and update the demographic and contact information in the electronic medical record for each individual. The updated information was then extracted from the database and provided to CMHSR. At two times during the administration of the survey, the names of individuals who were unable to be contacted because of incorrect address or phone numbers were returned to DMH and redistributed to the field for updates.

Respondent Representativeness

At the state level, the data were representative.

Resources

- The contract with the University of Massachusetts is for \$132,000.
- Approximately \$40,000 in DMH staff time is used for administrative oversight and coordination with the contractor, as well as Information Technology resources.
- Additional hidden costs include the salaries of DMH staff participating in an Advisory board to provide consultation in the content of state added questions, resources used to translate the surveys and accompanying letters into the preferred language of participants, interpreter services and field staff time spent in updating the electronic medical record of each individual selected to participate.
- Funds from the DIG have been used to support this activity, but DMH will assume all financial responsibility for continued implementation in the 2009 survey.

WISCONSIN

Objectives

1. Federal Reporting
2. Monitoring state trends over time
3. With data accumulated over four years, survey results for counties are being considered.
4. Monitoring results by subpopulations, starting with racial and ethnic subgroups in 2007.

Population Frame

The population frame consisted of consumers receiving mental health services in the public system that are recorded by counties in the Human Services Reporting System (HSRS). The HSRS is the data reporting system that all counties use to submit mental health data to the State of Wisconsin. The population was also restricted to just consumers who were identified as having a need for either long or short-term intensive mental health services.

The population typically consists of all consumers that were in service at a particular point in time e.g. all open clients at the end of April with the projected date of the survey in the fall.

Administration Methodology

Mail Survey: Wisconsin administers both the adult and youth MHSIP Satisfaction Surveys via mail. Adult consumers (18 years or older) complete surveys about their satisfaction with services and parents or guardians of youth ages 6-17 complete the surveys about their child's satisfaction with services.

The University of Wisconsin Survey Center (UWSC) in Madison conducts the mail survey which includes an initial mailing with a \$2 bill (this incentive was used from 2004-2006, but not in 2007) as an incentive and three follow-up mailings. The survey data is kept confidential for respondents. Names are not included on any of the surveys, data is analyzed for groups only, and identifying information is not included in any report generated from the data.

Sampling Methodology

- Random sampling
- Used SPSS complex samples
- Parameters: 95%+-5%
- Rationale: most scientific and precise

Sample Size

The sample (N=3,489) consisted of adults (N=2,146) and youth (N=1,343) who had received county mental healthcare services in the past year.

The response rate reported here is based on the number of completed questionnaires divided by the total number of sample points, minus the number of cases determined to be “non-sample”. For the purpose of this project, cases were determined to be non-sample if the respondent did not have valid contact information (e.g. no forwarding address available), or if the respondent was ineligible to participate (e.g. unable, deceased, or had not received mental health services from the county within the past year).

Based on this calculation, the overall response rate for this study was **37.36%**: The response rate for Adults was **36.29%**; The response rate for Parents and Guardians of Youth was **38.80%**

Respondent Representativeness

Tests for representativeness were done in the past but are not done routinely. Tests were done in terms of age and ethnicity. Results suggested that there was an under-representation of minorities resulting in the decision to oversample these populations in subsequent surveys.

Resources

- \$35,000 in contract with University of Wisconsin.
- Approximately \$20,000 - \$25,000 in staff time

VERMONT

Objectives

1. Comparing performance of programs
2. Monitoring state trends over time
3. Provide Consumers with a voice that is heard
4. Federal Reporting

Population Frame

The population frame consists of all adults with SMI and youth aged 14 to 18 who received Medicaid-reimbursed services from CRT programs and children and adolescent mental health programs in Vermont during July through December, as well as parents of children served. The questionnaires were mailed to consumers in May.

The adult survey is conducted annually. The parent and youth surveys are conducted in alternate years.

The non-Medicaid and non-SMI population are not included.

Administration Methodology

Mail Survey (Adults): Surveys are mailed to a sample of 75% of consumers by the DMH Adult Unit central office staff.

Mail Survey (Youth): The Child, Adolescent and Family Unit of the Vermont Department of Mental Health mails surveys to all young people aged 14 -18 who received three or more Medicaid-reimbursed services from the centers during the period of July through December of 2006.

Mail Survey (Parents): Parents of 75% of children under the age of 18 receiving Medicaid services were mailed surveys.

Within four to six weeks after the original survey was mailed, people who had not responded to the first mailing were sent a follow-up letter. This mailing included a follow-up cover letter, a copy of the original cover letter, and a second copy of the questionnaire.

Sampling Methodology

- Random sampling
- 75% sample for adults and parents of youth
- 100% of all adolescents ages 14-18

Response Rate and Sample Size

Adults – 741 of 2073 (36%)

Parents – 737 of 3081 (24%)

Youth – 251 of 1832 (14%)

Respondent Representativeness

To reduce bias from comparisons made across programs, Vermont uses a risk adjustment methodology.

In order to compare the performance of Vermont's CRT programs, measures of consumer satisfaction were statistically adjusted to account for differences in client characteristics in the case-mix of the ten programs. This process involved three steps.

First, various potential case-mix adjustment factors were tested. These included client characteristics of gender, age, volume of services received, and diagnosis (schizophrenia, affective disorder, anxiety disorder, or substance abuse). The client characteristics that were statistically related to variation in consumer evaluation of CRT programs were identified. Second, statistically significant differences in the caseloads of the community programs were identified and compared to the client characteristics that were related to variation in evaluations of program performance. Finally, client characteristics that were related to evaluation of services and varied among caseloads were used to adjust the raw measures of satisfaction for each community program.

Resources

Consumer surveys are administered by DMH central office staff. Analysis and reporting is conducted by MH Research and Statistics staff. No cost estimates are available.

CALIFORNIA

Objectives

1. Federal Reporting
2. State Reporting
3. Monitoring state trends over time

Population Frame

With some exclusions, the population frame consists of all consumers who received face-to-face community mental health services during a two-week survey period from county operated and contract providers.

Administration Methodology

Counties are notified about the time periods for which all consumers in every program will be expected to respond to the MHSIP surveys (adult MHSIP – including quality of life questions, YSSF, and a child/youth version of the YSSF). Forms are downloaded from the Internet. Most recently, the forms were available in the following languages: English, Spanish, Chinese, Hmong, Russian, Tagalog and Vietnamese. Typically, the survey time periods are two weeks in November and two weeks in May.

Counties and providers report the survey data to the California Department of Mental Health (DMH) using the integrated Web-Based Data Reporting System (WBDRS). This system provides counties with several internet-based options for data submission including direct key entry, paper form scanning and verification option, direct data submissions and a batch submission option via DMH's secure online website that is available to those counties who wish to capture data using their own technology.

This technology, in place for nearly five years, continues to be a reliable option for counties collecting and submitting data to DMH and has improved data quality while providing flexibility for accommodating survey item changes.

Sampling Methodology and Sample Size

The current sampling methodology consists of convenience sampling of persons receiving public mental health services during a two-week time period twice per year. California is currently contracting with a university to explore the possibility of moving to a random sampling methodology.

Respondent Representativeness

California compares demographic characteristics of respondents with both the general service population and the general state population by age and ethnicity.

The youth survey sample numbers are very consistent with the youth mental health services population. The adult and older adult samples have slightly higher numbers of females versus males than the mental health services populations, which may be due to women being more willing than men to participate in the survey process. Overall, with respect to gender, these findings are considered generally representative of the larger mental health services population.

Some differences in relative percentages of race/ethnicity groups in the mental health services populations versus the general state population are evident, including lower percentages in Hispanic and Asian/Pacific Islander youth and adults served, and higher percentages in African-Americans served across all age groups. Overall, the aggregated survey findings are interpreted as being roughly representative of the mental health services population in terms of race/ethnicity and thus are considered generalizable to the larger service population.

Resources

- Approximately \$125,000 in staff time is used

OKLAHOMA

Objectives

1. Federal Reporting
2. Monitoring state trends over time
3. Ensure consumer involvement in survey process
4. Used for certification requirements

Population Frame

The population frame was identified as all consumers who received face-to-face community mental health services in a given year.

Administration Methodology

Teams of trained peer surveyors make onsite visits to each adult serving non-hospital site of the community mental health centers to survey consumers about the care they receive. These teams operate throughout the year, making approximately two site visits a week. For the children's services surveys (caregiver and youth), a mail survey was used the first year, followed by several years of onsite paper surveys presented face-to-face by peers. A new methodology using a telephone survey is now being implemented for children's caregivers and youth.

For the face-to-face adult surveys, fliers are sent out to the site indicating the times that the survey team would be available and consumers are encouraged to participate in the process. The number of interviews per site can range from 3 to 155, with an average of 33 surveys per site.

Sampling Methodology and Sample Size

For Adults, typically between 2,000 and 2500 surveys are collected each year from people who reside in more than 70 of Oklahoma's 77 counties. In 2006, among 28,151 admitted clients served by the 15 community mental health centers (CMHCs), 2,166 surveys were collected from eight percent (8%) of the people. This survey penetration rate is short of the targeted 10 percent of people served; however, the sample size is considered to be adequate to be representative of the people served and to make valid inferences regarding adult consumers' opinions about their service experiences in non-hospital settings at state-funded facilities.

Telephone survey is conducted with parents of children and youth receiving services who provide informed consent and have valid telephone numbers. Postcards are mailed inviting parents who provide consent but do not have telephones to call the 1-800-number established for the project.

Respondent Representativeness

Representativeness of respondents is ensured with the service population in terms of geographic region, age, Hispanic Latino ethnicity, race, education, gender and level of functioning.

Resources

- The contract with consumer organizations is approximately \$80,000 each year for adults and \$50,000 for youth.
- Approximately \$80,000 in staff time is used

Indiana

Objectives

1. Federal Reporting
2. Generate and Monitor Results for 30 Funded Providers
3. Generate Reports for Indiana Consumer Council

Population Frame

The population frame consists of consumers with SMI and parents/guardians of youth with SED receiving mental health services in the public system during the previous fiscal year.

Administration Methodology

Telephone Survey: Indiana contracts with Indiana University/Purdue University of Indiana (IUPUI) Center for Survey Research (CSR) to conduct the MHSIP Adult and Youth Surveys. IUPUI provides 20 hours annually of general training to interviewers conducting the surveys; 3 additional hours geared toward issues associated with mental health related surveys are also provided. This training includes topics such as how to contact consumers and how to conduct the survey. Surveyors are also required to sign a confidentiality agreement. Surveyors are provided with a script to use for conducting the survey.

Indiana draws a random sample using enrollment information for individuals receiving services during the fiscal year. Once the sample is drawn, providers are contacted to obtain contact information for consumers included in the sample. Survey data is kept confidential for respondents by the University. Names are not included on any of the surveys, data is analyzed for groups only, and identifying information is not included in any report generated from the data.

Sampling Methodology - (2006 survey); 2007 survey in process

- Random sample drawn for each provider (2006 survey); 2007 survey in process
- Microsoft Access used to assign a random number to each consumer enrolled in treatment during FY2006
- 7.95% confidence interval at an 90% confidence level by provider
- Rationale: Statistically appropriate

Sample Size

The response rate reported here is based on the number of completed questionnaires divided by the total number of survey attempts.

Based on this calculation, the overall response rate for the surveys was **34.5%**: The response rate for Adults was **32.4%**; The response rate for Parents and Guardians of Youth was 37%

Respondent Representativeness

Tests for representativeness were not performed, however data is presented by demographic characteristics (age, gender, and race/ethnicity) of the sample so representativeness could be tested.

Resources

- \$120,000 in contract with University of Indiana to collect data
Indiana performs its own analysis of the data
- Approximately 1% of internal staff time; Estimates \$600 per year

Washington State

Objectives

1. Examine quality issues related to mental health service delivery
2. Federal Reporting (CMS and SAMHSA CMHS)
3. Input for the DSHS DMH Performance Indicator System
4. Generate and Monitor Results for 13 Regional Support Network (RSNs) and Providers (by special request)
5. Meets EQRO (Quality Assurance requirement)

Sample Frame

The population frame for adults consisted of individuals receiving services between August 1, 2006 and January 31, 2007. The population frame for youth consists of individuals receiving mental health services between September 2006 and February 2007. Primary caregivers of children/adolescents 12 years old and younger were asked to complete the MHSIP Youth Services Survey for Families (YSS/F). Individuals between 13 and 21 were asked to complete the survey.

Administration Methodology

Telephone Survey: Washington State contracts with the Washington Institute for Mental Health Research and Training to conduct the MHSIP Adult and Youth Surveys. A ten-station Computer Assisted Telephone Interview (CATI) system is utilized to collect surveys. Over the 12-weeks of the study, a total of 25 interviewers administered surveys. More than three-quarters worked for the duration of the survey. The interviewer team during this study comprised entirely of temporary part-time employees, most of whom were consumers. Three quarters of all interviewers worked between 70 and 165 hours during the duration of the study. Ninety-five percent (95%) of the surveys were conducted by telephone; 5% may be conducted using other means.

Training: Training consisted of a three phase process. The first phase of the training included an overview of the study and confidentiality protocols were explained. Additionally, examples of survey questions and respondent dispositions were provided. The second phase of the training introduced the CATI system hardware to new interviewers, with a quick refresher for returning interviewers. The final phase of the training involved all interviewers using the CATI system to practice administering and responding to the survey. Training is provided over a two day period---follow-up and additional training is provided when needed. Surveyors are provided with a script (introductory, answering machine and information to be left with non-consumers who answer the telephone) to use for conducting the survey.

General Sample – Youth and Family		
Disposition	N	%
Interviews: Completes	908	32.9%
Incorrect Numbers†	977	35.4%
Refusals	404	14.6%
Unavailable	112	4.1 %
No Mental Health Services Received	76	2.8%
Language Barrier	17	0.6%
Deceased	3	0.1%
Others††	261	9.5%
TOTAL	2758	100%

Contact information for consumers is drawn from several departments of Social and Health Service data sources including the Economic Services Administration (ESA), Division of Mental Health, Mental Health Regional Support Networks (RSNs) and Provider Databases. To maximize contact information, names, social security numbers, and birth dates were matched on the ESA ACES Barcode dataset to retrieve contact information on sampled consumers. RSNs and providers were contacted simultaneously. Those individuals with identified addresses and telephone numbers were sent letters informing them about the study.

Sampling Methodology

- Stratified Random sample (age and race/ethnicity)
- Rationale: Reduce sampling error
- Stratified by Regional Support Network (RSNs) for reporting purposes

These surveys are exempt from IRB review.

Sample Size

Adults: 6213; 10% of the population seen between August 2006 and January 2007; out of these 6,213 consumers in the total drawn sample, 1,500 completed the survey—yielding a 24% completion rate. Correct contact information could not be obtained for 3,028 clients or 48.7 % of the sample despite using multiple sources of contact data.

Youth: 2758; 10% of the population seen between September 2006 and February 2007; 906 out of 2751 completed the survey yielding a completion rate of 33%. Correct contact information could not be obtained for 977 clients or 35.4% of the sample despite using multiple sources of contact data.

Respondent Representativeness

To assess the representativeness of the completed sample, a comparison is made between the completed sample, the total 10% “drawn” sample, and the “sample frame” from which the sample was drawn. Thus, there are three distinct groups: (i) the sample frame from which the sample was drawn; (ii) the 10% sample that includes everyone who was drawn and eligible to participate; and (iii) the respondent sample that includes those consumers who were actually interviewed. Table D shows three key demographic variables (age, gender, and minority status) for these three groups. Minority status is indicated in two ways: in terms of race/ethnicity categories and in terms of whether an individual is a minority or not.

Adult Sample	Completed Sample (n = 1500)	Drawn Sample (n = 6213)	Sample Frame (n= 62,039)
Gender			
Female	67.1%	56.9%	57.0%
Male	32.9%	42.9%	42.9%
Unknown	0%	.2%	.1
Total %	100%	100%	100%
Total Count	1500	6213	62,039
Ethnicity			
African American	4.5%	7.4%	7.6%
Asian & Pacific Islander	2.0%	3.5%	3.4%
Caucasian	76.1%	70.1%	70.4%
Hispanic	4.8%	5.5%	5.8%
Native American	4.5%	2.9%	2.4%
Other	6.2%	7.0%	6.8%
Unknown	1.9%	3.6%	3.6%
Total %	100%	100%	100%
Total Count	1500	6213	62,039
Minority			
Yes	22.0%	26.3%	26.0%
No	76.1%	70.1%	70.4%
Unknown	1.9%	3.6%	3.6%
Total %	100%	100%	100%
Total Count	1500	6213	62,039

Gender, Ethnicity, and Minority Status by Sample Group

Youth Sample	Respondent Sample N (%)			10% Sample N (%)			Sample Frame N (%)
	Overall	Family	Youth	Overall	Family	Youth	
Female	398 (43.8%)	223 (38.2%)	175 (54%)	1,240 (45.0%)	534 (38.6%)	706 (51.4%)	12,410 (44.9%)
Male	510 (56.2%)	361 (61.8)	149 (46%)	1,515 (54.9%)	850 (61.4%)	665 (48.4%)	15,205 (55.0%)
Unknown	0 (0%)	0 (0 %)	0 (0%)	3 (0.1%)	1 (.1%)	2 (.1%)	40 (0.1%)
Total	908 (100%)	584 (100%)	324 (100%)	2,758 (100%)	1385 (100%)	1373 (100%)	27, 655 (100%)

African-Amer/ Black	64 (7.0%)	36 (6.2%)	28 (8.6%)	236 (8.6%)	103 (7.4%)	133 (9.7%)	2,191 (7.9%)
Asian/ Pacific Islander	29 (3.2%)	14 (2.4%)	15 (4.6%)	68 (2.5%)	26 (1.9%)	42 (3.1%)	494 (1.8%)
Caucasian/ White	599 (66.0%)	382 (65.4%)	217 (67%)	1,689 (61.2%)	829 (59.9%)	860 (62.6%)	16,714 (60.4%)
Hispanic/ Latino	132 (14.5%)	95 (16.3%)	37 (11.4%)	378 (13.7%)	226 (16.3%)	152 (11.1%)	3,819 (13.8%)
Native American	51 (5.6%)	33 (5.7%)	18 (5.6%)	94 (3.4%)	50 (2.3%)	44 (3.2%)	827 (3.0%)
Other	32 (3.5%)	23 (3.9%)	9 (2.8%)	222 (8.0%)	119 (8.6%)	103 (7.5%)	2616 (9.5%)
Unknown	1 (.1%)	1 (.2%)	0 (0%)	71 (2.6%)	32 (2.3%)	39 (2.8%)	994 (3.6%)
Total	908 (100%)	584 (100%)	324 (100%)	2,758 (100%)	1385 (100%)	1373 (100%)	27, 655 (100%)
Yes	308 (33.9%)	201 (34.4%)	107 (33%)	998 (36.2%)	524 (37.8%)	474 (34.5%)	9,947 (36.0%)
No	599 (66.0%)	382 (65.4%)	217 (67%)	1,689 (61.2%)	829 (59.9%)	860 (62.6%)	16,714 (60.4%)
Unknown	1 (.1%)	1 (.2%)	0 (0%)	71 (2.6%)	32 (2.3%)	39 (2.8%)	994 (3.6%)
Total	908 (100%)	584 (100%)	324 (100%)	2,758 (100%)	1385 (100%)	1373 (100%)	27, 655 (100%)

Resources

- \$230,000 in contract with the Washington Institute; Includes sampling, surveys, analysis, presentations, and generation of customized reports
- Staffing: 2 FTE B.A. level staff – 6 month period
2 Ph.D. Level - .5 FTE – 6 month period

Georgia

Objectives

1. Federal Reporting
2. Generate and Monitors Results for Geographic Regions
3. Generates Reports for Use by State SMHA Staff including Program Directors
4. Available information for Governor's Office if needed
5. Use in conjunction with other information to support quality improvement initiatives

Population Frame

Adults: The population frame consists of all consumers receiving publicly funded community-based mental health services funded by the SMHA over a 6 month period.

Youth: All youth age group 0 - 17 active in community service funded by SMHA over a six 6 month period of the fiscal year.

Administration Methodology

Adult Survey: Georgia contracts with a consumer organization (Georgia Mental Health Consumer Network) to conduct face-to-face surveys at 50 Core agencies that it funds—95% of the agencies have services conducted on their premises. Sample size quotas are established in the survey contract. Consumers are hired to conduct the surveys. Surveyors receive 1 full day of training; team training is also provided with additional follow-up if needed.

Consumers are solicited to participate in the survey process by a variety of methods (e.g. Going to groups to solicit participation; soliciting participation of individuals waiting for services (waiting rooms); visiting day treatment programs to solicit participation etc. Consumers receiving a wide variety of services (e.g. supported employment, assertive community treatment, day treatment etc) are targeted for participation. The SMHA works with the contractor to identify survey sites.

Youth Survey: Georgia contracts with Georgia to conduct the MHSIP Youth Surveys. The SMHA draws the sample and provides contact information to the University. The University conducts a mail survey with a follow-up after 7 days. Consumers may respond to the survey within the 3 month period. No specific response rate specified in the contract. SMHA analyzes data received from the University.

The adult and youth surveys are conducted over a three month period.

Sampling Methodology

Adults:

- Convenience Sample
- Face-to-face administration
- Rationale: Not confident that a statistically appropriate can be obtained by using a mail survey; Contact information thought to be problematic; Cost would also seem to be prohibitive

Youth:

- Random Sample
- Mail

Sample Size

Sample size for adults was 5,766 for FY 2007. A 100% response rate was obtained (note: Georgia does not track those who do not wish to participate in the survey process).

Youth: Sample size for adults was 2,800 a 15% (339) response rate was obtained and a Confidence interval of 5% was met.

Respondent Representativeness

Tests for representativeness were not performed, however data are obtained for consumer demographic characteristics (age, gender, and race/ethnicity) and geographic information is tracked, so representativeness could be tested.

Resources

- Estimates \$131, 192 (\$40,000 from DIG) not including SMHA staff time for both surveys; Approximately \$8,600 in contract to the University of Georgia to administer youth survey and scan survey results
- Fiscal agent/bookkeeping – 24 hours per week for 3 months
- Survey scanners (adult survey) – 20 hours weekly for 3 months (Teleform)
- Payment processor 24 hours per week for 3 months
- .5 FTE to read comments, review surveys for follow-up if necessary

Illinois

Objectives:

1. Federal Reporting
2. Inform Quality Improvement Initiatives
3. Assess changes over time in relation to system restructuring and transformation efforts

Sample Frame

The sampling frame consisted of all consumers receiving treatment in June 2007. The sample was drawn in October 2007, thus the sample included consumers still active in treatment as well as those who had left treatment by the time the survey was initiated.

Adults: Any adult receiving treatment in June was included in the sampling frame.

Youth: Youth age 12 and younger were included in the sample frame. Youth in the 13 - 17 age group were removed from the population frame because of concerns regarding confidentiality. Essentially, the DMH has no way of knowing whether youth in this age group have informed their parents/caregivers that they are receiving mental health treatment. Thus to eliminate any chance of breaching confidentiality, the individuals were removed from the sample frame prior to selection of the sample.

Administration Methodology

Surveys were coded to identify geographic location of consumers' residence (Chicago vs. Other areas in Illinois) and severity of illness of individuals receiving the survey (serious mental illness for adults, serious emotional disturbance for youth versus less severity of illness. A letter describing the reason for the study was included with the surveys, as well as stamped addressed envelopes with the DMH's return address. The surveys were mailed in plain envelopes with a return address to the Department of Human Services—no mental health affiliation was evident. DMH staff were responsible for printing labels, assembling survey packets for mailing, coding and analyzing all survey responses including comments to open-ended questions.

Sampling Methodology

- Stratified Random Sampling (Race/Ethnicity; Population Oversampled Using Severity of Illness Variable, e.g. SMI, SED vs. Other)
- 95% Confidence Level
- Rationale: Employ scientific approach; Assure large enough N to be able to generalize results to underrepresented and/or at risk groups in the population
- SPSS Random Sampling Routine used to generate the sample and to analyze the data

Sample Size

Adults: Sample Size = 2955; Response Rate = 19%

Parents/Caregivers of Youth – Sample Size = 3445; Response Rate = 17%

Respondent Representativeness

Representativeness of respondents to non-respondents was tested for both the Adult and Youth surveys.

Adults: No difference between respondents and non-respondents in terms of race/ethnicity, severity of illness (SMI vs. Non-SMI) and geographic location of residence. There were however significant differences in terms of age and Hispanic Origin.

Youth: No difference in respondents and non-respondent in terms of severity of illness (SED vs. Non-SED and geographic location of residence. There were however differences in race/ethnicity (e.g. more Caucasians responded to the survey) and age.

Resources

- Estimate: Staff time, Postage, Reporting Writing etc: \$35,000

References

Israel, G.D. (1992). Sampling the Evidence of Extension Program Impact, Program Evaluation and Organizational Development, IFAS, University of Florida, PEOD-5. October.

McNemar, Q. (1969). Psychological Statistics (Fourth Edition). John Wiley and Sons, New York.

Minium, E. W. (1970). Statistical Reasoning in Psychology and Education. John Wiley and Sons, New York.

Sample Size Calculators and Tables

Creative Research Systems. Sample Size Calculators (www.surveystem.com/sscalc.htm).

Israel, G.D. (1992). Sampling the Evidence of Extension Program Impact, Program Evaluation and Organizational Development, IFAS, University of Florida, PEOD-5. October. (<http://edis.ifas.ufl.edu/PD006>)

The Research Advisors. Sample Size Tables (www.research-advisors.com/tools/SampleSize.htm).