

To: Mental health service provider organizations

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Topic of Request: Mental Health Consumer Satisfaction Surveys: the Importance of Response Rates

Consultation Request: Consumer satisfaction surveys are becoming increasingly common as a measure of quality of mental health services. The Mental Health Statistics Improvement Program (MHSIP) Consumer Satisfaction Survey is now a component of the Uniform Reporting System (URS), required of state mental health authorities receiving Community Mental Health Block Grant Programs (CMHBG). The following information was developed to address questions that have been received by the Evaluation Center@HSRI, from states seeking technical assistance with various aspects of the consumer satisfaction survey process.

Consultation Framework: The CMHBG program, as well as other organizations and programs, are increasingly emphasizing the importance of reliable and valid performance measurement, including consumer satisfaction. As the states endeavor to fulfill these standards typically under conditions of constrained resources most of their questions revolve around issues of how to obtain high quality results at minimal cost. In many cases, questions focused on sample size. In our response, we emphasize that the greatest challenge for mental health consumer surveys, and a more primary problem than sample size, is obtaining an adequate response rate, as the sample size will be irrelevant if the results are biased.

PLANNING FOR HIGHER RESPONSE RATES

How important is sample size?

A great deal of emphasis is placed on the task of calculating an adequate sample size before beginning your study. Yet, while having a sample size that is large enough is certainly an important part of any well-designed study, it is only one part of a much bigger picture. For example, let's say that you have a population of 5,000 consumers that you want to survey about their satisfaction with the services that they received within the past year. Since you're going to use this information to make changes to your health system, you want it to be very reliable and very valid. So, you've decided to use a standard 95% **confidence level** and a **confidence interval** of 2. If you enter this information into any standard **sample size calculator**, it will recommend that your sample be 357 people. What this means is that if you surveyed these 357 consumers and determined that 87% of them were satisfied with the services that they had received in the past year, then you would be able to report that you were "95% certain that between 85 and 89% of consumers were satisfied with the services that they've received in the past year."

However, even under the best real-world conditions, all 357 people will probably not complete your survey. Some of those selected will decide not to respond to your survey because they don't have the time, or the interest, or for a number of other reasons.

The higher the percentage of the 357 people that respond to your survey, the more reliable and valid your survey results will be. And, if only a small number of the 357 people respond to your survey, your results may become completely invalid, despite being a well-designed survey in many other ways. So, while having an adequate sample size is necessary, having a high **response rate** may be even more important.

What is a response rate?

To calculate your response rate, you divide the number of people that actually completed your survey by the number of people the number of people that you wanted to complete your survey (i.e. the sample size, assuming that all of the people in the sample size were eligible for the study and able to be contacted). For example, let's say that 318 people completed your survey. Your response rate would be:

$$89\% = \frac{\text{(people who completed survey)}}{\text{(sample size)}^1} = \frac{(318)}{(357)}$$

A response rate of 89% is excellent, and, assuming that all other parts of the survey were well-designed and implemented, would lead to results that were valid and reliable. However, what if only 104 of the 357 people in the sample responded? This would be a response rate of 29%, which is quite low. Even if all other parts of the survey were well-designed and implemented, this low response rate would still lead to results that were not very valid and not very reliable. The lower the response rate, the higher the danger of **non-response bias**.

What is non-response bias?

Using the example above, let's say you have randomly selected the 357 consumers that you want to survey for your study. This group of people is supposed to serve as an accurate representation, or a snapshot, of the larger group of 5,000 consumers whose experiences you want to know about. But, let's say that only 250 of these consumers actually completed the survey, and that the other 157 chose not to respond. Your response rate is still 70%, meaning most of the people that you tried to survey did agree to participate. Is non-response bias really a problem?

¹ In practice, every person in the sample size will not be eligible for the survey, nor will every person be able to be contacted. This is often grouped with non-response bias, but is more accurately described in different terms, because the person did not have a choice in whether or not they wanted to respond. If the persons were not able to be reached, because they did not have a telephone or a residence, this is often termed **visibility bias**. This type of bias should be corrected before sampling, and will be discussed later.

Well, if these 157 people a) decided not to participate for reasons unrelated to the survey or b) they constitute a “random” sampling of the larger group of 357, then non-response bias would not be considered a problem. The only possible concern would be whether or not 5,000 consumers could be well-represented by a random sample of only 250. This is a concern of response rate and sample size. And, 250 is still an adequate, but not ideal, sample size.

However, as is usually the case in the real world, people decide a) not to participate in a survey for reasons that are related to the survey and/or b) those who respond to the survey have a different demographic makeup and have had different experiences than those who do not respond. For example, several consumers may decide not to respond to the survey because they were very satisfied with the treatment that they received, and don’t feel the need to complete a survey. This would bias the sample to those who were not satisfied with the services that they received. Or, if only 30 consumers who received services in a rural mental health clinic are included in the sample, and half of them do not respond, then only 15 will be included in the completed sample. This number is very small, and you won’t be able to reliably describe the experiences of consumers who received services at the rural mental health clinic. In both cases, the final sample, though adequate in size, would look different than the population from which it was chosen, and so would suffer for non-response bias.

Increasing Response Rates and Reducing Non-Response Bias

While high response rates are usually correlated with low non-response bias, there can be cases of high response rates and high non-response bias. Therefore, in this section, increasing response rates and reducing non-response bias will be treated together as well as separately, planning for high response rates when designing a survey as well as planning to address non-response bias when the data has been collected.

Tailored Elements

On the planning end, attention can be paid to the details as well as to the overall picture of how you administer your survey. This pre-planning may generate higher response rates in the end. In his book *Mail and Internet Surveys: the Tailored Design Method*, Don Dillman describes a number of small, inexpensive things that can be done to the “total package” of the survey in order to make people more likely to respond. In addition, numerous other authors have come up with some standard recommendations for making a more user-friendly survey.

- **Inducements and Incentives** – Don’t let the word “inducement” scare you off, your survey probably already uses one. While the name may sound coercive, an inducement is simply a term used to describe language or presentation that lets consumers know the value of your survey project. For example, an introductory letter that asks a consumer to respond and tells them that their participation is of

great value, because it will help improve the quality of services, is an inducement. Envelopes and letterhead that use official names and logos are also considered inducements, as they may add validity to your study in the eyes of those who are responding.

An incentive, on the other hand, is something of monetary value (as opposed to social value, like an inducement), given to the respondent either before or after the survey is completed. An incentive is not meant to serve as a sort of payment for the respondent's time, but as a thank you for the value that they added to your survey. Keeping this in mind, research has shown that an incentive of small monetary value raises response rates quite a bit more than a large incentive promised after the survey is completed (true in the case of mail and telephone surveys). For example, a three dollar gift card mailed with the survey will generally provide higher response rates than a twenty-five dollar gift card promised later.

- **Design Elements** – When deciding about the design and formatting elements of your survey, keeping consumers in mind at every step can be instrumental in increasing response rates. For mailed surveys, having a survey that looks short and easy to complete is often desirable. Yet, be sure to balance this with the use of font types and sizes that are easy to read. Respondents with poor vision may be hesitant to put on glasses or to squint in order to complete a survey, and will be much more willing to fill out a survey that has reasonably large and readable print. Sans-Serif Fonts (such as Arial and Helvetica) will be easier to read, especially for respondents with learning disabilities such as dyslexia.
 - Including a return envelope with paid postage has been shown to increase response rates. This is likely because a respondent will not have to locate or purchase these things, and may be able to simply drop the completed survey in the mail with minimal effort.
 - Using real stamps, instead of a postage meter or bulk mail stamp, on return envelopes has also been shown to increase response rates. This is likely because people will be less likely to throw away an envelope with a stamp on it than an envelope that looks like business reply mail or junk mail. By this logic, an envelope with your center's logo or distinguishing marks may be equally as likely to be held onto.
 - Using colored paper is sometimes thought to improve response rates to surveys, simply because a yellow or blue sheet may be noticed in a stack of white paper and saved. However, there is no need for colored paper in a survey, especially dark or excessively bright colors that may interfere with readability.
 - Sending out reminder cards or making additional telephone calls is widely accepted as increasing response rates. The largest number of contacts that

has been suggested to improve response rates is five (5), not all in the same medium, all serving different purposes, and all strategically timed. However, this number is prohibitively expensive for most surveys. Thus, the biggest impact of a reminder can be gained through either a) the second contact, or b) a contact made through a different medium. In the first case, a reminder and thank you postcard sent to those who have not yet responded often leading to a flood of new responses. In the second case, calling a respondent that received a mail survey, if telephone numbers are available, or mailing a survey to a respondent that has received a telephone call often leads to a whole new group of respondents.

- **Collecting Demographic Information** – In many cases, survey researchers are reluctant to collect demographic information. However, in cases where response rates are moderate or low, demographic information may provide a way to validate your study results. Non-response bias stems from the fact that responders often differ from non-responders. Thus, if only a small proportion of people respond to a survey, they might not be an accurate representation of the broader population. However, collecting demographic information, ideally from both responders and non-responders, allows for you to compare those who responded to those who did not and also those who responded to the broader population. By collecting these simple descriptive pieces of data, you may be able to prove that the sample that you have is an accurate representation of the larger population.

- **Over Sampling** – When small segments of a population have characteristics that may not be captured in a survey with a simple random sampling design, over sampling is often employed to make sure that these characteristics, and the different service needs or opinions that may accompany them, are captured in the final sample. For example, if 90% of a state's population can be considered urban and only 10% rural, a sample of 500 people would only generate around 50 possible rural participants. If half of these people didn't respond, then there would only be 25 respondents in the final sample. This is quite a small number, and may prove too small to do any statistically meaningful analysis on the needs and opinions of the rural population. In this case, over sampling, or drawing a disproportionately large number of respondents from the rural population, might be an answer to this problem. Although, over sampling does have several possible drawbacks that must be considered.
 - Over sampling involves **stratification** of the population, or dividing it into groups, called **strata**, based on a certain important characteristic. Populations are often stratified by race/ethnicity, income, residence, and, in multi-site studies, by site. However, stratification can increase the overall bias of a study, especially if the reason for stratification is not completely clear.

- In over sampling, since a disproportionately large number of people will be drawn from smaller strata (e.g. twice as many respondents living in rural areas), adjustments must be made to the population after the sample is collected. Different **weights** have to be applied to respondents in each of the different strata, so that the overall sample still reflects the characteristics of the broader population from which it was drawn. In order to do this, a qualified statistician will be needed to perform the analysis of your results.
 - Over sampling can be costly. Since the groups that will be over sampled compose a relatively small proportion of the population, locating and getting survey responses from a large number may use quite a bit in extra resources.
 - Over sampling will not combat the bias caused by having a low response rate. If surveys are sent to twice as many respondents who live in rural areas, no benefit will be added to the study if only 25% of these respond. In this case, resources may actually be lost, since the process of over sampling is costly, and no validity was gained by receiving a significantly large number of surveys from the desired group.
- **Quality Contact Information** – Having quality contact information is imperative in gaining high response rates for your survey. If telephone numbers and addresses for your population are old and possibly outdated, missing, or otherwise questionable or incomplete, getting a high response rate is virtually impossible. Surveys that are sent to an incorrect address or calls that are made to incorrect telephone numbers can be thought of as “automatic non-responses.” After a sample has already been drawn, finding correct contact information for these people is time consuming and costly. Where possible, planning on the front end of the project may save time and other resources, and will increase response rates.
 - **The Challenge of +Limited Resources** – Designing your survey will always be a balancing act. You will be trying to get the most valid, accurate, and reliable results while working with a tight budget and a limited number of staff. This having been said, drawing what might be considered a “large” sample size can be costly, and is often unnecessary. However, high response rates can often be achieved at little expense, and are almost always necessary. So, when attempting to achieve a balance in your study, planning for higher response rates may be a large part of the solution.

Resources and References *(listed in order of relevance)*

Web Resources

[University of Illinois at Chicago, Survey Research Laboratory](#)

A large collection of internet resources related to all aspects of survey research, including sample size calculators and online data editing support.

[University of Calgary - Survey Research Bibliography](#)

A list of books on the subject of survey research compiled by Alan Dennis at the University of Georgia. The books offer general but solid references for all aspects of survey research

[Environmental Protection Agency - Sampling Frame Graphic](#)

A graphic illustration of sampling terminology that includes clear written definitions of key terms.

[SPSS - Determining Survey Sample Size](#)

[SPSS - Finite Population Correction](#)

Two articles that illustrate what to consider when calculating sample size and how to correct for a finite, or small, population.

[Custom Insight - Random Sample Calculator](#)

A calculator that provides quick estimates of sample size for those who are planning a study or those who have already collected data.

Books

Dillman, D. (1999, 2nd ed.) *Mail and internet surveys: The tailored design method*. Indianapolis, IN: Wiley.

An update on Dillman's classic "Total Design Method," which was appropriate for regular mail and phone surveys, this book provides a look at how each survey element should be tailored to the target audience in order to increase response rates and get the highest quality information.

Aday, L. (1996) *Designing and conducting health surveys*. San Francisco: Jossey-Bass. A thorough text that covers every aspect of survey research, including a solid and accessible primer on sampling and addressing non-response bias.

Groves, R. M., Dillman, D. A., Eltinge, J. L., Little, R. J. (2001, Eds.) *Survey nonresponse (Wiley series in survey methodology)*. Indianapolis, IN: Wiley.

A series of articles on non-response, including how researchers can increase response rates and discussions on the many ways in which it biases results. Fairly technical, but possibly the only primer on the subject.

Conclusion: We hope this memo responds to your specific problem. If not or you are in need or more assistance please feel free to contact either Shekinah Elmore, Email: selmore@hsri.org, Phone: 617-876-0426 x2502) or Dow Wieman E-mail: dwieman@hsri.org, Phone: 617-876-0426 x2503.

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