



Professional Data Analysts, Inc. is an independent evaluation and statistical consulting firm specializing in the fields of public health and the behavioral and medical sciences.

INSIDE THIS ISSUE:

Evaluation helps assess sustainability in unique FASD initiative 2

Spotlight on PDA's Director of Evaluation, Anne Betzner, M.A. 4

Professional Data Analysts Evaluation Exchange

A quarterly newsletter highlighting issues of interest to evaluations of tobacco cessation and public health initiatives

Obtain accurate results and reduce costs: Put your confidence in statistical techniques

Social service providers are often caught in a bind. Their primary goal is to provide the highest quality services to the greatest number of participants. Many want to evaluate their programs to ensure that their clients' satisfaction is high and to assess their outcomes. But financially it is difficult or impossible to reach all program participants for evaluation. One way that organizations can cut costs is to evaluate programming using a sample, or subset, of participants.

While sampling saves money, is it good practice? If used correctly, sampling participants and reporting results using confidence intervals contributes to a robust evaluation design. For example, a tobacco cessation organization may want to know the quit rate among its program participants. But staff might ask: how confident can we be that our quit rates would be the same if we surveyed all of our participants versus just a sample of them? And, how do I know that our sample will yield a quit rate that closely approximates the "true" quit rate?

First, the bad news is that each sample will likely give a slightly different result, and in a very small number of cases, you might see an extreme result

much higher or lower than the "true" quit rate. The good news is that confidence intervals, a statistical calculation, allows you to be 95% confident that the quit rate estimate from your sample is an accurate estimate for all program participants within some range, even if the rate can't be narrowed down to a single figure.

For example, a quit rate of 25% may have a confidence interval of plus or minus 5%. This means that you can be 95% confident the quit rate will fall between 20% and 30% ($25\% - 5\% = 20\%$ and $25\% + 5\% = 30\%$). To say it in another way, **in 95 out of 100 samples in which the same number of participants is randomly draw from a list of eligible participants, the quit rate would fall between 20% and 30%**. This range in rates takes into consideration errors due to chance, that is, fluctuations in drawing one sample randomly from a large pool of participants.

Researchers and practitioners often overlook this essential component of confidence intervals—that the interval is only accurate if a

(Continued on page 3)

Evaluation helps assess sustainability in unique FASD initiative

PDA's Newest Research Publication!

PDA co-authored an article with five other professionals:

Schillo, B., Wendling, A., Saul, J., Luxenberg, MG, Lachter, R., Christenson, M., & An, LC. "Expanding access to nicotine replacement therapy through Minnesota's QUITLINE Partnership", Tobacco Control, 1 December 2007, Vol. 16, No. Suppl_1.

PDA values a collaborative approach and understands the importance of designing evaluations and analyses that are tailored to the needs of our clients. We are committed to objectively gather, analyze and interpret information and to produce innovative, cost-effective solutions.



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PDA has been working with the Minnesota Organization on Fetal Alcohol Syndrome (MOFAS) for the past three years to conduct a process and outcome evaluation of its innovative Statewide Community Grantee Initiative. The six projects funded by this initiative provide a range of FASD (Fetal Alcohol Spectrum Disorders) prevention and intervention programming throughout Minnesota. One of the more interesting aspects of this initiative is its emphasis on creating sustainable networks of professionals and resources that will support FASD efforts beyond the period that MOFAS funding is available.



PDA has designed an evaluation that helps summarize grantee progress toward meeting the goals of each grant and of the grant initiative as a whole. The main components of the evaluation are: grantee quarterly reports, quarterly feedback from MOFAS, and annual interviews with grantees and other professionals.

Through quarterly reports grantees are able to update MOFAS on progress they have made toward meeting their work plan goals. These reports also provide a way for grantees to chronicle the important work that is being done in their region to address FASD.

In turn, MOFAS can use this information to make critical assessments of grantee progress and provide each grantee with timely feedback geared toward increasing the likelihood that grantee goals and the goals of the grant initiative as a whole will be achieved.

By conducting annual interviews with grantees and other professionals involved in the collaborative work of the grant, PDA is able to obtain additional information about: FASD-related work occurring in each community, how professionals are altering their work practices to better address FASD and the extent to which additional resources are being leveraged for FASD prevention and intervention in each region—all of which are important components of building sustainability.

We are hopeful that the information gathered as part of this evaluation will help MOFAS and its stakeholders discern the extent to which economies of scale are being created for FASD prevention and intervention and will help provide valuable documentation of processes used to develop sustainable FASD regional collaborations.

For more information about MOFAS go to:

www.mofas.org

Put your confidence in statistical techniques

(Continued from page 1)

sample is drawn randomly. Some examples of non-random samples where confidence intervals are not accurate include sampling participants who enroll during a promotional period or participants who enroll between 10am and 1pm. Errors created by these non-random sampling methods cannot be accounted for statistically and should, therefore, be avoided whenever possible.

However, while randomness is a priority, confidence intervals depend largely on sample size.

The general rule being: the larger the sample size, the smaller the confidence interval. For example, a sample size of 100 results in a confidence interval of 10%, while a sample size of 1,000 results in a 3% confidence interval.

The implications of sampling and confidence intervals are substantial, as this example illustrates. Consider a telephone quitline that serves 2,000 people annually. An exhaustive survey could result

in 2,000 completed surveys, while a sampled survey could result in 400 completed surveys. You would have 100% confidence in the rate produced by the exhaustive survey, and 95% confidence that the quit rate for the sample surveyed would be plus or minus 5%. Assuming the cost for each completed survey is \$25, the survey cost for the exhaustive survey would be \$50,000, as compared to the \$10,000 cost of the sampled survey. **Sampling produces a substantial cost savings in exchange for 95% confidence that the true rate lies within a range of quit rate values.**

So, one way to make the most of evaluation dollars is to select a sample size that is within your evaluation budget, and draw a random sample of participants to take part in the evaluation. Quit rates should always be reported with the confidence intervals. For more information on how sampling and confidence intervals may be used in your program, please contact PDA. ■



Exciting new projects for PDA!

We are excited to begin work on the following new projects:

In a competitive bid process, PDA was selected to evaluate the Florida Quit-For-Life Line and Media Campaign.

Hennepin County has awarded PDA a second contract to evaluate a unique collaboration between Children's Mental Health and the Juvenile Court which screens youth for FASD and provides supportive services. The goal is to prevent recidivism and help youth succeed.

PDA has begun work with St. Paul Regional Water Services to assess customer satisfaction and gather customer feedback about water services.

Coming next quarter

Response rates for quitline telephone evaluation surveys across several states

Recent PDA Presentations:

The work of PDA staff members was recently presented at:

2008 Society for Research on Nicotine and Tobacco Conference (February 27th– March 1st):

The impact of local smoking restrictions on relapse among smokers trying to quit in Minnesota.

Betzner, A., Luxenberg, M., Saul, J., and Schillo, B., Christenson, M.

Understanding relapse in a work site cessation program. Schillo, B., **Betzner, A., Wendling, A.,**

Rainey, J., Saul, J., and Leonard, T.

Tenth Annual Minnesota Health Services Research Conference (March 7th):

Evaluating Internet-based Tobacco Cessation Interventions: A Method for Obtaining a High Response Rate. Sharrilyn Evered, PhD, Jessie E. Saul, PhD, **Michael Luxenberg, PhD,** and **Annette**

Kavanaugh, MS; Lawrence An, MD

Please contact us for information regarding these presentation topics!

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PDA Spotlight on Anne Betzner, M.A.

Anne Betzner, PDA's Director of Evaluation, is a Michigan native who came to Minnesota in 1994 to study for her Master's degree in Public Affairs at the University of Minnesota. Her wide ranging interest in social justice and public health led her to volunteer to prevent sexual violence. When she came to work for PDA in 1995, the marriage of her skills, sensibility, and background to the firm's existing expertise in statistics was the perfect combination. Since that time, Anne has helped lead the firm to national prominence conducting evaluations in the areas of tobacco cessation, Fetal Alcohol Spectrum Disorders, and teen pregnancy prevention. She loves the

challenge of identifying the types of information that will be most useful for clients.

In her "spare time," Anne is completing a PhD in Evaluation from the University of Minnesota and the topic of her dissertation is the use of mixed methods in evaluating the impact of local smoking restrictions on QUITPLAN[®] Services participants. She also recently married the perfect man for her, and has traveled to many parts of the world. Her favorites so far are a three-way tie between Iceland, Malta and Paris. PDA looks forward to successfully managing the changes and challenges in the field of evaluation with Anne at the helm. ■