



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.

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Professional Data Analysts Evaluation Exchange

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

Demystifying quit rates: The impact of who to include in your study on outcomes

The old joke goes ... "A mathematician will add 2 plus 2 and get exactly 4. A physicist will say 2 plus 2 is approximately but not certainly 4. But a statistician will smile and say that 2 plus 2 is whatever you want it to be ..."

Fortunately, the field of tobacco cessation and organizations like the North American Quitline Consortium (NAQC) are building agreement on methods for measuring quit rates. However, agreement on other elements of study design is less developed. A prime example of this is sampling strategy, or the process of systematically selecting a subset of participants to be included in a study. Program staff should examine the sampling strategies used in outcome studies to better understand what the resulting rates mean and how to use them.

Selecting participants by program intensity

Sampling criteria that are often considered include enrollment date, demographics (gender, race, etc.), and program-level variables (site, counselor, etc.). Program intensity is a sampling criterion that is often overlooked.

If a quitline offers several different interventions, you must decide which will be included in the sample. If a quitline offers an intensive multi-call program with free stop-smoking medications, as well as a single 10-minute session to answer questions about quitting, should both be included in the sample? This depends on the purpose and scope of the study. However, it is important to note that including participants enrolled in the brief intervention would result in a more conservative quit rate because evidence suggests that those who receive less intervention are less likely to quit.

A second facet of program intensity is the **degree to which a participant completes the intervention.** Some participants don't complete intake before leaving the program or never speak with a counselor. Likewise, including these participants would result in a more conservative quit rate because they are less likely to have quit. On the other end of the spectrum, including only participants who completed two counseling sessions, for example, would result in more liberal or

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Evaluation Helps to Shape Innovative Community Wellness Project

PDA's Newest Research Publication!

PDA co-authored an article with five other professionals in the [Journal of Medical Internet Research](http://www.jmir.org/2007/3/e28).

See "Impact of a Statewide Internet-Based Tobacco Cessation Intervention" at www.jmir.org/2007/3/e28

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



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PDA recently worked with the Blue Cross and Blue Shield of Minnesota Center for Prevention (Blue Cross) to evaluate an innovative pilot currently underway in the Twin Cities. The project aims to help people at high risk for developing chronic diseases, such as diabetes and cardiovascular disease. Most of this project's clients are underserved by established social service organizations and are primarily low-income African-Americans.

The program's main innovation is using specially trained laypersons in the community called community health workers (CHWs) to counsel clients. These



CHWs are paired up with high risk families and individuals to discuss important topics like tobacco cessation, physical activity and fruit and vegetable consumption that the medical community may not have the time to address. They often also conduct health assessments, and help clients obtain healthy foods and stable housing.

By using CHWs in this way, the service agency is creatively testing some of the newest and most exciting ideas in the provision of health and human services. Although this type of intervention has previously been described in the literature as a promising strategy, it has never been adequately evaluated.

PDA helped assess the feasibility of this pilot project and build the data infrastructure necessary for a more rigorous outcome evaluation. Our evaluation assessed feedback from the program staff and participants, analyzed quantitative program data to describe how the intervention was implemented, and provided consultation on database development.

PDA, Blue Cross and the service agency together worked to maximize the usefulness of the evaluation.

Based on evaluation findings, Blue Cross and the service agency reassessed their program model and documentation methods. PDA also conducted a thorough literature review and crafted three logic models that describe how the program is

intended to create change in the lives of the participants, as well as priorities for evaluation.

We are happy to have been a part of this pioneering project and are proud of how our evaluation enhanced our clients' understanding of the program. We look forward to following the progress of this unique and innovative project and wish them continued success.

For more information on community health workers, visit the Minnesota International Health Volunteers website.

<http://www.mihv.nonprofitoffice.com>

Demystifying quit rates

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optimistic quit rates.

Choosing who to include in quit rates

Once the sample has been drawn and data is collected, program staff must decide who to include in the quit rates. A quit rate can include either the entire sample or only those who responded to the survey. Unfortunately, many participants who initially consent to take part in evaluations are later unreachable or refuse to participate when called for follow-up. Whether or not these participants are included in quit rate calculations can greatly influence the estimated quit rate and determine how conservative it is.

With the **intention to treat rate**, everyone in the survey sample is included in the quit rate, even those who did not respond to the survey. This is because the program intended to treat everyone, regardless of response status. However, no information is available on non-responders' smoking status at follow-up. But because several studies

suggest that non-responders are more likely than responders to be using tobacco at follow-up, the intention to treat rate assumes all non-responders are still smoking. Because of this conservative assumption, this rate is considered to be the lower bound on the "true" quit rate.

A **completer rate** includes only those who completed the follow-up survey because this is the only group that reported their smoking status. Unfortunately, those who complete surveys are more likely to have quit than those who do not, so this rate may be somewhat inflated.

Best to report a range

Neither rate is "better" than the other. Calculating both completer and intention to treat rates provides an upper and lower bound on the "true" quit rate and provides a more complete picture of a cessation program's success.



Key Concepts:

A quit rate can be calculated based on either the entire sample or only those who responded to the survey.

Intention to treat (ITT) rate: Everyone in the survey sample is included in the quit rate, even those who did not respond to the survey.

Completer Rate: Includes only those who completed the follow-up survey.

Since completers are more likely to have quit, this is the more liberal rate.

PDA Presentation on Improving Response Rates for Quitline Evaluations at National Conference on Tobacco or Health

Julie Rainey and Marcy Huggins will be presenters at the 2007 National Conference on Tobacco or Health being held in Minneapolis at the end of October. If you will be attending, here are the details:

Session: EVAL-109.

Presentation: Strategies for Evaluating Cessation Programs – Improving Response Rates

Date: Thursday, October 25, 2007

Session Start Time: 3:30 PM

Location: Room 200 G, Minneapolis Convention Center

Coming next quarter

The statistics of tobacco research, including confidence intervals.



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PDA Spotlight on Michael Luxenberg, PhD

Dr. Michael Luxenberg is the president and founder of Professional Data Analysts, Inc (PDA). Originally from New York, he came to Minneapolis in 1976 to enroll in the University of Minnesota's doctoral program in psychology specializing in behavioral genetics. There he met his wife-to-be, Dr. Joan Garfield, now a professor at the University of Minnesota in Educational Psychology.

Michael founded PDA in 1984 as a one-person firm specializing in medical research studies. PDA's first employees worked in his basement in South Minneapolis.

Although the office has moved and the basement has seen extensive remodeling, the old PDA front door plaque is still a valued memento.

PDA now has office space for 12 people in the historic St. Anthony Main building. The Stone Arch Park and Bridge over the Mississippi River to downtown Minneapolis are just outside our door. Michael partly chose this space to give him and his employees an opportunity to walk / exercise as part of the workday. It's no surprise that all six of PDA's full-time employees have been with the firm for more than 7 years.

Michael's favorite tasks include performing statistical analyses using SPSS and designing web-based reporting systems. Just back from a visit abroad that included a hiking trip in Western Ireland, Michael is looking forward to this year's new projects and challenges at PDA.

