Quick Reference Handout 10.2: Triangulating Data

What is triangulation of data?

Triangulation is the process of comparing data on the same topic from two or more sources or research studies to see whether they report similar findings ("cross checking" or "cross-validating" the data), and to increase understanding of a topic. It can go beyond comparing findings to studying a situation or topic from multiple perspectives in order to understand it better.

Researchers describe **four types of triangulation**:

1. **Data triangulation,** which involves use of more than one source of information, such as a needs assessment survey and the EMA/TGA's client-level database.

2. **Methodological triangulation,** which involves using multiple data-gathering methods, such as a survey, focus groups, and key informant interviews.

3. **Investigator triangulation,** which involves use of more than one researcher or interviewer, with different backgrounds or viewpoints. This helps avoid bias from having only one person's perspective as data are collected and reviewed.

4. **Theory triangulation,** which involves considering more than one theory to explain or under-stand the same data and can help avoid bias in reaching conclusions. Having diverse PC/PB and committee membership can be very helpful, since members from different backgrounds are likely to come with different theories or assumptions.

How can a PC/PB use triangulation?

Planning Councils/Planning Bodies (PC/PBs) can use triangulation to better understand existing data, to guide additional data analysis, or to obtain additional data, in order to expand their understanding and make sound decisions about services and use of funds. The example below shows how one PC/PB uses triangulation to better inform its decisions and activities.

Step 1: Comparing data from different sources

The Needs Assessment Committee compares data from its recent people living with HIV (PLWH) survey with data from the EMA or TGA's HIV care continuum and epi profile. The PC/PB wants to better understand the service needs and barriers of young African American men who have sex with men (MSM), aged 18-24. It made a particular effort during its recent PLWH survey to identify and include this subpopulation and was able to obtain surveys from 47 young African American MSM under the age of 25 who live in various parts of the service area. Findings indicate that their retention in care, adherence to medications, and viral suppression are all low compared to most other groups of PLWH. The survey included a list of barriers, and they most often listed the following: (1) wasn't comfortable with the service provider, (2) didn't want people to know my HIV status, and (3) don't have symptoms so don't feel the need for care. Those living outside the central city often identified lack of transportation as a barrier to care. They didn't indicate many service gaps, but some indicated that available mental health services did not meet their needs.

The Needs Assessment Committee compared these findings to data from the EMA/TGA's client-level data base, which indicate that last year, this population had lower rates of retention and viral suppression than other PLWH groups. They were prescribed antiretroviral medications at a similar rate to other populations, but adherence data were not available. Client data also indicated that overall, young people aged 13-24 had the lowest rates of retention and viral suppression of any age group. The Needs Assessment Committee also reviewed the latest epidemiologic profile. It found that while the total number of new HIV cases is decreasing, young MSM, especially young African American MSM, have been increasing as a proportion of people newly diagnosed with HIV over the past several years.

Step 2: Conducting additional studies or analyses, using different approaches and obtaining different types of data

The Committee obtains additional data to increase its understanding. The Needs Assessment Committee consults with the Care Strategy Committee, and decides it needs more in-depth information about the service needs and barriers for young African American MSM. It implements three focus groups in different parts of the EMA or TGA, which together involve 32 PLWH, and it convenes an "expert panel" of 7 case managers, other provider staff, and a university researcher. The main findings of the focus groups are consistent with the survey and client data findings but add context and detail. Findings from all three focus groups indicate a need for caregivers who better understand what it means to be in their situation – including more staff who look like them and are relatively young. In the suburban focus groups, stigma and isolation are major concerns, and several people say they would prefer to receive services from a provider expert in serving their population, but such providers are located in the central city, and the lack of transportation makes that very difficult. Several young PLWH who were born with HIV say that they received excellent services until they turned 18 and "aged out" of a specialized adolescent program and have not found the right "fit" in a program since that time. Many young people say they need help in obtaining job training and employment. When unemployed, they get depressed and are less likely to keep appointments and take their medications and more likely to get involved with drugs or the criminal justice system. The "expert panel" provides similar input, and strongly recommends helping people access a youth-friendly service provider and/or establishing similar capacity outside the central city. The panel suggests use of a community health worker model of navigation assistance for this population and support associated with medical case management. It also indicates a need for linkage with job training, for innovative use of support groups and more attention to mental health needs.

Step 3: Using the findings from triangulation to make sound decisions that improve services

The PC/PB uses what it has learned. The Care Strategy Committee takes responsibility for working with the recipient on an improved service model, to lead to a recommended directive and increased allocations to better target and serve this population. The recipient works with subrecipients (service providers) to explore the issue from a Clinical Quality Management (CQM) perspective, which leads to an assessment of retention and adherence among young PLWH and a Quality Improvement project to increase follow up, retention, and adherence.

11 Tips for Triangulating Data

1. **Think carefully about what you want to learn when designing needs assessment activities.** Have in mind specific needs assessment topics and key information to obtain—usually about specific services or service needs and gaps, and about specific populations of PLWH and their service needs, experiences and barriers. This will help ensure appropriate questions and targeting. You can't triangulate data you haven't collected!

2. **Review findings from each needs assessment activity to identify the main findings** related to key questions and issues.

3. **Look for unexpected findings.** Sometimes the most important information is unexpected.

4. **Compare findings from different sources that address some of the same issues.** For example, compare PLWH survey findings with findings of focus groups or special studies, or compare consumers' perceptions of service needs and gaps with service providers' perceptions.

5. **Consider the quality of the data for each study or needs assessment activity.** Consider number of people included, how representative they are of the overall population or subpopulation, and quality of the methods and process used.

6. **If you use a multi-year needs assessment plan, use results from one year to help design needs assessment activities the following year.** Ask the same questions of different groups, or ask questions that provide additional information about the same issue.

7. **Identify findings that can be compared or enhanced with other types of data.** For example, look at epidemiologic data together with client utilization and client characteristics data and performance or outcomes data from the client-level database or CQM findings.

8. **Be aware of differences in questions or definitions that may affect results.** For example, different data sources may use different age breakdowns. Direct comparisons are difficult when questions in structured surveys or interviews include similar but not identical response options (for example, "Do you have AIDS?" versus "Have you ever had a CD4 count below 200?", or "Has housing been a problem for you over the past year?" versus "Are you currently homeless or living in temporary or unstable housing?").

9. **Look for consistent findings and multiple perspectives from different studies or sources.** Sometimes numerical findings become more understandable through reviewing qualitative data. For example, one PLWH survey found that a large proportion of immigrants and refugees living in suburban areas of the EMA reported a high level of satisfaction with services but many missed appointments. A key informant session with providers confirmed the missed appointments, but also explained that many of these PLWH were extremely concerned about confidentiality and stigma and would not come into a clinic if they knew someone else from their community was present. They were uncomfortable with interpreters from the community since they felt their HIV status might become known. And they were afraid that receiving care from a publicly funded clinic might affect their ability to become citizens.

10. **Ask for clarification of findings with PC/PB and committee members with appropriate experience, and supplement quantitative data with qualitative perspectives from the community.** A diverse consumer committee or caucus can be a useful and low-cost source of diverse perspectives to help explain survey data. Consumer or provider town halls or roundtables can also provide valuable context.

11. **In PC/PB decision making, pay special attention to similar findings that are reported from several different studies or sources.** Give greater weight to studies that appear well designed and implemented and involved larger and more representative samples. By both assessing and triangulating data, the PC/PB can make the best use of many types of data from multiple sources.

For More Information

Jayme Hoffman, "Triangulation: Raise our Probability of Making Good Decisions," September 20, 2017. Available online at https://medium.com/@jhoff/triangulation-raise-your-probability-of-making-good-decisions-687e92176222.

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"Data Triangulation: How the Triangulation of Data Strengthens Your Research," undated. Available online at http://www.write.com/writing-guides/research-writing/research-process/data-triangulation-how-the-triangulation-of-data-strengthens-your-research/.