

Center for Workers with Disabilities

Understanding Program Evaluations: Taking the pain out of a necessary evil

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Our agenda for today

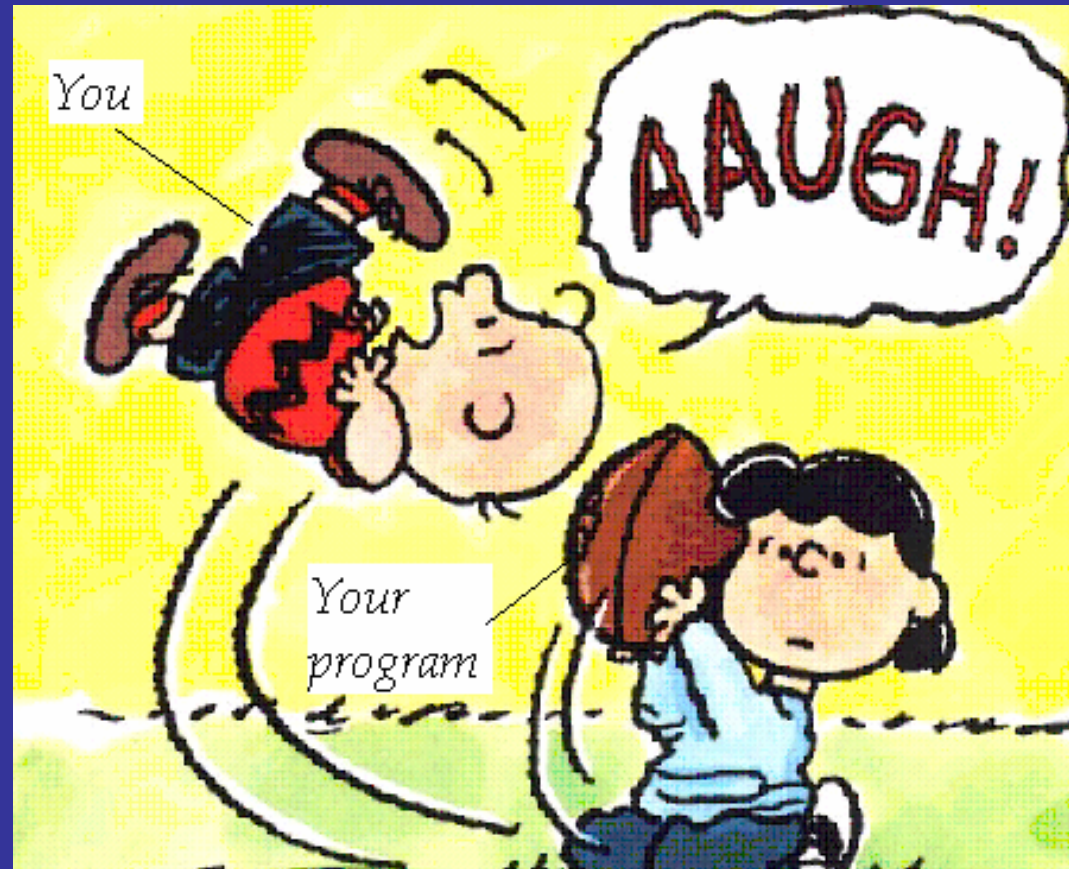
- Why do a program evaluation?
- What is a program evaluation?
- What is the big picture logic of a program evaluation?
- Process vs. outcome evaluations
- Determining causation
- Common research methods used for program evaluations
- Measuring outcomes or the tools for data collection
- Data analysis-knowing your limits
- Some program evaluation examples
- Discussion



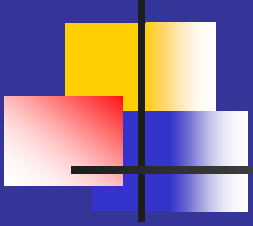
Why do a program evaluation?

- Helps to justify or market your program.
- If on-going, it can help drive your management decisions.
- Can help you better serve the customer and the taxpayer.

These days if you don't prove
your value you lose your program



Ultimate goals of a good a program evaluation



- Gives you information to help you market your program and the work you are doing.



- Good program evaluations give you information that will appeal to all your different constituencies (i.e. CMS, Governor, legislature, consumers, your boss, etc.).



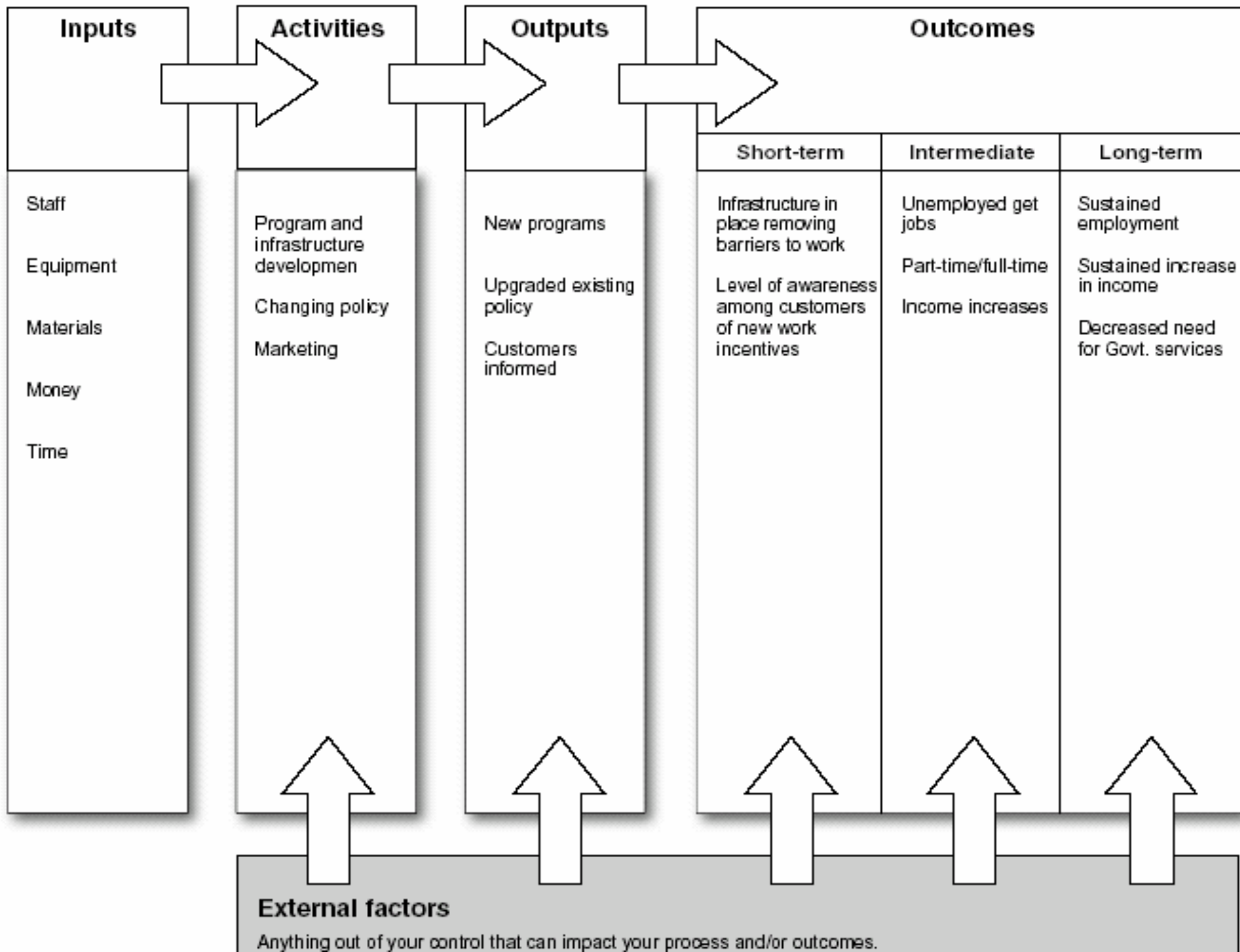
What is a program evaluation?

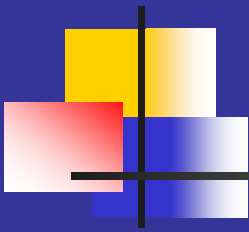
- A program evaluation is a systematic collection of verifiable information about a program, or some aspect of a program, that permits one to judge the merits of the program.



Logic of a program evaluation

- First-Define the components of your program.
- Second-Determine the outputs of your program (e.g. a service, cash benefit, information, etc.).
- Third-Define the desired goals or outcomes and how can they be measured.
- Fourth-What other factors could influence the outcomes, but are out of your control (i.e. educational status, gender, severity of disability, participation in other programs, etc.)?





Outcome(s) versus process evaluations

- Outcome evaluations merely examine if your program has achieved the results or goals it was set out to do.
- Process evaluations explore specially how your program has achieved its goals.



Determining causation

- The outcomes part of an evaluation.
- Does your program cause the outcomes you are looking for?
- A step beyond just demonstrating an association or correlation.



Common research methods used for program evaluations

- Randomized controlled trial
- Case-control or matched samples
- Pre-post or before-after
- Retrospective survey



Randomized controlled trial

- Persons asking to be in the program are randomly picked so that half are in the program (intervention group) and half are wait-listed (the controls).
- Intervention group is then compared to controls on outcomes.



Pros and Cons of the randomized controlled trial

Pros:

- Most valid method for determining causation.
- Analyses are straightforward comparisons between the intervention and control groups.

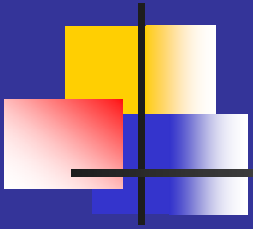
Cons:

- Restricting care may be unethical.
- Wait-lists are an administrative nightmare over a period of time.
- Must plan ahead.

Case-control or matched samples

- Collecting data on a similar group to those in your program as a control group.
- “Similar” is defined by characteristics related to eligibility for your program and its outcomes.

Pros and Cons of the case-control design



Pros:

- Do not have to restrict care or services for anyone who wants it.
- Less complex to manage.

Cons:

- May fail to match appropriately.
- Persons seeking out program may differ in way you cannot control for.



Pre-post or before-after

- Measure your program/intervention group on outcomes before and after they have entered the program.

Pros:

- Very simple design.

Cons:

- Does not control for anything, therefore cannot determine causation.
- If done longitudinally-time and resource intensive.



Retrospective survey

- Survey customers after they have been in the program.
- Ask their opinion if the program lead to any outcomes.
- Weakest method. Should only do if there is no other alternative or in combination with other methods.



Sampling a population

- Collecting data on an entire population is often not possible due to time and cost considerations (administrative data being the common exception).
- Sampling is collecting data from a small percentage of a population that is expected to be representative of the population as a whole.



Difficulties with sampling

How many people do you sample?

- Depends on the analyses you want to do.
- Requires a power analysis.

How do you ensure that your sample is representative of the population?

- Use random sampling or consult a statistician
- concerning more complex sampling techniques.



Common sampling techniques

Probability (best methods)

- simple random sampling
- stratified sampling
- cluster sampling

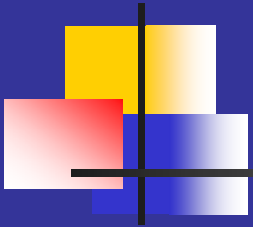
Non-probability (avoid if possible)

- convenience sampling
- judgment sampling
- snowball sampling

Measuring your outcomes or processes

- Administrative or clinical records such as information collected during eligibility determinations, billing records, caseworker notes, employment records, primary care, hospital and MCO medical records, etc.
- Direct observation.
- Surveys.
- Open-ended discussions (focus groups and non-structured interviews).

Administrative or clinical records



Pros:

- Often can get full population data.
- Longitudinal data.
- Usually more independent and objective (not subject to lying or recall bias).

Cons:

- May not include information you are interested in.
- Data may not be accessible without significant IT resources.
- Data collection and data entry sometimes are not standardized or accurate.



Direct observation

- Watching actions or behaviors and recording them.
- Taking objective measurements such as a person's weight.

Pros:

- Usually the most objective provided that there are no recording errors, instruments are calibrated and there are no problems with your observer.

Cons:

- Resource intensive.
- Heavy participant burden and privacy issues.



Types of Surveys

- Cross-sectional surveys. Collect information from the sample at the same point time.
- Longitudinal surveys. Information is collected at different points in time in order to study changes in time.

The value of surveys

- Get lots of structured information from lots of people.
- Quick and relatively cheap.
- Easy to simplify and standardize data collection.
- Can easily fit data to statistical procedures.
- Find out about things that can not be observed like thoughts, emotions, intentions, & attitudes.

Potential Problems with Surveys

- Did you ask the right questions in the right way?
- Did the respondents tell you the truth, the whole truth, and nothing but the truth?
- Structure causes a loss of data richness. You did not get the whole story.
- Can get boring real quick and then the respondent starts answering questions without thinking about the answer or skips them altogether.

Methods of survey administration

- Face-to-face interview



- Telephone interview



- Self-report (“paper and pencil” or computer-assisted)



Pros and cons of the methods of survey administration

- Face-to-face-allows participants to ask questions about the questions and for the interviewer to observe things, but this method is expensive and subject to interviewer bias.
- Phone is the same, as above except for the observation part. People may not answer the phone.
- Self-report is usually cheap (unless mailed) and no interviewer bias, but the participant may not understand a question and will have no one to ask. Also there is no opportunity to observe.

Developing a survey

Open-ended questions

- 
- Participant has the freedom to answer a question in his/her own words.

Pros:

- Obtain unanticipated answers.
- May better reflect respondents thoughts\beliefs.
- Appropriate when list of possible answers is excessive.

Cons:

- Need to code data to analyze it.
- Participant may begin to rant.

Developing a survey forced format questions

- You pick the response categories or format.

Pros:

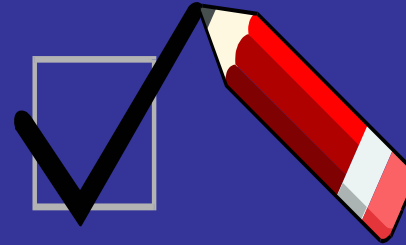
- Answers are standardized.
- Data is set up for easy analysis.
- Participant can answer quickly.

Cons:

- May not get the big picture.
- May have left out a potential answer.

Types of forced format questions

- Checklists



What is your gender?

- Dichotomous

___ Male ___ Female

Types of forced format questions (cont.)

- Ranked-responder must place items in order of importance or value.
- Likert Scale

Having control over my personal care aide is very important.

| | | | | |
|----------------------|----------|-------------------------------|-------|-------------------|
| Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |
| _____ | _____ | _____ | _____ | _____ |

- Semantic Differential Scale

Please indicate your satisfaction with your Medicaid services.

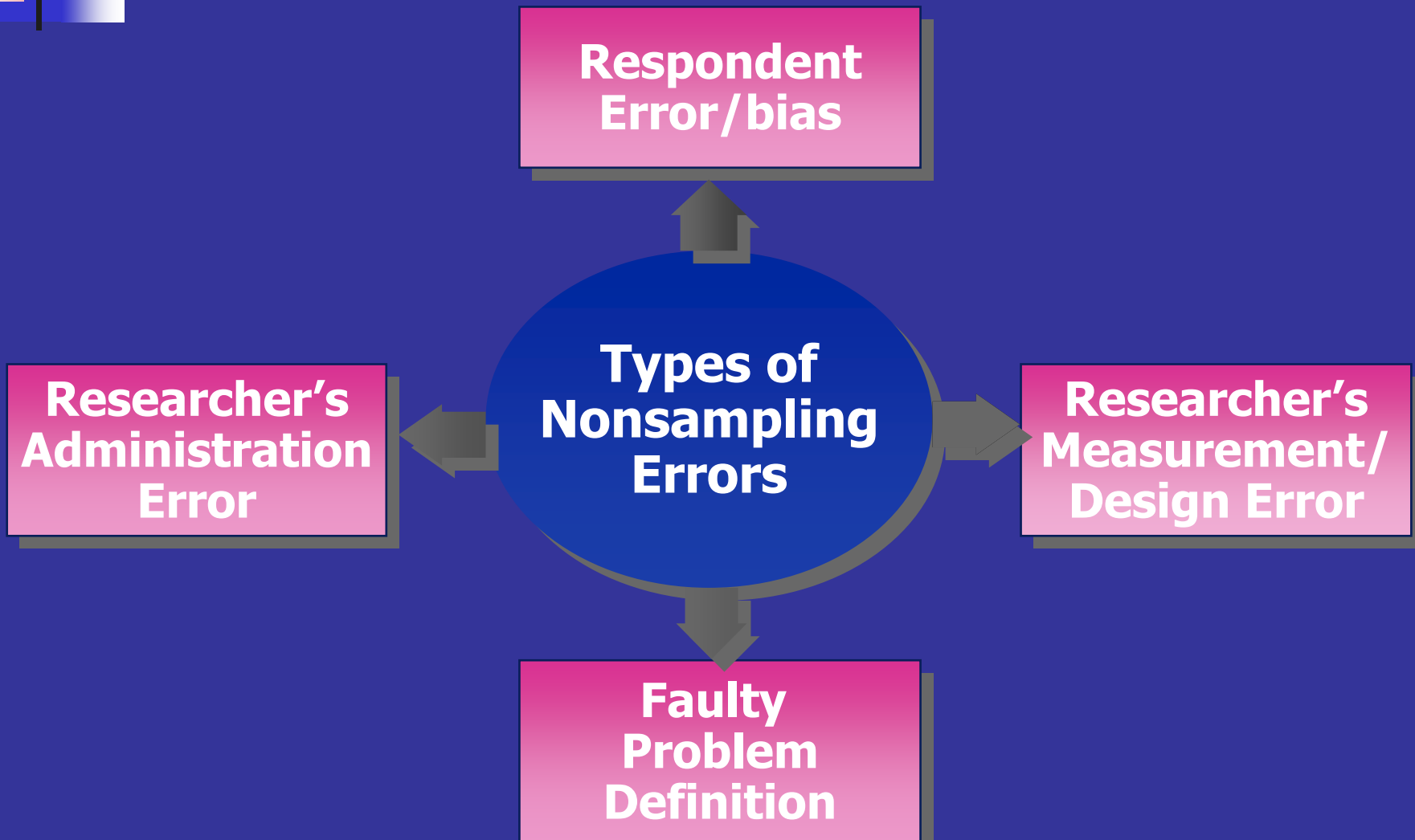
I'm very satisfied _____ I'm not satisfied at all



Open-ended discussions

- Good for getting someone's life story.
- Usually not valid. Subject to a number of biases including unrepresentative samples.
- Can be very expensive.

Nonsampling Errors



Systematic Sample Design Error

- Frame Error: The list from which you draw your sample is not what you think it is—some on it don't belong and/or some who belong are not on it.
- Population Specification Error: You left people out of the study.
- Selection Error: You include or exclude people in the sample so that it is not random or representative.

Systematic Measurement Error



- The data indicates something other than the truth because the questions asked the wrong thing, were misunderstood or left something key out.
- Systematic over or under estimation.
 - Interviewer bias—interviewer influences answers.
 - Processing error—data input or coding problems.
 - Non-response bias—Rather than lying the respondent purposefully doesn't answer the question.
 - Response bias—a failure to tell the truth.
 - Recall bias-Respondent can't remember accurately.



Resources

Some good example surveys:

<http://www.cdc.gov/brfss/>

<http://www.cdc.gov/nchs/>

<http://www.icpsr.umich.edu/index.html>

<http://www.cms.gov/surveys/hos/>



Data analysis

- Statistics are just numbers, they have no real meaning. You have to tell a story with the data for it to be understood by the masses.
- When in doubt consult with a data analyst.