A Method to Our Madness: Using Samples in Legislative Program Evaluation
What is a Sample?

A sample is a subset of a population. A good sample is an accurate model of the population.
Types of Samples

● Non-probability
  ● Convenience sample
  ● Typical case sample
  ● Most similar/most dissimilar sample
  ● Critical case sample

● Probability
  ● Simple random samples
  ● Stratified random samples
  ● Cluster samples
The Validity and Credibility of Samples

● Validity – How well information from the sample represents the information available from the population.

● Credibility – How well your target audience believes the information from the sample represents information available from the population.
Should You Sample?

- Is there good information already available (e.g., a database, previous studies)?
- Are there enough resources to collect information from the entire population?
- What are the consequences of being wrong?
- Will information from a sample be credible?
Non-Probability Samples

- Convenience sample
- Typical case sample
- Most similar/most dissimilar cases
- Critical case sample
Non-Probability Samples

- **Strength** – relies on analyst’s judgment to not select cases that will provide irrelevant information

- **Validity and credibility threat** – relies on analyst’s judgment to select cases that represent the population
When to Use Non-Probability Samples

- If a list (or close proxy) of all units in the population does not exist
- Collecting background information designed to identify potential issues and problems
- Limited resources do not allow using a probability sample
Probability Samples

- **Strength** – reduce subjective bias, provide results with a known probability of being accurate, provide credible evidence

- **Potential drawbacks** - Can be resource intensive, complicated to plan and implement
When to Use a Probability Sample:

- Must have a list (or close proxy) of all units in the population
- When it is important to minimize potential subjective bias in selecting a representative sample
- When a sample will produce better information than attempting to gather information from the population
What You Need to Know to Decide on Sample Size

- How confident you want to be that the sample represents the population
- The variation among the members of a population
- The size of the population
Confidence in Your Sample

- Precision: the true average or proportion will be within plus or minus a certain amount of the sample average or proportion (e.g. within + or – $1000; + or – 5%).
  - All other factors being equal, increase sample size to increase precision.

- Confidence: the risk your willing to take that the sample average or proportion will be wrong.
  - All other factors being equal, increase sample size to increase confidence
Variation in the Population

- All other factors being equal, the less variation in the population the smaller the sample size needed
Population Size

- All other factors being equal, the smaller the population the smaller the sample size needed