Session Overview

• Why the emphasis on data quality?
• What are the elements of high-quality data?
• How should grantees and commissions assess data quality for their sites/subgrantees?
• What are some common “red flags” to look for when reviewing programmatic data?
• What corrective actions should grantees and commissions take if they encounter data quality issues?
• What resources are available to help with data quality?
Why Data Quality is Important

- Fundamental grant requirement
- Trustworthy story of collective impact for stakeholders
- Sound basis for programmatic and financial decision-making
- Potential audit focus
Elements of Data Quality

• Validity
• Completeness
• Consistency
• Accuracy
• Verifiability
Validity

- **Official definition:** Whether the data collected and reported appropriately relate to the approved program model and whether or not the data collected correspond to the information provided in the grant application

- **Plain language definition:** The data mean what they are supposed to mean

- How grantees/commissions should assess data validity for sites/subgrantees:
  - Review data collection tools; compare to objectives and PMs
  - Ask about data collection protocols
  - Request a completed data collection tool
Validity

• **Examples of potential problems:**
  
  – **Invalid tools**
    
    • Mismatch between tool and type of outcome
    • Incorrect approach to pre/post testing
    • Failure to use tools required by the National Performance Measure Instructions
  
  – **Invalid data collection protocols**
    
    • Assessing the wrong population
    • Implementing protocols in the wrong ways or times
Completeness

• **Official definition:** The grantee collects enough information to fully represent an activity, a population, and/or a sample.

• **Plain language definition:** Everyone is reporting a full set of data

• How grantees/commissions should assess data completeness for sites/subgrantees:
  – Keep a list of data submissions
  – Check source documentation
  – Request data at consistent intervals
Completeness

• Examples of potential problems:
  – Subgrantees/sites missing from totals
  – Non-approved sampling
  – Inconsistent reporting periods
Consistency

- **Official definition:** The extent to which data are collected using the same procedures and definitions across collectors and sites over time.
- **Plain language definition:** Everyone is using the same data collection methods.
- How grantees/commissions should assess data consistency for sites/subgrantees:
  - Request written data collection procedures; ask about dissemination/implementation.
  - Cross-compare definitions and protocols.
Consistency

• Examples of potential problems:
  – No standard definitions/methodologies
  – Lack of knowledge about required procedures and/or failure to follow them
  – Staff turnover
Accuracy

• **Official definition:** The extent to which data appear to be free from significant errors

• **Plain language definition:** The math is correct

• How grantees/commissions should assess data accuracy for sites/subgrantees:
  – Check your addition
  – Request data points from service locations
  – Check for double-counting in source data
  – Watch out for double-reporting
Accuracy

- Examples of potential problems:
  - Math errors
  - Counting individuals multiple times
  - Reporting the same individuals under different program streams
Verifiability

- **Official definition:** The extent to which recipients follow practices that govern data collection, aggregation, review, maintenance, and reporting

- **Plain language definition:** There is proof that the data are correct

- How grantees/commissions should assess data accuracy for sites/subgrantees:
  - Require source documentation
  - Review quality control plans
Verifiability

• Examples of potential problems:
  – Inexplicable data points
  – Estimated values
Common “Red Flags” in Reported Data

a) Large completion rates reported early in the program year
b) Actuals that are exactly the same as target values or consist solely of round numbers
c) Actuals that are substantially higher or lower than target values or are out of proportion to the MSY or members engaged in the activity
d) Substantial variation in actuals from one site to another
e) Substantial variation in actuals from one program year to the next
f) Outcome actuals that exceed outputs
g) Outcome actuals that are exactly the same as outputs
Example #1

Financial Literacy Education Program – Financial Literacy PM 1

<table>
<thead>
<tr>
<th>Measure Type or Resource Type</th>
<th>Measure #</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>O1: Number of econ disadv individuals receiving financial literacy services</td>
<td>100</td>
<td>106</td>
</tr>
<tr>
<td>Outcome</td>
<td>O9: Individuals with improved financial knowledge.</td>
<td>40</td>
<td>106</td>
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</tbody>
</table>


The number of participants with increased knowledge (outcome) is exactly the same as the number of program participants (output).

Possible explanations:
- The program is extremely effective in achieving improved financial knowledge among program participants.
- The number of individuals with improved financial knowledge is not being reported correctly.

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Example #1 Additional Context

Financial Literacy Program Post-Assessment

Assessment of Knowledge Gains

Please respond to the questions below based on your experience participating in the Financial Literacy Corps' financial literacy training program.

1. How satisfied were you with the program?
   - Very Satisfied
   - Somewhat Satisfied
   - Neutral
   - Somewhat Dissatisfied
   - Very Dissatisfied

2. Do you feel that you learned something from your participation in the program?
   - Yes
   - No

3. What suggestions do you have for how to improve the program for future participants?

   [Blank space for input]
This assessment is primarily a customer satisfaction survey that does not objectively measure changes in knowledge.

To ensure validity, the grantee should use a pre-post assessment tool that asks content-based questions directly related to the subject matter.
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<td>Number of episodic volunteers generated by AmeriCorps members</td>
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<td>Number of ongoing volunteers generated by AmeriCorps members</td>
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<tr>
<td>Number of AmeriCorps members who participated in at least one disaster services project</td>
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<td>Number of disasters to which AmeriCorps members have responded</td>
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<td>Number of individuals affected by disasters receiving assistance from members</td>
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- The number of individuals affected by disaster receiving assistance from members is an unusually round number
- Possible explanations:
  - Members served exactly 2,000 individuals over the course of the program year
  - The number of individuals receiving assistance from members is not reported correctly
Members responded to approximately one natural disaster per month over the course of the 10-month program year. We estimate that our cohort of members assisted about two hundred individuals during each disaster event, resulting in a total of 2000 individuals (10 events x 200 individuals per event).
Example #2 Additional Context

- The grantee estimated the value of the demographic indicator rather than measuring it.

- To ensure verifiability, the grantee should ensure that they have specific data collection procedures for all reported values and are maintaining source documentation for each number.

Members responded to approximately one natural disaster per month over the course of the 10-month program year. We estimate that our cohort of members assisted about two hundred individuals during each disaster event, resulting in a total of 2000 individuals (10 events x 200 individuals per event).
Corrective Actions for Data Quality Issues

- Notify your CNCS Program/Grants Officer and discuss best way forward
- For issues related to invalid tools, incorrect protocols, or wrong definitions:
  - Switch to the correct tool/protocol/definition immediately if feasible; if not, switch in the next program year
  - Do not report data collected using incorrect tool/protocol/definition; document reasons for not reporting
- For issues related to incomplete reporting, math errors, or double-counting/double-reporting:
  - Correct the values
  - Put together quality control procedure
Corrective Actions for Data Quality Issues

• For issues related to missing/incomplete source documentation:
  – Develop a system for retaining source data
  – Do not report values for which there is little/no evidence. Document reasons for not reporting.
Resources for Data Quality Review

- Performance Measurement Core Curriculum (http://www.nationalservice.gov/resources/performance-measurement/training-resources)
  - Performance Measurement Basics
  - Theory of Change
  - Evidence
  - Quality Performance Measures
  - Data Collection and Instruments
More Resources for Data Quality Review

- Evaluation Core Curriculum: Implementing an Evaluation
  (http://www.nationalservice.gov/resources/evaluation/implementing-evaluation)
  - Basic Steps of an Evaluation
  - Data Collection
  - Managing an Evaluation
- CNCS Monitoring Tool: Data Quality Review Tab
## Data Quality

The Data Quality review is designed to assess the quality of reported data. The review entails engaging grantees in a dialogue about the underlying processes used to gather and handle data and will cover the following data quality elements: validity, completeness, consistency, accuracy, and verifiability.

### Validity

Validly addresses whether the data collected and reported appropriately relates to the approved program model and whether or not the data collected corresponds to the information provided in the grant application. In evaluating validity, CNCS staff will determine if the performance measure data being collected appear to measure the project’s demographic data, performance measures, and/or outcomes.

1. Are the reported data consistent with the approved program design?
2. Is the program measuring what it intended to measure?

### Completeness

Completeness. Data reported to CNCS are considered complete when the grantee collects enough information to represent an activity, a population, and/or a sample. In evaluating completeness, CNCS staff will determine if the data collected and reported contains enough information to represent the activities or population as related to the performance measure.

3. Does the grantee collect all of the data relevant to the measure? 
   Consider:
   - Does it collect data from all sites? (if applicable to the grantee’s program model)
   - Does it collect data with the same frequency from all sites? (if applicable to the grantee’s program model)

4. Is any vital information (e.g., for a period of time or for a group of participants) missing from the data reported or collected?
   Consider:
   - If data are missing, does the grantee have documentation to explain missing data?
   - If data are missing, what are the grantee’s plans for resolving issues and collecting missing data in the future?
• What questions do you have?
Thank you!

- If you have questions or feedback about this presentation, feel free to contact us:

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