Steps for Ensuring Data Quality

Data quality is more than accuracy and reliability. High levels of data quality are achieved when information is valid for the use to which it is applied and when decisionmakers have confidence in and rely upon the data. Implement these steps organization-wide to increase and maintain data quality.

1. Are requirements known?
   - Compare policy, regulation, and procedures with instructions given to data providers, collection forms, and code in computer programs.
   - Ensure all personnel are knowledgeable, certified, and trained for their assigned tasks.

2. Is process well designed?
   - Disclose all conditions affecting interpretation of the data.
   - Present conclusions fairly within a context for interpretation.
   - Review data with those who have a stake in the results.
   - Compare policy, regulation, and procedures with instructions given to data providers, collection forms, and code in computer programs.
   - Include data providers and data processors in decisions to establish what is feasible.

3. Is process well documented and communicated?
   - Provide documentation for data providers and data processors.
   - Provide a data dictionary and format specifications.
   - Provide immediate help for data providers.
   - Provide training and certification for data providers and all new staff.

4. Is process well implemented?
   - Use checklists and signoffs for key steps.
   - Run sample data and verify.
   - Conduct on-site reviews during the process.
   - Use most automated/validated level of data entry possible (e.g., codes in an automated application vs. paper forms).
   - Use random checks during production.
   - Run maintenance before all production. Verify off-hour maintenance and staff availability.

5. Are data verified and compared?
   - Run audit reports for review by experts with knowledge of reasonableness.
   - Compare data to past runs, standards, or similar groups.
   - Run maintenance before all production. Verify off-hour maintenance and staff availability.
   - Use random checks during production.
   - Run maintenance before all production. Verify off-hour maintenance and staff availability.

6. Are data appropriately analyzed and reported?
   - Ensure problems are reported, documented, corrected, and communicated back to the source of the problem or report.
   - Ensure analysis techniques meet the requirements for proper use.
   - Protect FERPA confidentiality rights.
   - Publish technical reports or make available files with detailed data for verification.

The Hierarchy of Data Quality

- Data Defined
  - Bad data
- Available
  - Inconsistent forms of measurement
  - Data collected by some at some times
- Valid
  - Accuracy achieved for decision making
  - Designation of official data for decision making
  - Periodicity established for collection and reporting
- Quality
  - Valid data consistent with construct being described
  - Reliable data independent of collector
  - Accurate data consistent with definitions
- Comparable data; interpretable beyond local context

Want to learn how to improve your data quality?

ESP Solutions Group conducts comprehensive data quality audits for local, state, and federal education agencies. We can assess your data processes, identify your strengths and weaknesses, and make practical recommendations on how to improve the data quality across your entire organization. For more information on ESP’s data quality services, visit www.espsolutionsgroup.com/dataquality.