



DATA QUALITY OVERVIEW

➤ Data Quality is Crucial

Essential decisions for data collection include

- What data should be collected?
- When should the data be collected?
- What methods should be used for collection?
- What data system should be used?

Data management needs to align with an organization's processes: Ex.: leveraging a "fire drill report" showing who is in the building is useless if attendance is not recorded in real-time.

The COMET system empowers your data collection and information gathering and processing. It enables data quality assessments and monitoring.

Commonly, data quality is measured along two complementary dimensions:

1. How correctly the data represents the actual transactions and outcomes of an organization
2. How the data supports the organization's operations, decision-making and planning

Quality data is generated through organizational processes and feeds the continuous improvement of these processes.

Continuous Improvement



➤ Data Quality Parameters

- **Accuracy, precision** (e.g.: attendance is recorded as present/absent and not as clock in & clock out)
- **Completeness** (data elements could be there but not recorded or partially missed)
- **Internal consistency** (e.g.: this child is 6 years old but is registered in a teenager program)



- **Timeliness** (e.g.: real-time may mean a few seconds for attendance and two weeks for payroll processing)
- **Criticality** of the data for some business purposes (e.g.: who creates / modify the data is rarely reviewed, but is critical in case of an audit)
- **Uniqueness** (e.g.: duplicate records, matching records from independent data sets, etc.)
- **Reliability** – dependent on what methods are used to generate and capture data, repeatability and reliability of the data generation and capture process

➤ Common Data Quality Issues

- **Data entry typing errors:** Manual data entry has been shown to have a 15% to 30% error rate, and higher at times.
- **Deferred data entry:** It is a best practice to record transactional data as it occurs. Waiting longer may introduce errors and create data timing issues.
- **Lack of training:** Training provides valuable step-by-step procedures to best use the system and emphasizes accurate data entry.
- **Double entry processes:** Using paper forms and then entering data or entering the same data into two different systems is a major source of errors.
- **Lack of resources / personnel:** Many organizations do not allocate staff to support data management best practices or do not prioritize it.

COMET Data Quality services can help.



DATA QUALITY SERVICES FROM COMET

Objectives

- Identify data quality issues based on criticality for the organization
- Suggest remediation procedures to correct the root causes to prevent future data errors
- After approval, contribute to / lead the implementation of selected solutions
- Measure progress over time
- Provide the client a path to self-sufficiency

Deliverables

Step 1: Data Quality Plan

COMET will produce a custom **Data Quality Plan** to identify:

- ✓ The main **records** entered and stored in COMET (e.g.: students/members, family contacts, programs and classes, attendance, service transactions, membership and fees, etc.)
- ✓ Their associated **data elements** important to the organization, including their **criticality** level
- ✓ The **organizational processes** that are used to create / maintain these records
- ✓ The **frequency** at which these entities need to be reviewed, and the **review processes** (e.g.: mandatory fields, duplicate records, inconsistencies, etc.)
- ✓ An **initial data quality measurement** to serve as a base line. This measurement is based on **Data Quality Parameters** - Accuracy, Completeness, Internal consistency, Timeliness, Criticality, Uniqueness, Reliability.

Example Record:

Student / Member
ELEMENTS: <ul style="list-style-type: none">• <i>Demographics – Real-time - Critical - Review Weekly</i>• <i>Report Card Grades - Annual - Important- Review Monthly</i>• <i>Immunization - Real-time - Critical- Review Annually</i>

Step 2: Execution

COMET will perform the following three steps for continuous improvement of data quality:

- ✓ **Data Quality Measurement:** At the frequency defined in the Data Quality Plan, the COMET team will conduct the data quality measurements as defined
- ✓ **Corrective Actions:** Based on the results, the COMET team will perform continuous improvement, addressing root causes whenever possible. Example corrective actions:
 - Identify users that generate higher error rates and provide specific training
 - Correct the data using original records (e.g. paper)
 - Correct repeated errors in the system (e.g. names starting or ending with a space)
- ✓ **Progress Report:** Update the data quality measurement metrics; determine and report on progress

Interested in more information?
Contact support@comet4children.com