Data Quality Management: Best Practices

WHAT IS DATA QUALITY MANAGEMENT?

The NC Department of Public Instruction views data quality management as the creation and utilization of roles, responsibilities, policies, and procedures concerning the collection, maintenance, and reporting of quality data.

The Data Management Group (DMG) was created to support an enterprise-wide focus on the importance of data and data quality.

The purpose of the DMG is to enable the NCDPI to better provide accurate and timely data to key stakeholders. Comprised of representatives from each business unit, the DMG supports the agency's efforts to achieve the State Board of Education's (SBE's) mission, while ensuring data quality, accountability and timeliness, to make data-driven decisions. For further information on the work of the DMG, see
http://www.ncpublicschools.org/data/management/.

WHAT DO QUALITY DATA LOOK LIKE?

Quality data:

- are accurate;
- well documented;
- match reality;
- are complete;
- are consistent;
- are verified; and
- are contingent on effective data quality management.

WHY ARE QUALITY DATA IMPORTANT?

- Data are a critical asset to business decisions.
- Data must be valid in one system to be used in other systems.

WHAT ARE BEST PRACTICES FOR MANAGING DATA QUALITY AT LOCAL AND STATE LEVELS?

DISTRICTS SHOULD:

- Recognize that data gathered at the local level drives enterprise-wide decisions.
- Ensure that all data handlers understand the importance of accurate data.
- Understand/support resources needed to attain/maintain quality data.
- Provide/support initial and ongoing data quality training initiatives and ensure that these opportunities extend down into the data-entry level.
- Build profiling and/or audit reports into local source systems.
- Keep quality at the forefront when developing new collection systems by building validation checks on the front end.

NCDPI BUSINESS OWNERS SHOULD:

- Define clear roles, responsibilities, and expectations: data steward, IT, data analyst (understand your role in governance of data quality).
- Clearly document all data elements and related procedures.
- Build Data Profiling and/or audit reports into source system.
- Conduct Data Profiling to gain understanding of current level of quality.
- Establish business rules (that will help establish electronic rules) to govern your source system and drive higher quality.
  - What do "complete data" look like to you? What does "accurate data" look like to you? Do your definitions sync with other users of your data?
- Provide training at the LEA level and provide documentation specific to programs and systems.
- Determine root causes of data issues and initiate appropriate actions.
  - What is your acceptance level? What is your course of action for "bad" data? Delete, accept, or correct them?
- Recognize that data quality is an ongoing effort.
- Establish and maintain working relationships with technology personnel (cross-functional cooperation).
- Understand/support resources needed to attain/maintain quality data.
- Provide/support initial and ongoing data quality training initiatives.
- Keep quality at the forefront when developing new collection systems by building validation checks on the front end.

NCDPI DATA WAREHOUSE MANAGERS SHOULD:

- Understand that business owners must balance acceptance between completeness and accuracy.
- Understand the implications of a chosen remedy for a problem.
- Develop processes to adjust incoming data so that source system and warehouse data match.