Curriculum Development Centers Program

Awardee of The Office of the National Coordinator for Health Information Technology

Data Quality Improvement

Unit 11C: Data Quality Attributes

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Data Quality Attributes

- Definition
- Accuracy
- Accessibility
- Comprehensiveness
- Consistency

- Currency
- Timeliness
- Granularity
- Precision
- Relevancy

Consistency of Data

- **Value of the data should be reliable and the same across applications**

Consistency of Data

Example:
Patients are asked about allergies at almost all health care encounters and by multiple providers. The reply can differ based on how the question is phrased. Standardizing the question and providing guidelines for recording the answer can improve the consistency of documentation of allergy status.

Consistency of Data

Key process recommendations:
Reach consensus on gold standards or data owners of each major data type.

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Currency of Data

•**Up-to-date or reflective of the current state**

Currency of Data

Example:
Health plans & providers will be required to fully transition from ICD-9-CM to ICD-10-CM in 2013. Changes must be made to accommodate this requirement. If providers query data for a time frame prior to the transition, they need to ensure that they are using the appropriate definition for the time frame of extraction.

Currency of Data

Key process recommendation:
Provide definitions for the currency of each type of data.

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Timeliness of Data

- **Available when needed**
- **Useful in the context of the time data used**

Timeliness of Data

Example:
An electronic tracking system was implemented to record actual locations of hospitalized patients. As the tracking system is interfaced with other clinical and ancillary computer systems, more frequent updates are processed to provide timely patient location data.

Timeliness of Data

Key process recommendations: Establish standards/policies for the timeliness of the data collected and stored in relation to key events.

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Granularity of Data

- **Attributes and values at the correct level of detail**

AHIMA, 2006

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Granularity of Data

Example:
Medications dosages can include a wide variety of dose expressions, many of which include decimals. Data fields used for medication dose orders and medication administration records should include the use of a leading zero, proper decimal places, and dose increments designed to maximize medication safety.

Granularity of Data

Key process recommendations:
Agree on the hierarchy of the data granularity.

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Precision of Data

- Sufficient detail to allow repeated measures to yield the same result under unchanged conditions

Precision of Data

Example:
A primary care provider wants to implement improvements in his/her practice related to weight screening and follow-up. Changes are made in the electronic health record to prompt for actual height and weight, automatically calculate the body mass index (BMI) and to set-alerts when BMI is an a rang that requires further action or follow-up.

Precision of Data

Key process recommendations:
Define data ranges and categories that are needed to support the organization's mission and objectives.

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Relevancy of Data

- Data are meaningful or applicable to the performance of the process or use for which they are collected

Relevancy of Data

Example:
A multi-specialty medical practice group implemented an electronic health record that provides a number of reports, including a clinical summary. After two months of use, the members identify standard report elements, and allow each provider to customize the report to include elements pertinent to their specialty.