Quality Measures: Adoptability

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Quality Measures' Adoptability in HIT

- Four components:
  - Quality of the Measure
  - "Implementability" (Adoptability) in HIT
  - Practicality of use in clinical practice with HIT
  - Maintainability (Adaptability) of the measure in implemented HIT

Quality of the Measure

- Is the measure well specified?
- Clear conceptual understanding?
- Clinically meaningful and interpretable? Representative?
- Does it differentiate the relevant item of interest (or discriminate measured subjects) sufficiently well?
- Is the requisite precision for the measure well understood?
- Are repeat measures independent?
- Are composite measures valid?
- Is it biased in anyway?
- Is the underlying population distribution along the measure well understood?
- Is the requisite instrumentation for the measure well understood?
- Are the test performance characteristics for the instrumentation well understood?
- Are they considered (by device, instrument, or role) in the measure specification?
- Is the customer for the measure well understood (clinician, medical management, payor, etc.)
- Is the measure maintainable (changing/evolving code standards, standard nomenclature, workflow processes, roles/responsibilities, accountabilities)
- Is the measure validated?

“Implementability” (Adoptability) in HIT

* Do numerator and denominator definitions use standard data elements?
* Are the standard data elements available in the typical EHR?
* Does one HIT implementation vs. another bias the measure in anyway?
* E.g. does the measure rely on a particular HIT feature or function to any degree?
* Are any functional requirements of the HIT considered in the measure specification?

Practicality of use in clinical practice with HIT: I

- Are the standard data elements well populated in the typical EHR—i.e. are they being captured automatically, or in the process of care?
- Does the method(s) of data capture for the measure bias the measure in anyway?
  - Systematic error
  - Random error
- Are they captured as a by-product of care, or is it 'outside' the routine clinical workflow?
- Does the workflow in which the measure is captured bias the measure in anyway? E.g. Are any workflow requirements considered in the measure specification?

Practicality of use in clinical practice with HIT: II

- Does the data source bias the measure in anyway?
  - E.g. automatic data sources: one lab vs. another; different coding schemes with partial concept consonance (as opposed to explicitly and completely identical concepts)
  - E.g. manual data sources: does the quality of the data used in the measure vary by which person in which role is gathering the relevant data for the measure
    - E.g. nurse or medical assistant may take BP an record only on the '5's
    - MD may take the BP and record with increased precision
- Can the measure report be implemented in a useful way for each user of the measure? Can the same measure scale for multiple uses?
  - E.g. at the point of care (clinician may want an 'actionable' report)
  - E.g. for the Medical Director (quality management and reporting)
  - E.g. for the payor (quality assessment, utilization, value assessment)
  - E.g. for public health reporting?

Maintainability (Adaptability) of the measure in implemented HIT

- Does the measure support quality reporting at the point of care? Is it biased (or in error) due to faulty input data?
  - E.g. provider panels – is this report about my patients only?
- Can the measure be updated easily and practically?
  - E.g. with changing numerator/denominator specifications?
  - E.g. with changing coding standards (ICD-9 -> ICD-10)
  - E.g. with evolving coding standards (SNOMED updates)
- Semantic and Syntactic integrity
  - Concepts, controlled terminology
  - Information Modeling (HL7 QRDA)
  - Quality messaging and reporting (ETL)
- Knowledge Management/Curation