National Committee on Vital and Health Statistics

Subcommittee on Quality Hearing

Building Meaningful Measures – Adoptability

13 October 2009

Floyd Eisenberg, MD, MPH, FACP
Senior Vice President, Health Information Technology
National Quality Forum
feisenberg@qualityforum.org

Health Information Technology

NQF
THE NATIONAL QUALITY FORUM

1. **Specifications:**
    - **Health Information Technology Expert Panel (HITEP) – Quality Data Set (QDS)**
2. **Linkage with Health IT**
    - **Implementing the QDS**
    - **Gaps**
    - **Authoring Tool**
3. **New data sources**
4. **Data collection**
5. **Keeping measures current**

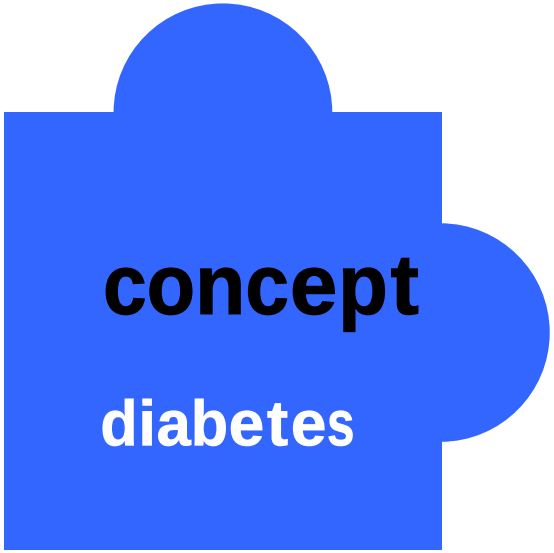
Specifications: HITEP Quality Data Set

NQF
The National Quality Forum

Primary content experts

study designers

guideline developers



Specifications: HITEP Quality Data Set

NQF
THE NATIONAL QUALITY FORUM

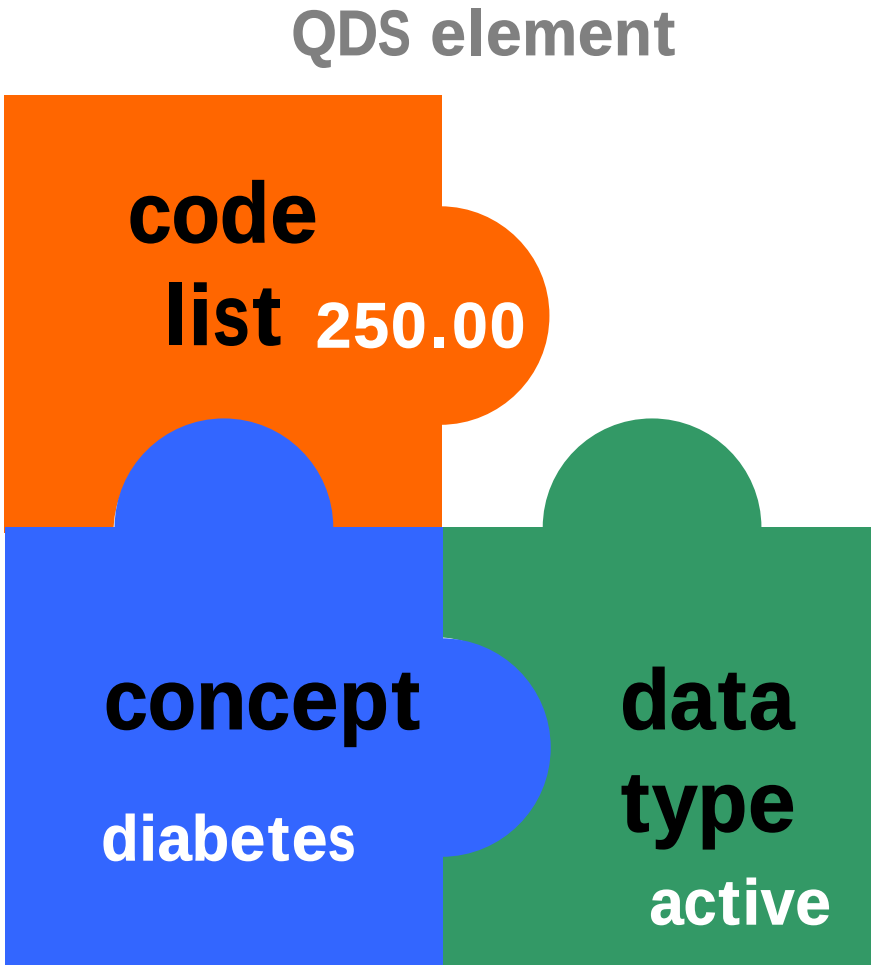
Primary content experts → **Measure Developers**

can be reused with multiple quality datatypes

Specifications: HITEP Quality Data Set

NQF
THE NATIONAL QUALITY FORUM

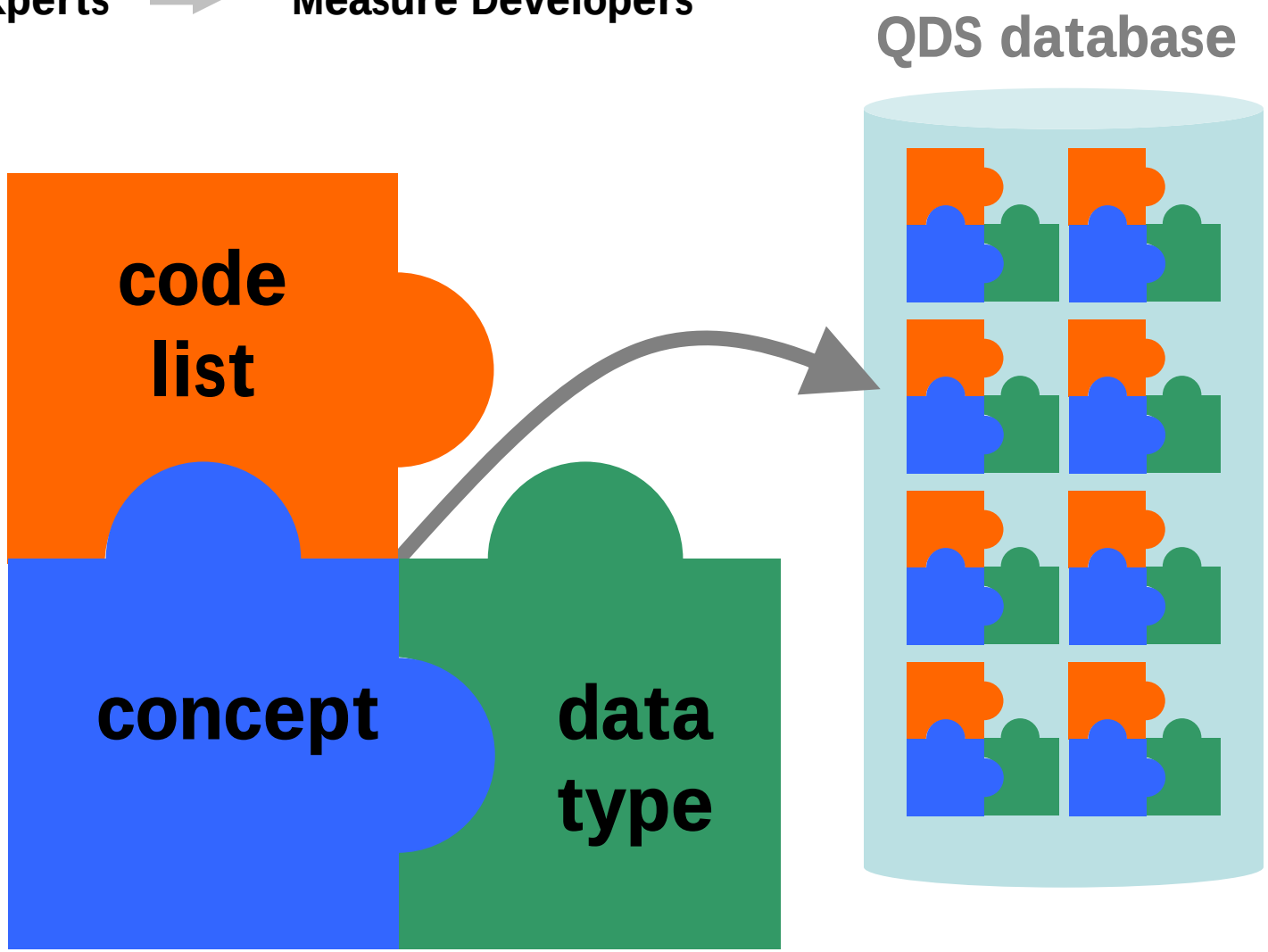
Primary content experts → **Measure Developers**



Specifications: HITEP Quality Data Set

NQF
The National Quality Forum

Primary content experts → **Measure Developers**

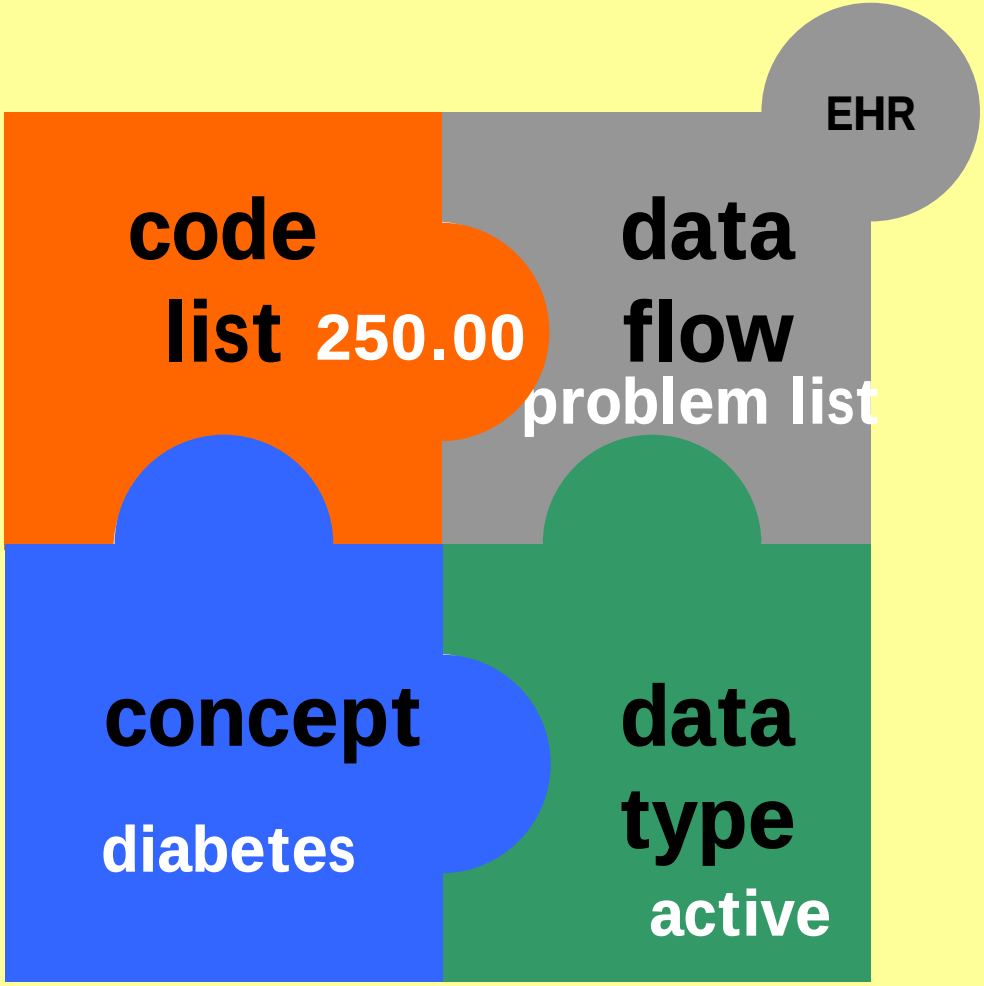


stored in database for reuse across measures and decision support

Specifications: HITEP Quality Data Set

NQF
THE NATIONAL QUALITY FORUM

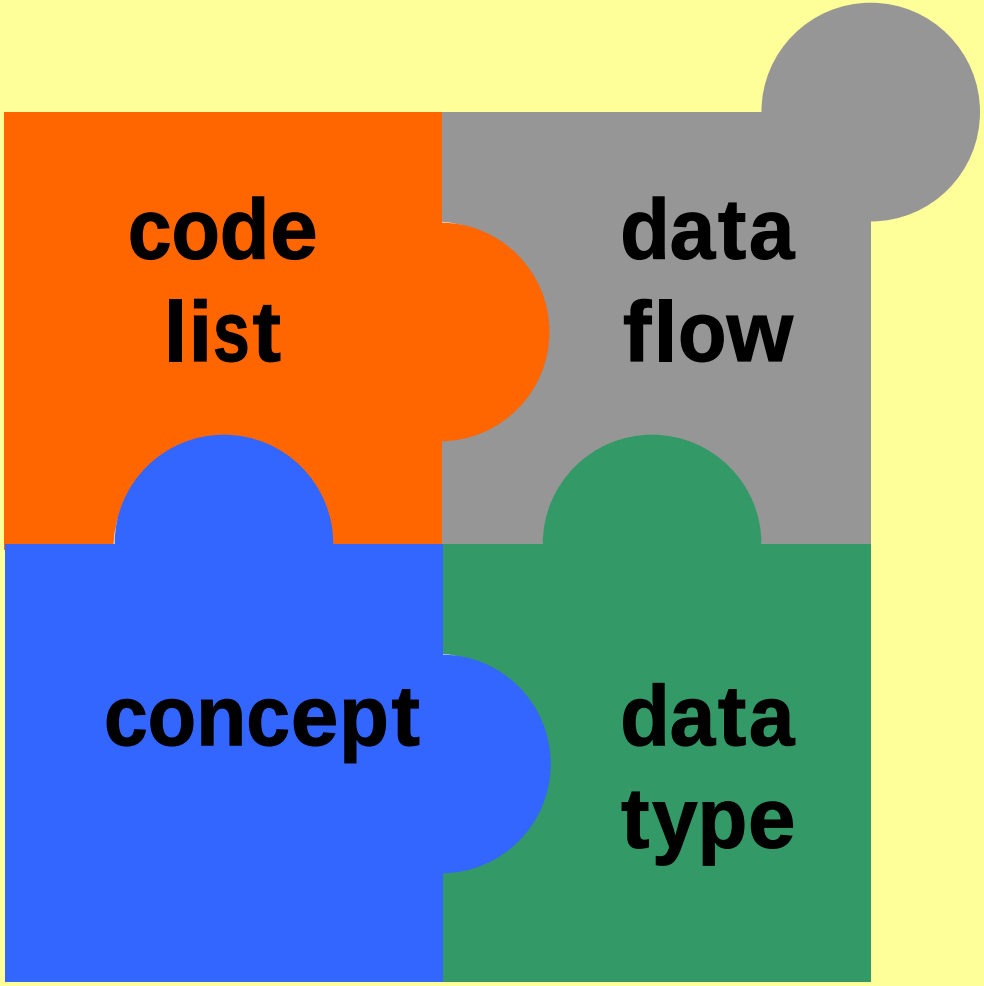
Primary content experts → **Measure Developers**



Specifications: HITEP Quality Data Set

NQF
THE NATIONAL QUALITY FORUM

Primary content experts → **Measure Developers**

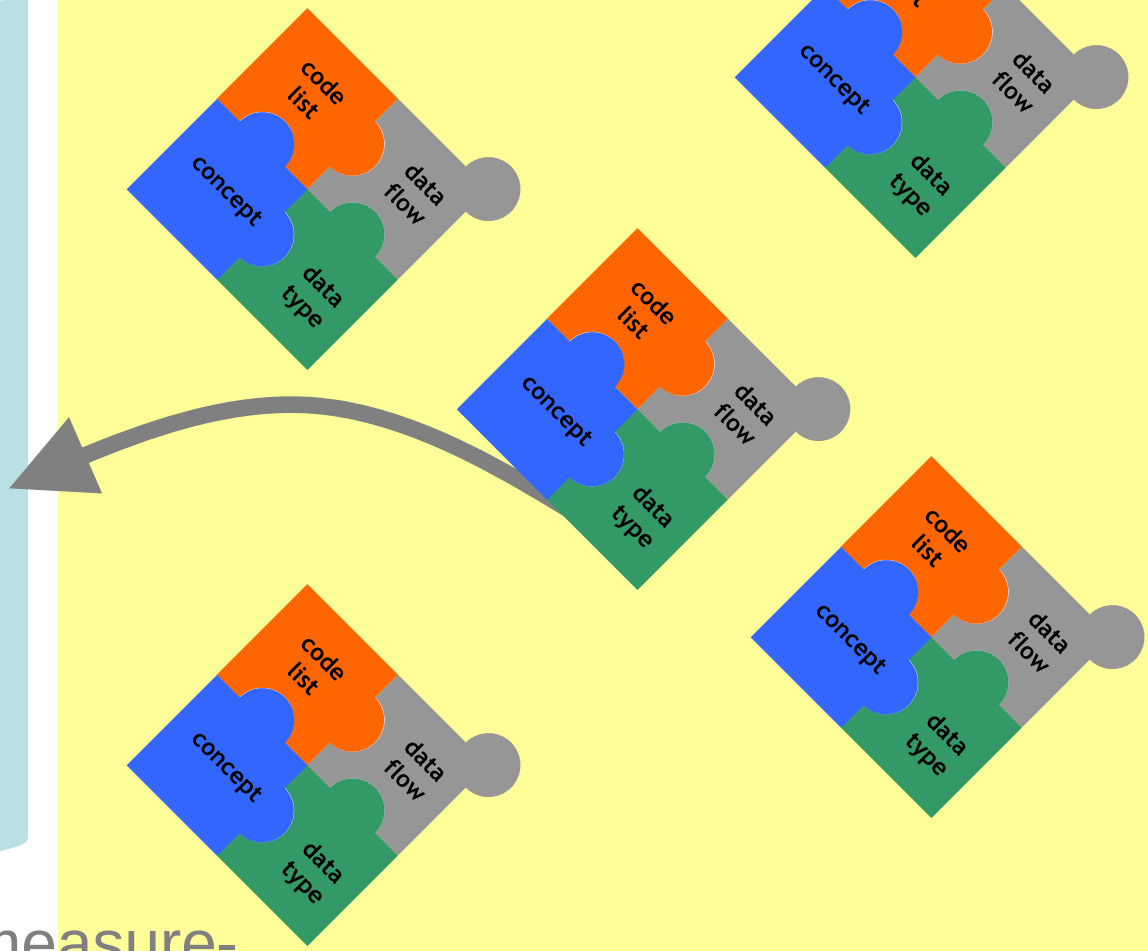


Specifications: HITEP Quality Data Set

NQF
THE NATIONAL QUALITY FORUM

measure database

QDS database



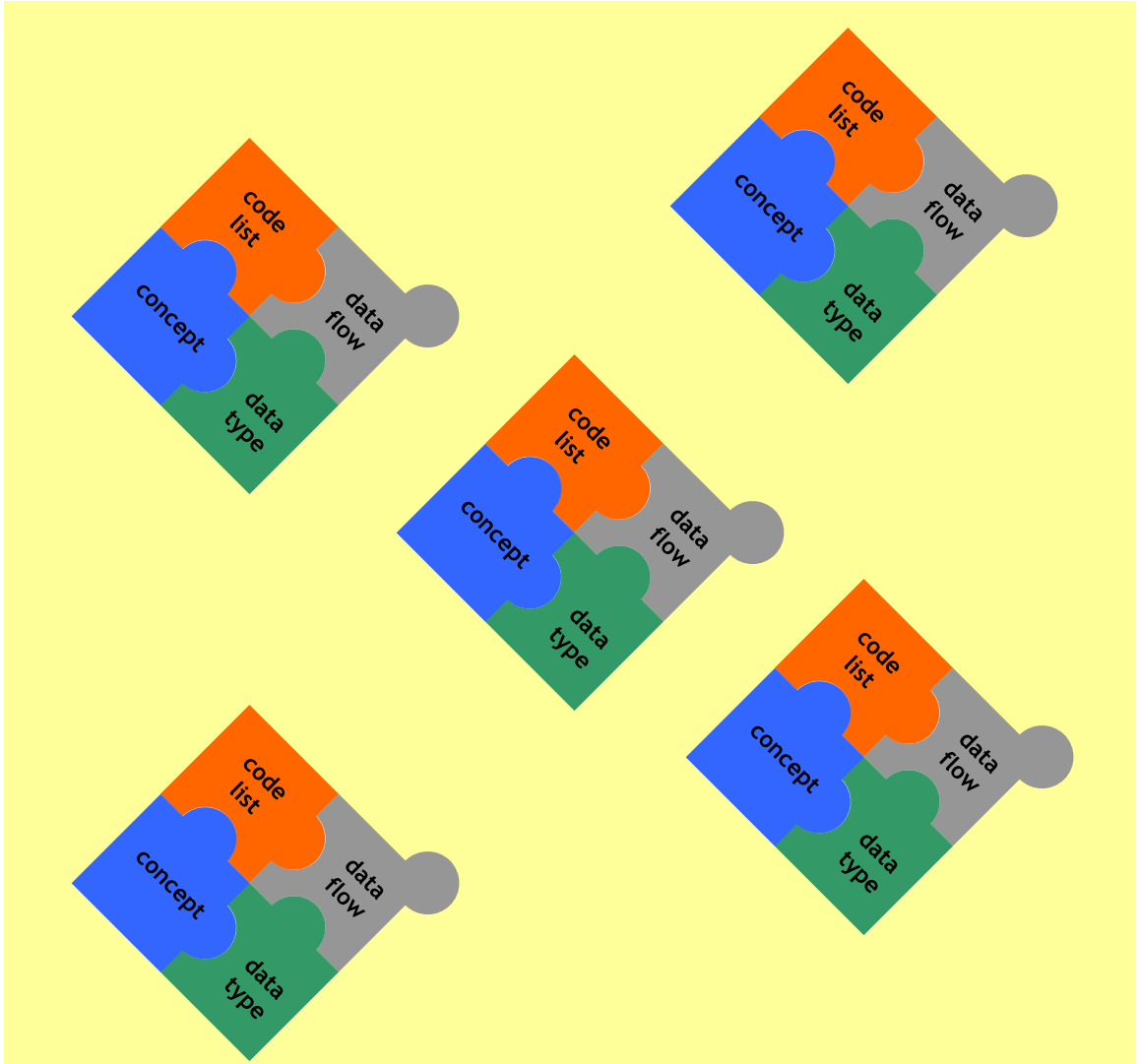
includes measure-specific dataflow (e.g. EHR vs. PHR)

measure

Specifications: HITEP Quality Data Set

NQF
THE NATIONAL QUALITY FORUM

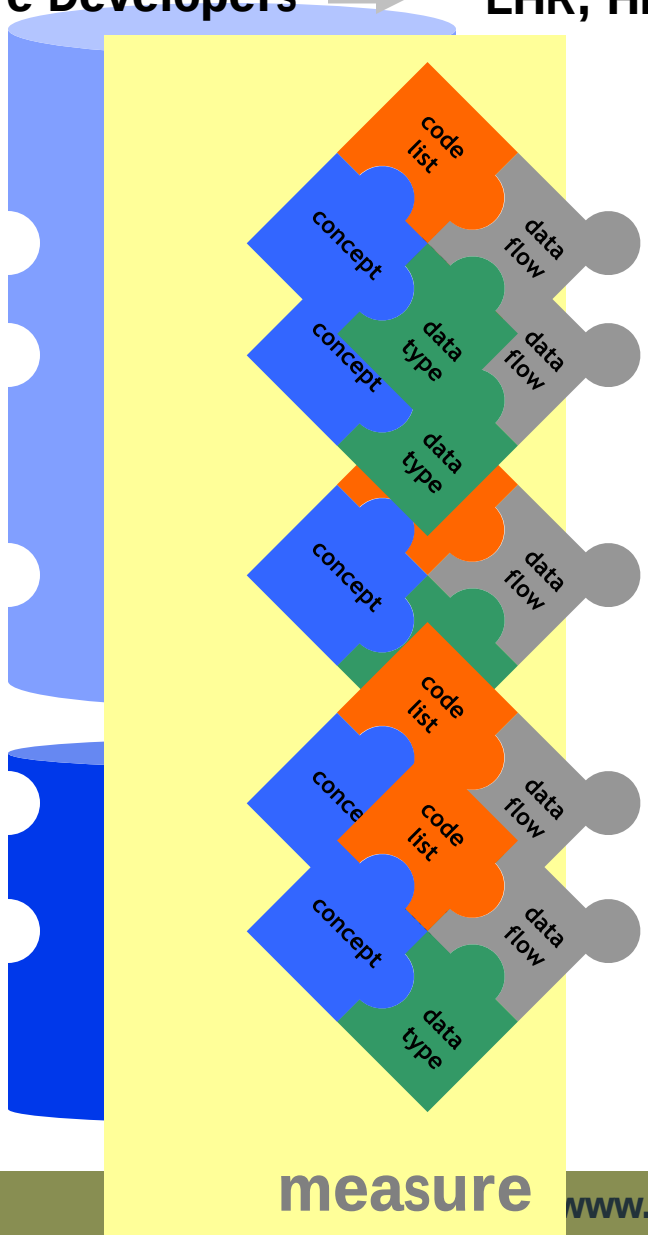
Primary content experts → Measure Developers → EHR, HIE, registry



Specifications: HITEP Quality Data Set

NQF
THE NATIONAL QUALITY FORUM

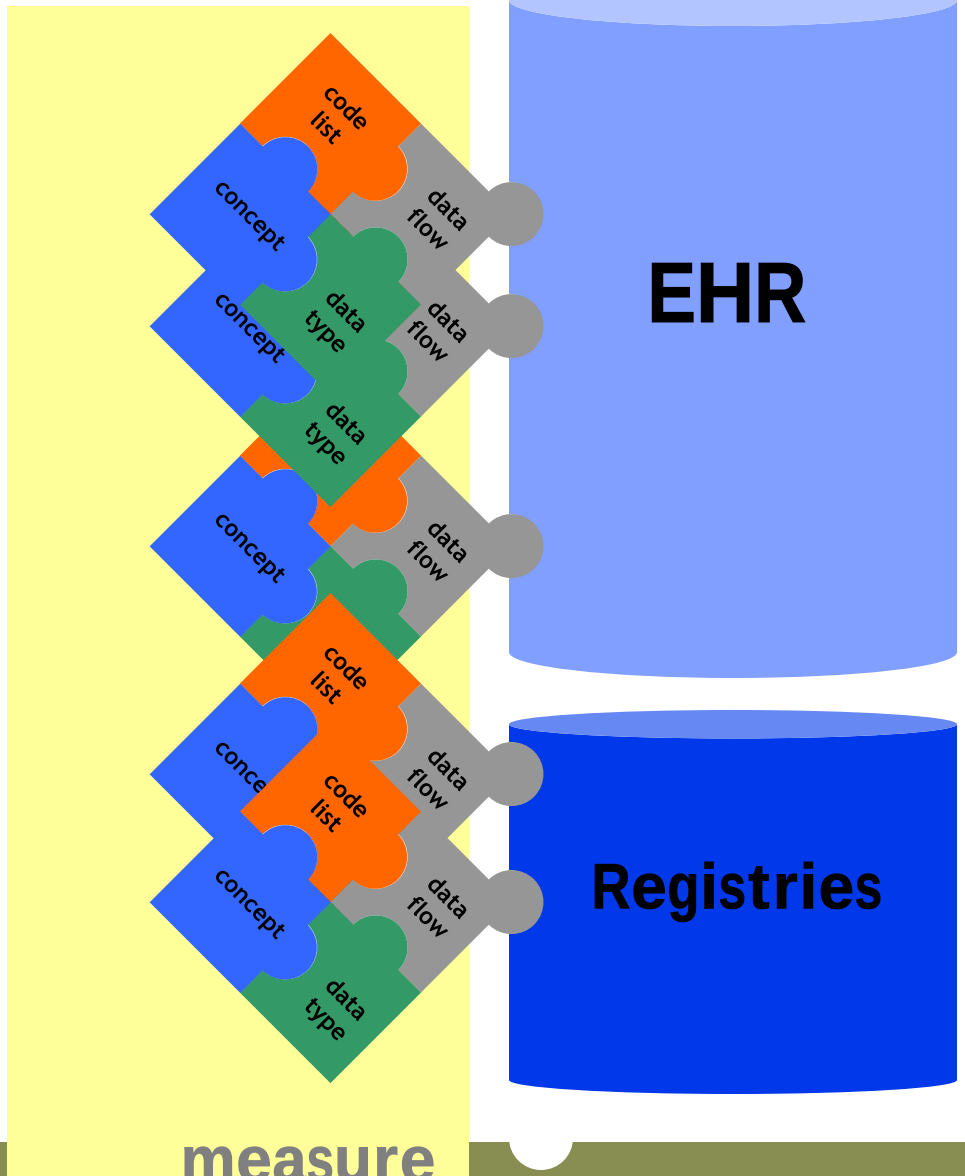
Primary content experts → **Measure Developers** → **EHR, HIE, registry**



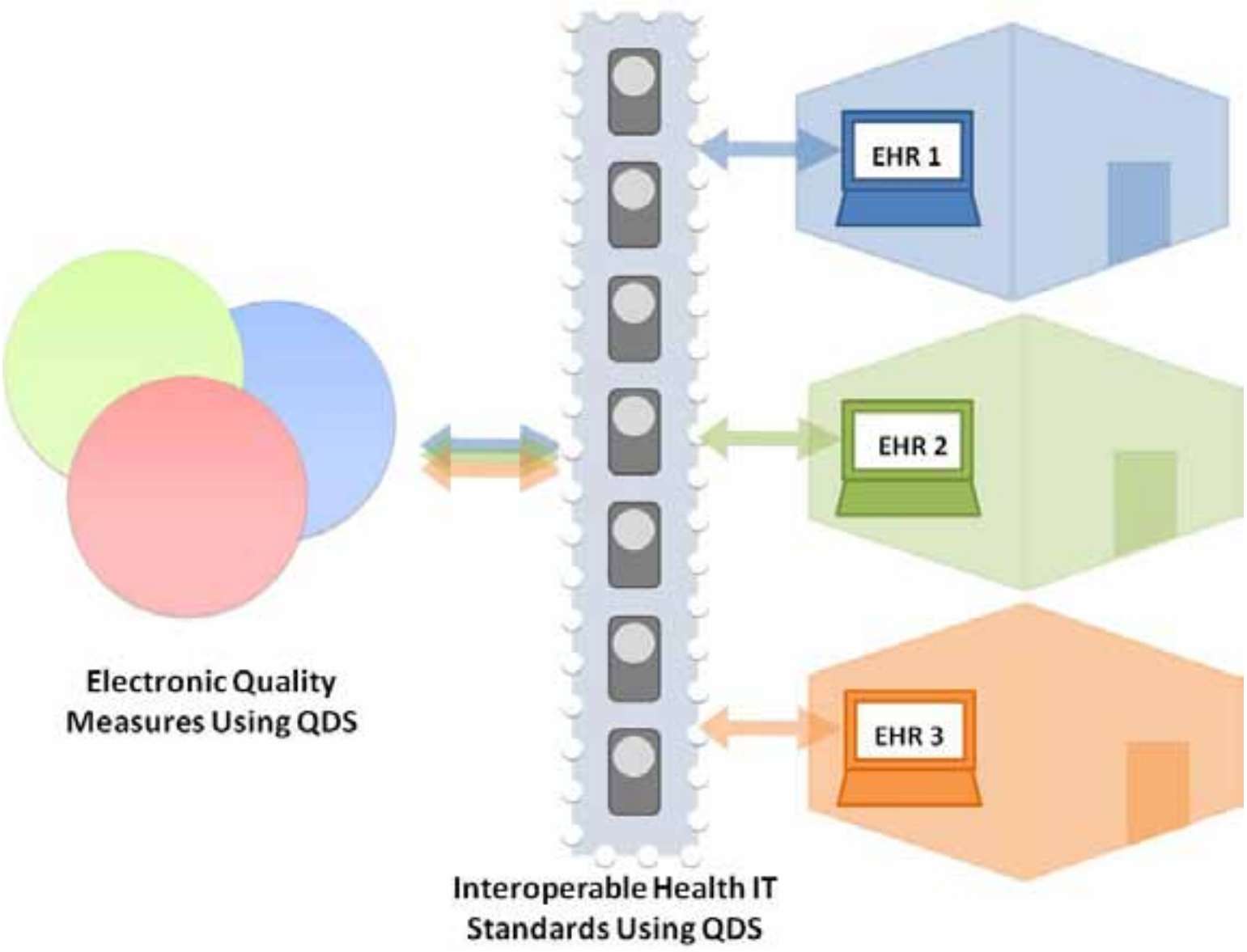
Specifications: HITEP Quality Data Set

NQF
THE NATIONAL QUALITY FORUM

Primary content experts → **Measure Developers** → **EHR, HIE, registry**



Linkage with Health IT



1. Implementing the QDS

Identifying standards for each quality data type

HITEP II Standard Element	HITEP II Quality Data Element	HITEP II Definition	HITSP Data Element	C83 Mapping	HITSP Opt21/Repeat	Additional Constraints22
Condition/diagnosis/ problem	diagnosis active	A problem, diagnosis or condition is a scientific interpretation of result, assessment and treatment response data that persists over time and tends to require intervention or management. It is used to guide planning, implementation, treatment and evaluation. A problem or condition includes, but is not limited to chronic conditions, diagnoses, or symptoms, functional limitations, visit or stay/specific conditions. An active problem, diagnosis or condition is one that is currently monitored, tracked or is a factor that must be considered as part of the treatment plan in progress	Condition: 7.01 Problem Date 7.02 Problem Type 7.03 Problem Name 7.04 Problem Code 7.05 Treating Provider 7.06 Age (at Onset) 7.07 Cause of Death 7.08 Age (at Death)	2.1.2.7 CONDITION	C(101)/Y	NOTE: Problem needs to be identified as patient-level, encounter-level, active or inactive Need to reflect the concept of 'present on admission' Need an appropriate problem model used across the board to be able to include active/inactive patient-level/encounter-level, etc. Vocabulary shall be used to indicate that the problem is active
Condition/diagnosis/ problem	diagnosis past history	Problems, conditions and diagnoses that have occurred in the past for the patient under treatment.	Condition: 7.01Problem Date 7.02Problem Type 7.03Problem Name 7.04Problem Code 7.05Treating Provider 7.06Age (at Onset) 7.07Cause of Death 7.08Age (at Death)	2.2.1.4 History of Past Illness 2.1.2.7 CONDITION 7.01-7.09 2.2.1.3 Problem List 2.2.1.7 History of Present Illness SNOMED codes indicating 'history of the problem	C(101)/Y	NOTE: Problem needs to be identified as patient-level, encounter-level, active or inactive Need to reflect the concept of 'present on admission' Need an appropriate problem model used across the board to be able to include active/inactive patient-level/encounter-level, etc. Vocabulary shall be used to indicate past history of diagnosis

Healthcare Information Technology Standards Panel (HITSP)

Quality Interoperability Specification (IS06)

Linkage with Health IT

NQF
THE NATIONAL QUALITY FORUM

1. Gaps
   a. Increasing granularity of standards harmonization and specification
   b. Identifying appropriate standards / recommending new standards – examples:
      - Functional status
      - Care experience
      - Communication to patient
      - Communication from patient
      - Devices / medical equipment
      - Patient declined
      - Treatment offered
   c. EHR Utilization

Early Prototype: Apply Data Elements to Individual Measures

Measures | New | Rename | Remove

Hemoglobin A1c management

New Test Measure

QDS dictionary | New | Remove | Save

hemoglobin A1c	LOINC	laboratory test result
hemoglobin A1c	CPT	laboratory test result
polycystic ovaries	ICD-9-CM	diagnosis active
gestational diabetes	ICD-9-CM	diagnosis past history
steriod induced diabetes	ICD-9-CM	diagnosis active
pancreatic internal secre	ICD-9-CM	diagnosis active

QDS for this measure | Add QDS from above | Remove

birth		provider characteristic
diabetes	ICD-9-CM	diagnosis active
gestational diabetes	ICD-9-CM	diagnosis past history
hemoglobin A1c	CPT	laboratory test result
hemoglobin A1c	LOINC	laboratory test result
insulin		medication order
office visit	HCPCS	encounter
office visit	CPT	encounter
oral antihyperglycemics		medication order
oral hypoglycemics		medication order
pancreatic internal secre	ICD-9-CM	diagnosis active
polycystic ovaries	ICD-9-CM	diagnosis active
steriod induced diabetes	ICD-9-CM	diagnosis active

1. define Standard Code List Element

Name: hemoglobin A1c

Category: Laboratory test

Taxonomy: LOINC

Code list: 4548-4, 4549-2, 17856-6

2. choose the context of use (QDS data type)

Datatype / Context of Use: laboratory test result

3. provide additional information

Logic (optional): • >9%

Datatype Specific Attributes

Questions for NQF

Comments

(Reuse individual elements)

Instructions / Tips

Use comma delineated spacing; All codes should be from the same taxonomy/code set; Grouped codes should define only one clinical concept; Codes that do not define the clinical concept go into a separate element.

Good Example(s)

Separate elements for ICD-9-CMs that define diabetes in the mother, eye disease related to diabetes, and diabetes.

Bad Example(s)

ICD-9-CM codes that group together diabetes in the mother and eye disease related to diabetesin the element diabetes into the same element.

Health Quality Measure Format (HQMF): eMeasure

eMeasure Style Sheet (Human Readable)

(DRAFT) Anticoagulation therapy for atrial fibrillation/flutter

EMeasure Name	(DRAFT) Anticoagulation therapy for atrial fibrillation/flutter	**EMeasure Id**	88414c01-715a-45bb-83bb-db7ac860fe9d
Version number	1	**Set Id**	STK-3 88414c01-715a-45bb-83bb-db7ac860fe9a
Available Date	No information	**Effective Date Range**	October 1, 2009 to March 31, 2010
Author	Joint Commission		
Verified by	Joint Commission		
Verified by	National Quality Forum		
Description	Ischemic stroke patients with atrial fibrillation/flutter who are prescribed anticoagulation therapy at hospital discharge.		
Measure scoring	Proportion		
Measure type	process		
Rationale	Nonvalvular atrial fibrillation (NVAF) is a common arrhythmia and an important risk factor for stroke. It is one of several conditions and lifestyle factors that have been identified as risk factors for stroke. It has been estimated that over 2 million adults in the United States have NVAF. While the median age of patients with atrial fibrillation is 75 years, the incidence increases with advancing age. For example, The Framingham Heart Study noted a dramatic increase in stroke risk associated with atrial fibrillation with advancing age, from 1.5% for those 50 to 59 years of age to 23.5% for those 80 to 89 years of age. Furthermore, a prior stroke or transient ischemic attack (TIA) are among a limited number of predictors of high stroke risk within the population of patients with atrial fibrillation. Therefore, much emphasis has been placed on identifying methods for preventing recurrent ischemic stroke as well as preventing first stroke. Prevention strategies focus on the modifiable risk factors such as hypertension, smoking, and atrial fibrillation. Analysis of five placebo-controlled clinical trials investigating the efficacy of warfarin in the primary prevention of thromboembolic stroke, found the relative risk of thromboembolic stroke was reduced by 68% for atrial fibrillation patients treated with warfarin. The administration of anticoagulation therapy, unless there are contraindications, is an established effective strategy in preventing recurrent stroke in high stroke risk-atrial fibrillation patients with TIA or prior stroke.		
Reference	Goldstein LB, et al. Stroke. 2006;37:1583		
Reference	Sacco RL, et al. Stroke Vol 37, 2006:577		

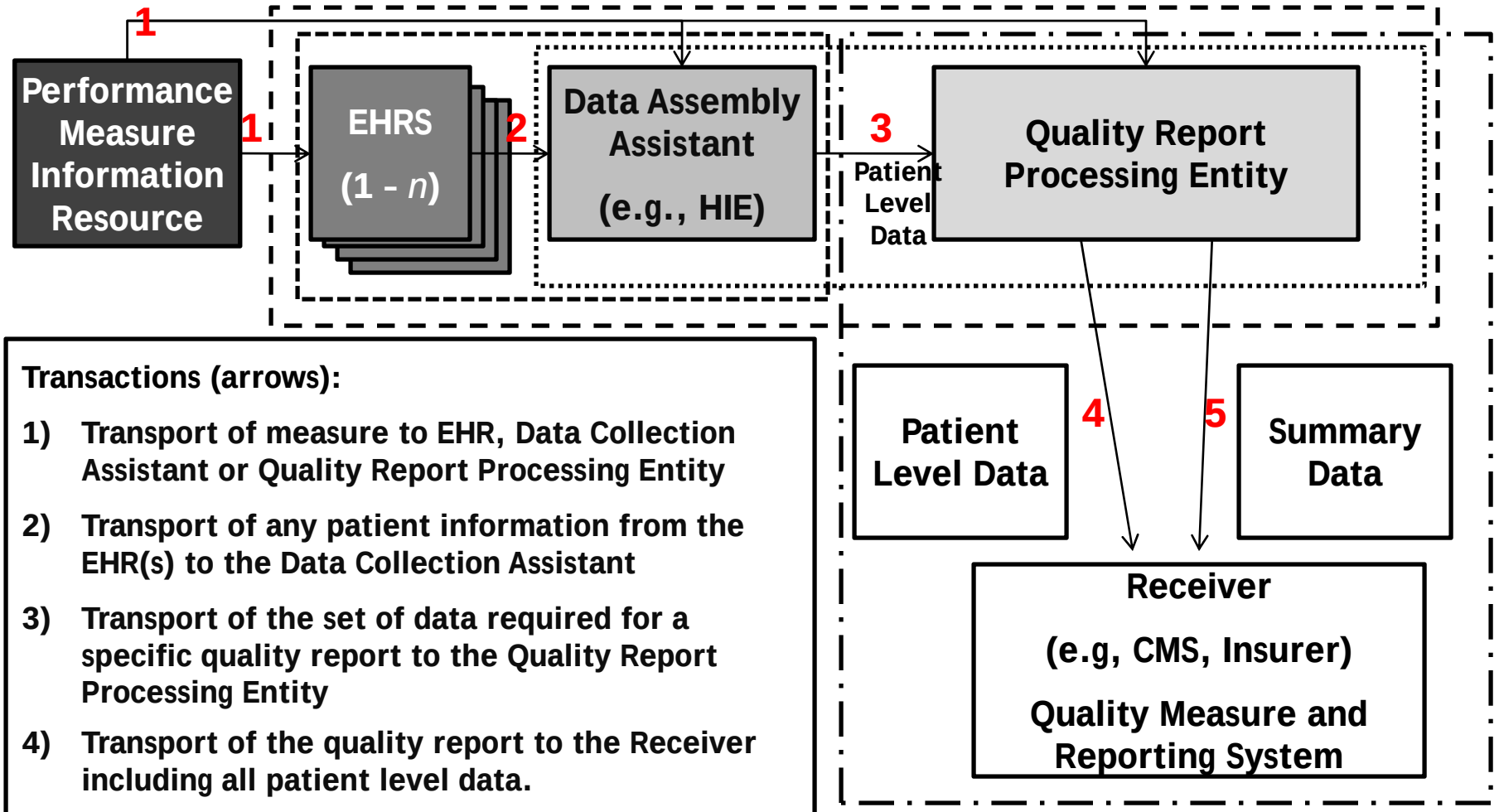
http://www.hl7.org/v3ballot/html/domains/uvqm/uvqm.htm

New Data Sources

NQF
THE NATIONAL QUALITY FORUM

1. New data types
   - Functional status
   - Care experience
   - Communication to patient
   - Communication from patient
2. HITEP Data Flow
   - Source – e.g., device, clinician, patient, other
   - Recorder – e.g., device, clinician, patient, other
   - Setting – inpatient, ambulatory, home, other
   - Health record field – location of the information

Data Collection



Transactions (arrows):

1) Transport of measure to EHR, Data Collection Assistant or Quality Report Processing Entity
2) Transport of any patient information from the EHR(s) to the Data Collection Assistant
3) Transport of the set of data required for a specific quality report to the Quality Report Processing Entity
4) Transport of the quality report to the Receiver including all patient level data.
5) Transport of the quality report to the Receiver of the performance summary.

Keeping Measures Current

1. Maintenance of Code Lists (Value Sets)

2. Maintenance of QDS

3. Measure maintence process

Thank you

feisenberg@qualityforum.org