



# NHIN Trial Implementations

## Use Case Requirements Document (Template)

**Use Case Title:**     ONC Quality Detailed Use Case –Scenario 2, Flow #3

**Workgroup:**         Population Perspective Workgroup

**Version:**            V. 4

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### Description:

- Generally describe the Workgroup's understanding and assumptions in analyzing the use case priority information exchanges.

The Quality Use Case subcommittee of the Population Perspective WG proceeds with an understanding based upon current analysis that Priority Flows #1, #4, and #9 of Scenarios 1 and 2 of the Quality Use Case may be considered functionally equivalent. This assumption seems to be supported by review of data, events, actions, conditions, and gaps, etc. for both hospital-based (Scenario 1) and clinician-based (Scenario 2) quality information collection and reporting; however, it may not be possible to realize the full implications of this assumption until requirements are driven to specifications and implementation processes, particularly with standards for a number of priority exchanges undefined.

Quality reporting requirements are defined based on the measure set(s) used by entities that require quality performance reporting – e.g. CMS, Joint Commission, State surveillance, payors, internal tracking/monitoring – and other clinician/system-defined needs. Two primary yet divergent uses of quality measures are for patient care and reporting. At the patient-level, quality measures can serve as a point-of-care reminder for clinical care due (or received) by patients who are eligible for the specified care. Summarized or aggregated quality measures are reported at the clinician, hospital, site, or system level as required by accrediting, government, pay-for-performance, and other entities. As per HITSP, patient-level quality data analysis and aggregation may occur at one or more of the local care delivery locations, at an intermediate site (such as an HIE, HISP, or quality organization), or at the location of the intended recipient of patient-level quality data.

#### Assumptions:

- Patient, clinician, facility identification is standardized throughout the system
- Information shared among facilities and clinicians in medical practice area is at the patient level to assure appropriate record linkage for patient at point of care
- Information shared outside the actual provision of care is patient de-identified and 'rolled up' to the required level for reporting out.
- Feedback to clinician includes all measures for which patient is eligible, due date, and latest result, if applicable
- Prompts for new patients if eligible for (at least) preventive services – i.e., prompts care even though not able to be fully included in some reportable quality measures
- It is unlikely that real-time feedback to clinician will occur in time for the demonstration, but at some point in the future this feedback will include all measures for which patient is eligible, due date, and latest result, if applicable.
- Include general interpretations that the Workgroup made to support the priority information exchanges between HIEs and between an HIE and other actors in the exchange. See above



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### Priority Information Exchanges:

- Scenario 1 Hospital-based Care Quality Information Collection and Reporting

Priority Info. Exchanges	Use Case Description
Information Exchange #1	Defined quality measurement specifications to be reported are sent to hospitals.
Information Exchange #4	Hospital quality data is sent either via an intermediate entity or point-to-point for onward transmission to the Multi-Hospital Measurement and Reporting entity (patient-level – identifiable).
Information Exchange #9	Distributed data is available to users (aggregate hospital-level data).

- Diagram of the priority information exchanges of Hospital-based Quality Information Collection and Reporting

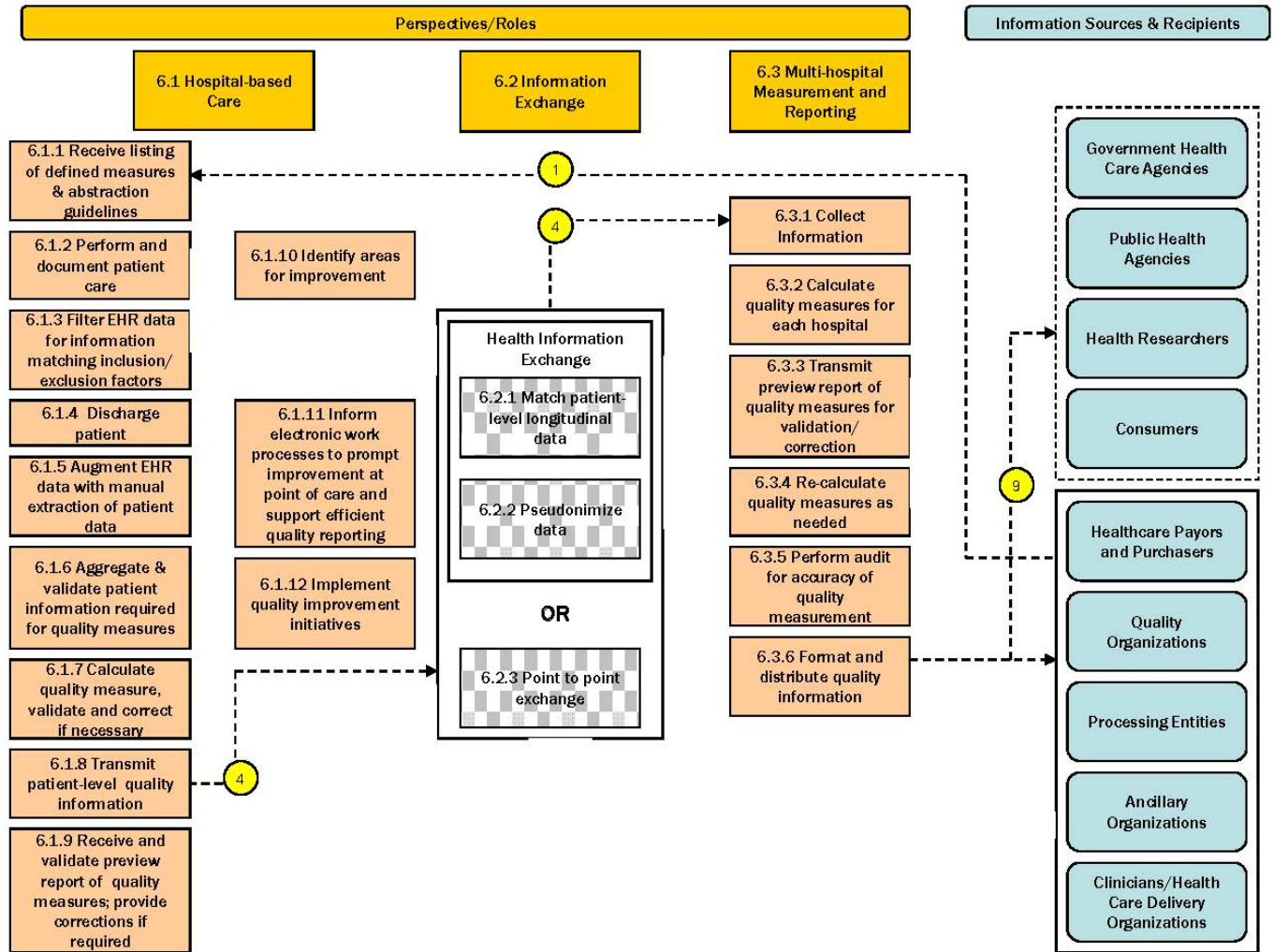


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### 6.0 Hospital-based Care Quality Information Collection and Reporting

Figure 6-1. Hospital-based Care Quality Information Collection and Reporting Flow



- Scenario 2 Clinician Quality Information Collection and Reporting

Priority Info. Exchanges	Use Case Description
Information Exchange #1	Defined quality measurement specifications to be reported are sent to clinicians.
Information Exchange #3	Longitudinal health information held in associated repositories is forwarded by the HIE (patient-level – identifiable).
Information Exchange #4	Clinician quality data is sent either via an intermediate entity or point-to-point for onward transmission to the Multi-entity Feedback and Reporting entity (patient-level – identifiable).



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Information Exchange #9	Distributed data is available to users (aggregate clinician-level data).
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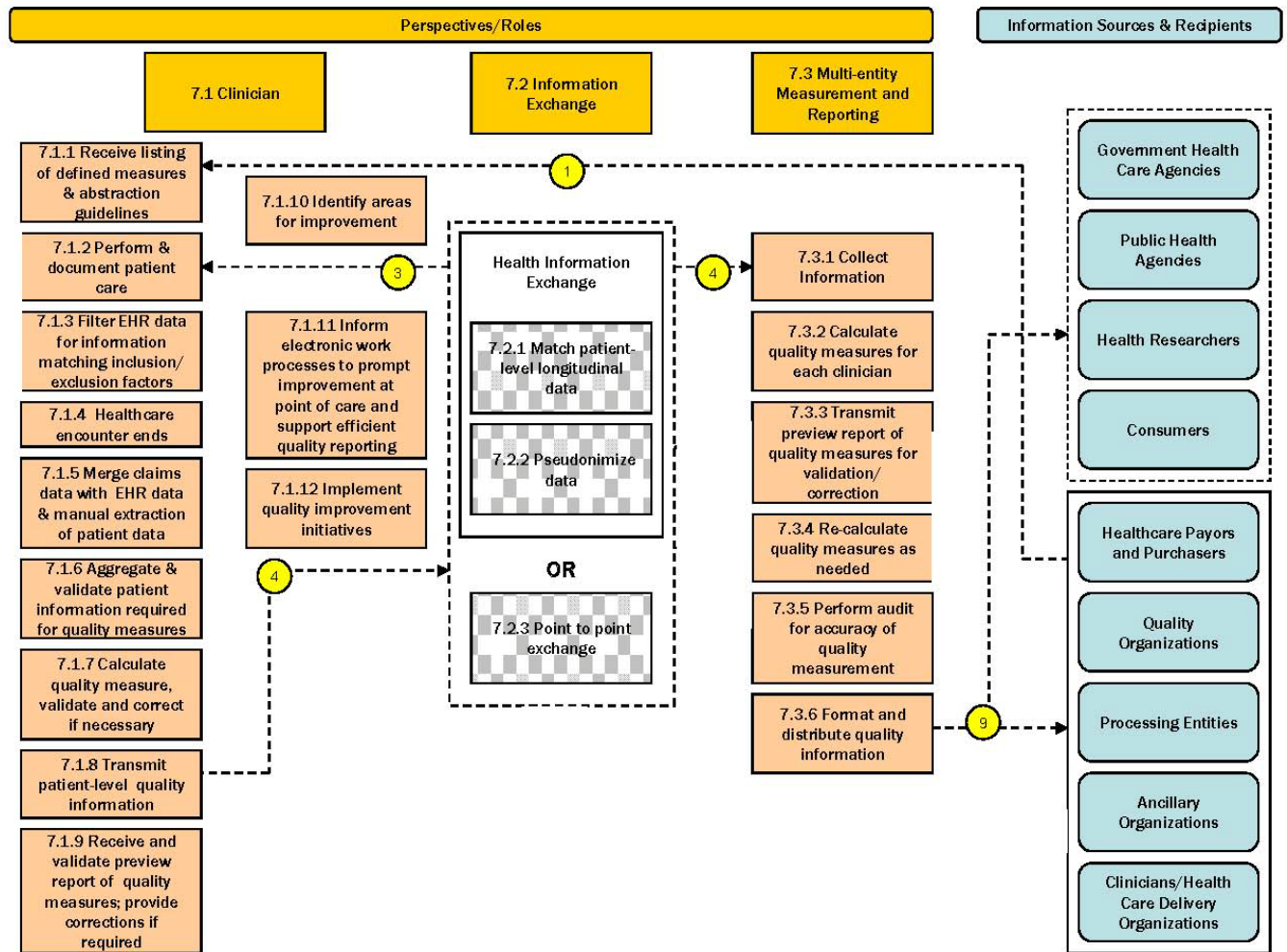
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- Diagram of the priority information exchanges of Clinician Quality Information Collection and Reporting

### 7.0 Clinician Quality Information Collection and Reporting

Figure 7-1. Clinician Quality Information Collection and Reporting Flow



Requirements:

Use Case Scenario: 7.0 Clinician Quality Information Collection and Reporting



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Information Exchange: 3. Longitudinal health information held in associated repositories is forwarded by the HIE (patient-level – identifiable).

### 1 Information Exchange Workflow

#### 1.1 Workflow Steps and Description

**Action:** Care delivery organization (CDO) sends request to HIE for a given patient's clinical data.

A CDO's IT system sends a request for all of the clinical data associated with a given patient. This data flow is part of the quality use case, but may also occur for all patients with data in the HIE (even if the given patient does not happen to fall within the denominator for any quality measures).

**Action:** HIE responds to CDO request for a given patient's clinical data.

For data fields where the HIE has data, this data is transmitted back to the CDO IT system. This data flow is part of the quality use case, but may also occur for all patients with data in the HIE (even if the given patient does not happen to fall within the denominator for any quality measures).

The data needs to be patient-level identifiable, but a patient code common to both the HIE and the CDO IT system may be used to avoid the privacy/security concerns associated with the use of protected health information.

The HL7 continuity of care document (CCD) is one possible specification for this data transmission. While CCD does not currently include fields to identify whether a patient falls in the numerator, denominator, and/or certain exclusions for a given measure, these fields should be considered for inclusion in a future CCD specification, as their inclusion could facilitate automated quality reporting. If these fields are included in a future CCD specification, the specific performance metric to which they pertain must also be carefully referenced (i.e. organization, version, reference).

#### 1.2 Use Case References (e.g. Events/Actions)

[Cite applicable references to the use case (e.g. assumptions, events, actions, etc.) as well as the **rationale to justify interpretations** of the use case priority information exchanges.]

7.1.2 Event: Perform and document patient care.

7.1.3.1 Action: Based on the defined measure specifications and potential technical specifications incorporated into the EHR workflow, patients relevant for each "denominator" (a case relevant to include for a particular quality measure) are identified using the clinical information entered. If the information is present, the patient is identified as eligible for the measure, based on inclusion criteria.

7.2.1 Event: Match patient-level longitudinal data.

7.2.1.1 Action: Patient-level information from multiple sources is matched to create a longitudinal view for a specific patient

7.2.2 Event: As appropriate, pseudonymize or de-identify the patient-level data which are being readied for transmission. Pseudonymization allows for data to be re-linked if requested by an authorized entity

7.2.2.1 Action: Pseudonymize or de-identify patient-level data



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7.2.2.2 Action: A randomized data linker is provided to allow authorized entities the ability to re-link with the individual patient

7.2.2.3 Action: Required data are checked to ensure full compliance with privacy and security requirements

7.2.2.4 Action: Re-link data as authorized by authorized requesting entity

7.2.3 Event: Point to point exchange

### 1.3 Key Assumptions

- Patient, clinician, facility identification is standardized throughout the system
- Missing data (and source) are flagged
- Information shared among facilities and clinicians in medical practice area – longitudinal data – is at the patient level to assure appropriate record linkage for patient being seen
- Prompts for new patients if eligible for (at least) preventive services – i.e., prompts care even though not able to be fully included in some reportable quality measures
- Patient data are transmitted through an HIE or point-to-point to the requesting clinician or facility
- Pseudonimization algorithm standardized within system
- Back-up log cross-references random linker (key) and patient identifiers, including unique key as check for re-linkage
- Explicit identification checked – name, ssn, insurance number
- Implicit identification checked – dob, gender, unique characteristics
- Standard algorithms include all HIPAA and other privacy, security requirements
- Requesting entity authorized to make request, receive authorized data – algorithm check against 'approved' list
- Re-linkage followed by QA – assure appropriate patient identified, appropriate patient identifiers re-linked, check unique key

## 2 Information Exchange Requirements

### 2.1 Triggers

[The applicable user and system-driven activities that initiate the information exchange. For example, this could describe how a particular query and retrieval, routing of information, etc. are initiated.]

**Action:** Care delivery organization (CDO) sends request to HIE for a given patient's clinical data.

A CDO's IT system sends a request for all of the clinical data associated with a given patient. This data flow is part of the quality use case, but may also occur for all patients with data in the HIE (even if the given patient does not happen to fall within the denominator for any quality measures).

**Action:** HIE responds to CDO request for a given patient's clinical data.



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This is triggered by the prior (requesting) action.

### 2.2 Data Content Requirements

[The type of data needed in the exchange and when that data should conform to a specification, and (if available) identified gaps in existing NHIN or HITSP specifications that need to be addressed for the information exchange.]

The CDO request to HIE should consist of a patient level identifier.

The HIE response should consist of all patient clinical information that may be useful in the clinical encounter, for quality scoring. Other data may be included in this transmission if it is useful for other reasons, but that is outside the scope of the quality use case.

Patient data necessary for quality scoring is detailed below. It seems that all of this data would generally be included in the data provided for the clinical care encounter. As noted above, while the inclusion of numerator/denominator/exclusion flags are not necessary for automated quality reporting, their inclusion could facilitate future efforts.

- Patient-level administrative data – demographics, insurer, identifiers
- Per quality measure set definitions/requirements:
  - Procedures and diagnostic tests, including date
  - Medications ordered, obtained, administered including dates
  - Lab orders and results, including dates
  - Symptoms related to quality indicators
  - Allergies (exclusion/contraindication criteria)
  - Side effects (exclusion/contraindication criteria)
  - Principal, admission, secondary diagnoses
- Clinician/Office-level data
  - Visit time, date
  - Treating/referring clinician
  - Site identifier
  - System identifier, if appropriate
- Validation data – e.g., key identifier for re-linking pseudonimized patients appropriately

### 2.3 Other unique requirements

[Identify the functionality or interoperability capabilities that will be needed to support the information exchange.]