

2014 Edition Test Scenarios

January 31, 2013



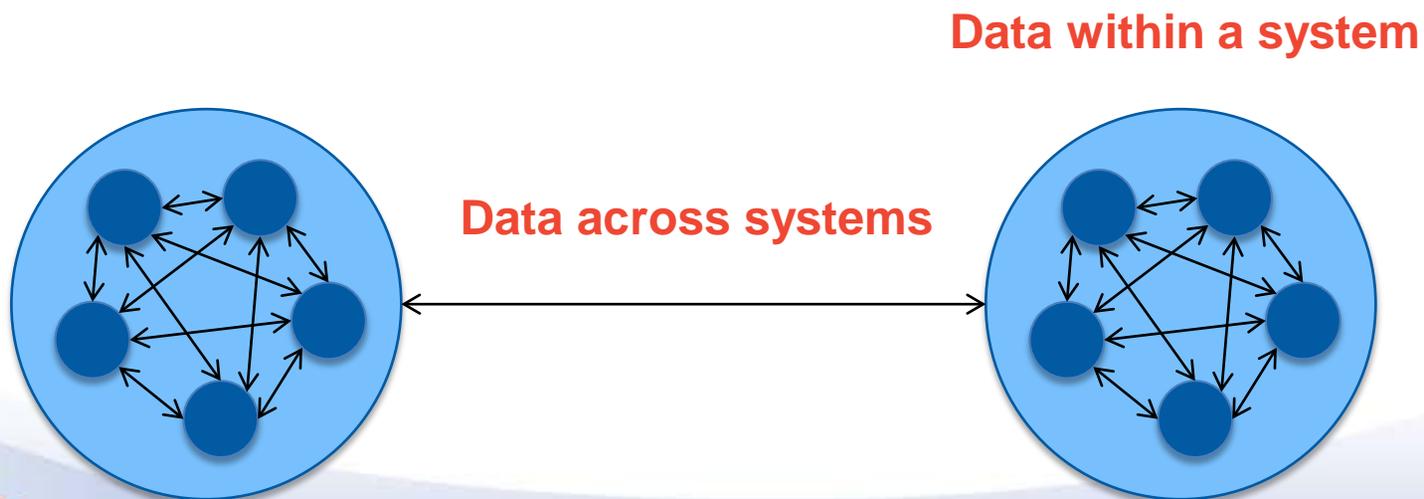
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Purpose of Scenario-Based Testing

- Make **clinically plausible** (i.e. align with plausible clinical scenarios)
- Ensure ability to use **data across systems**
- Ensure ability to use **data within a system**
- **Increases value** of testing
- **Improve efficiency** of testing
- **Reduce setup** of testing
- Make testing **consistent** and **replicable**

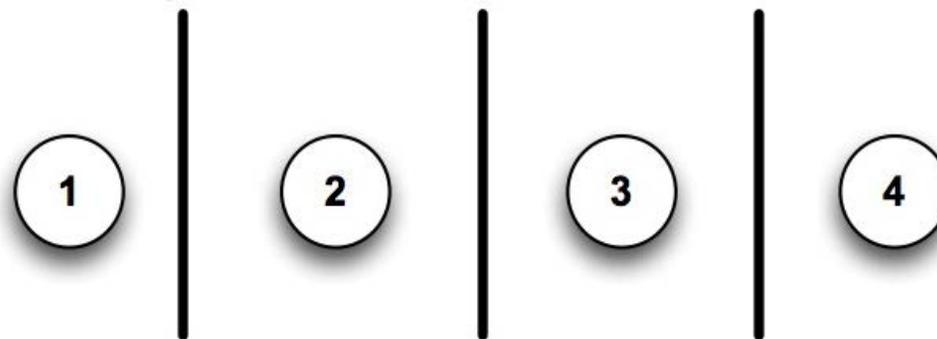




Unit-Based Testing

- Minimum requirement
- Independent tests
- Individual test data (input) and result(s) (output)
- Currently employed for 2011 and 2014 Edition test procedures
- Required for 2011 and 2014 Edition testing and certification

Unit Based Testing

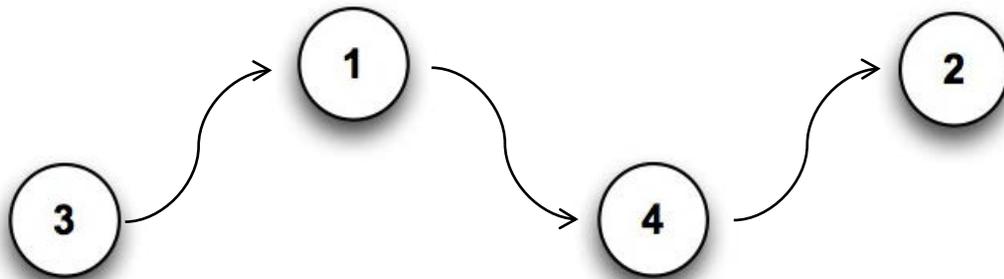




Scenario-Based Testing

- Alternative to unit-based testing
- Dependent tests
- Dependent test data (input) and result(s) (output)
- Can remove individual test from sequence
- Optional for 2014 Edition testing and certification

Scenario-Based Testing



If test 1 is not applicable...



2014 Edition Test Scenarios - Quick Facts



Components

- 2014 Edition Test Method
- Consistent and threaded data

Scope

- Focused
- Clinically plausible workflow

Specificity

- Not setting or test data specific
- Setting determined by unit test (i.e. add/remove tests depending on setting)
- Scenario details determined by patient test data (e.g. pediatric vs. geriatric)

Documentation

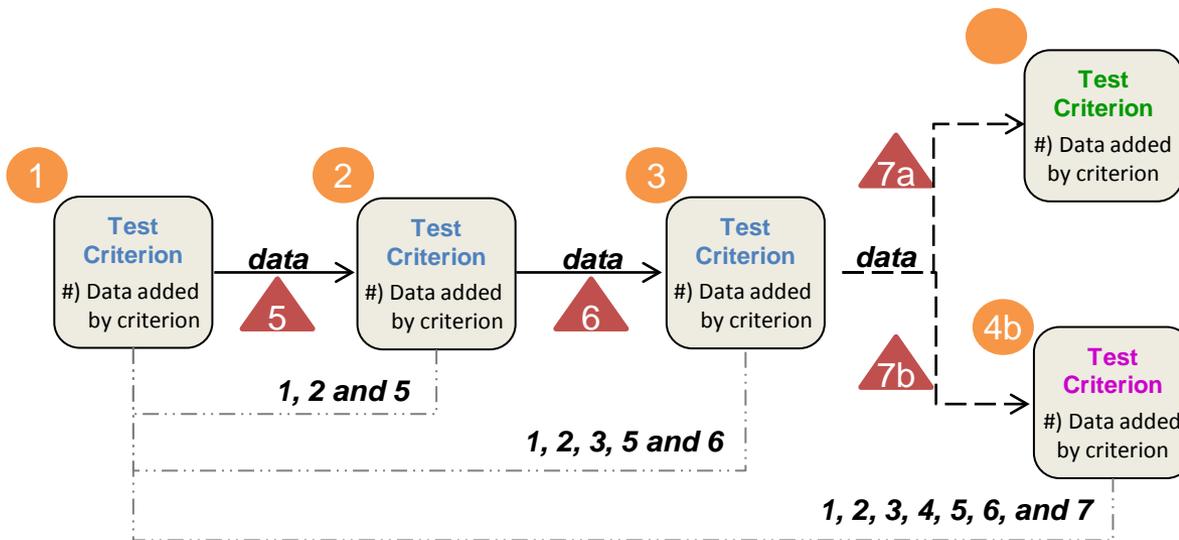
- Test scenario diagram
- Test scenario procedure (contains the test scenario narrative)
- Test scenario data

Test Scenario Conceptual Overview



Test Scenario Diagram visually represents the “linking” of Unit Tests

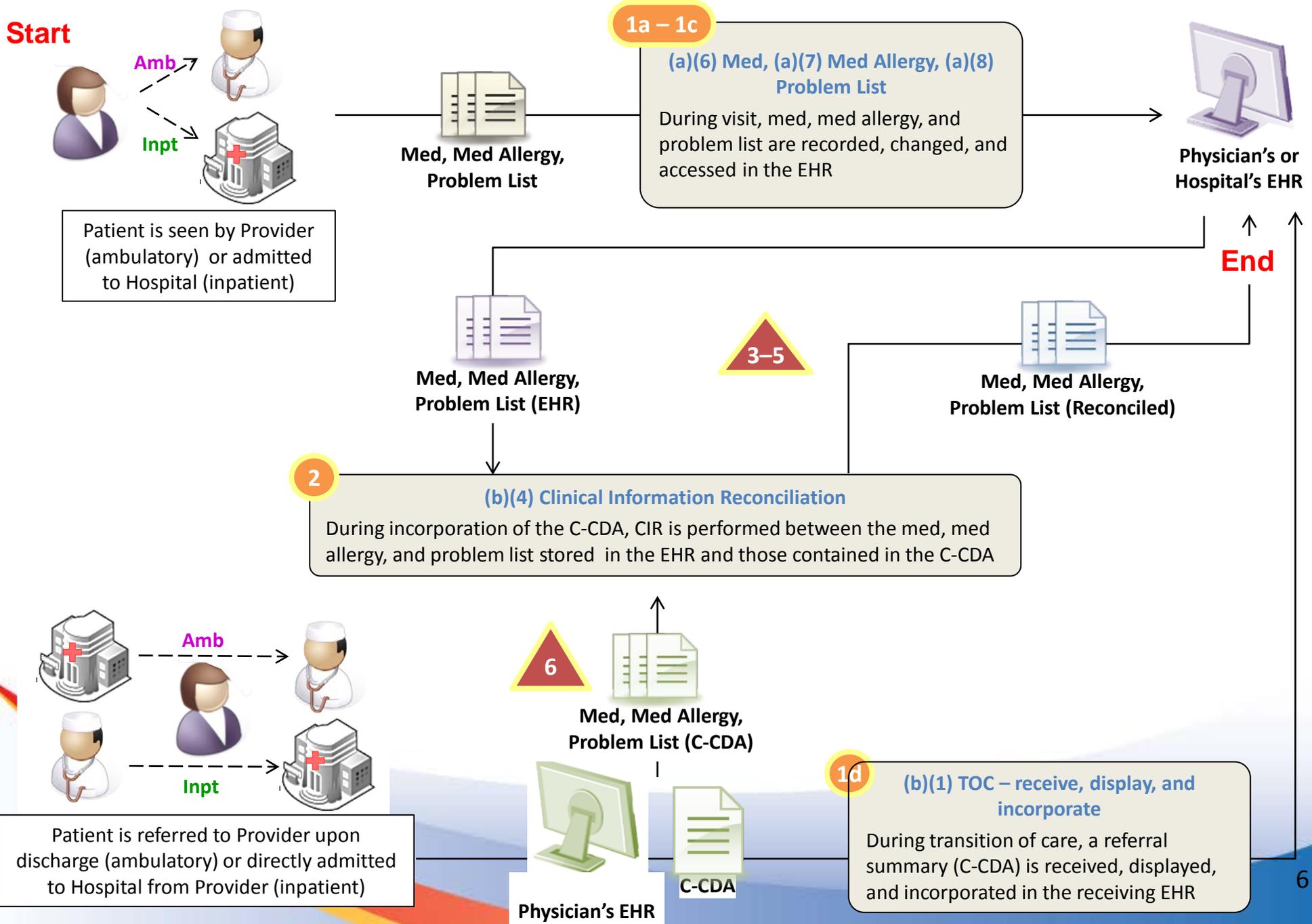
- Scenarios represent a suggested sequence for testing criteria
- In a scenario, unit tests can be added, removed, or rearranged for various reasons, depending on the scenario
 - For instance, a scenario can be made setting specific by adding or removing setting specific tests (e.g. choose 4a or 4b depending on setting)



- XX Both settings
- XX Inpatient setting
- XX Ambulatory setting

- Tests unit test procedure
- ▲ Tests ability to automatically use data already stored in the EHR
- Indicates the items tested including procedure and data tests

Clinically Plausible Workflow – EHR Interoperability: Intake



Test Scenario Narrative – EHR Interoperability: Intake



1a – 1c

(a)(6) Medication list, (a)(7) Medication allergy list, (a)(5) Problem list

Ambulatory: Patient is seen by Provider. During this ambulatory visit, a medication, medication allergy, and problem list are recorded, changed, and accessed in the Provider's EHR.

Inpatient: Patient is admitted to Hospital. During this hospitalization, a medication, medication allergy, and problem list are recorded, changed, and accessed in the Hospital's EHR.

med, med allergy, and problem list stored in the EHR are pulled to do clinical information reconciliation

3-5

reconciled med, med allergy, and problem list are stored in the EHR

2

(b)(4) Clinical information reconciliation

Ambulatory/Inpatient: During incorporation of the referral summary (C-CDA), clinical information reconciliation is performed between the medication, medication allergy, and problem list stored in the EHR and those contained in the C-CDA. Upon completion of the clinical information reconciliation, the reconciled medication, medication allergy, and problem list are stored in the EHR.

6

med, med allergy, and problem list stored in the C-CDA are pulled to do clinical information reconciliation

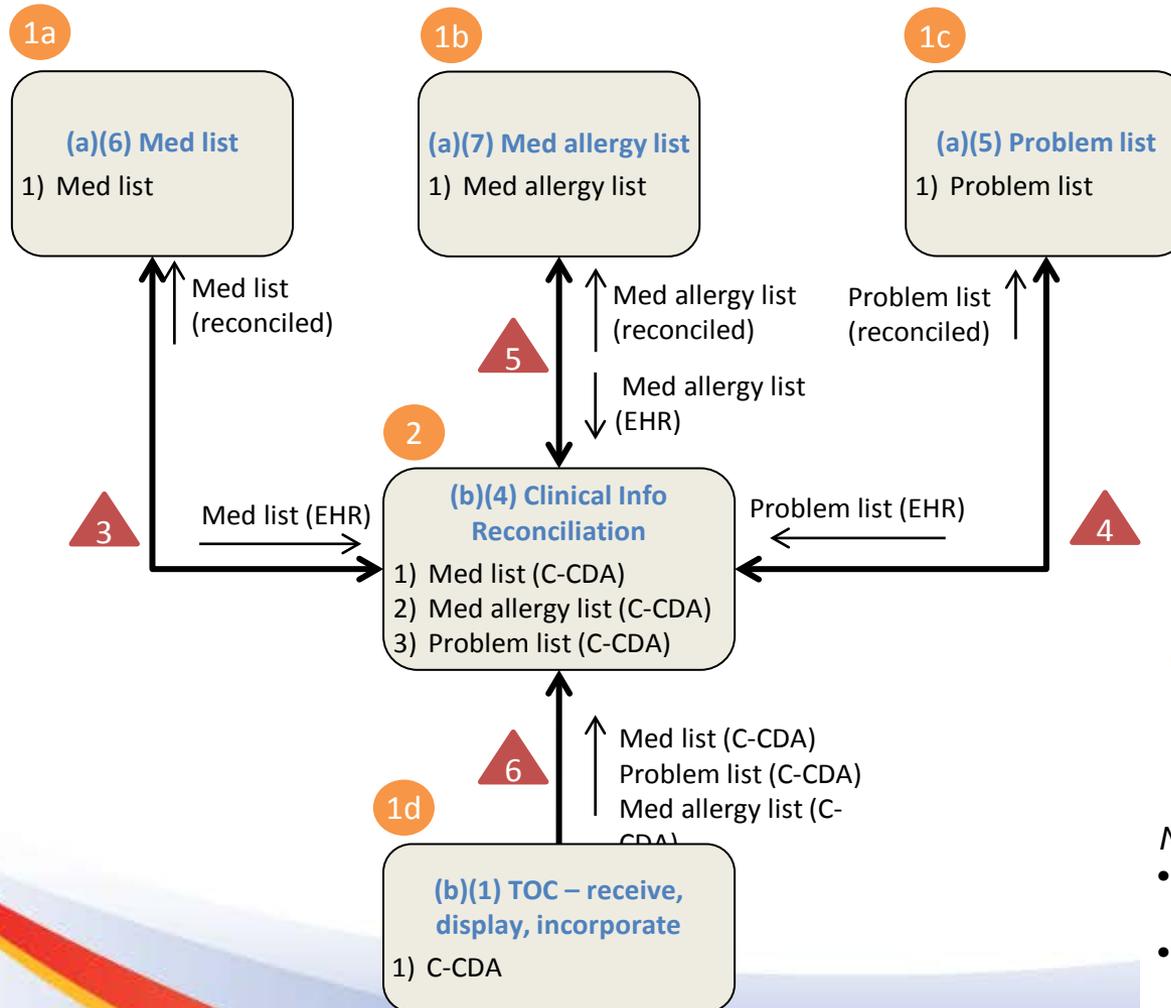
1d

(b)(1) Transitions of care – receive, display, and incorporate

Ambulatory: Patient is referred to Provider upon discharge from Hospital. During transition of care, a referral summary (C-CDA) is received, displayed, and incorporated in the Provider's EHR.

Inpatient: Patient is directly admitted to Hospital from an ambulatory visit with Provider. During transition of care, a referral summary (C-CDA) is received, displayed, and incorporated in the Hospital's EHR.

Test Scenario Diagram – EHR Interoperability: Intake



- Tests unit test procedure
- ▲ Tests ability to automatically use data already stored in the EHR

Notes:

- 1a-1d are unit tests and can be tested in any order
- 2 (clinical info rec) tests intraoperability
- 3-6 order is determined by the TSP

Summary



Purpose of Scenarios

- Make clinically plausibility
- Ensure use of data store in the EHR
- Increase value, efficiency, and consistency of testing

Unit-Based Testing

- Currently implemented (required)
- Individual unit tests and data
- 2011 and 2014 Edition test procedures

Scenario-Based Testing

- Future implementation (optional)
- Linked unit tests and threaded data
- First test scenario – EHR Interoperability: Intake
- Requesting public input



Glossary

Unit Test or Unit Test Procedure*	A unit test or unit test procedure evaluates the conformance of EHR technology to a single certification criterion
Unit-Based Testing	Use of unit tests to evaluate the conformance of EHR technology to a certification criterion or criteria
Scenario-Based Testing	Use of test scenarios to evaluate the conformance of EHR technology to a certification criterion or criteria
Test Scenario	Broad term used to describe the “linking” of unit tests to represent a clinically relevant workflow
Test Scenario Diagram	Visual representation of a test scenario to illustrate the “linked” unit tests
Test Scenario Procedure (TSP)	“Linked” unit test procedures/scripts to provide testing instructions specific to a test scenario
Test Scenario Data (TSD)	Data used within the TSP during testing (consistent with all testing, the data is independent of the TSP to allow for multiple test cases)
Test Scenario Narrative	Description of possible sequence of events associated with the clinically plausible workflow represented by the test scenario procedure (this is within the TSP)

*Typically, a “test procedure,” without a “unit” or “scenario” modifier, refers to a unit test procedure