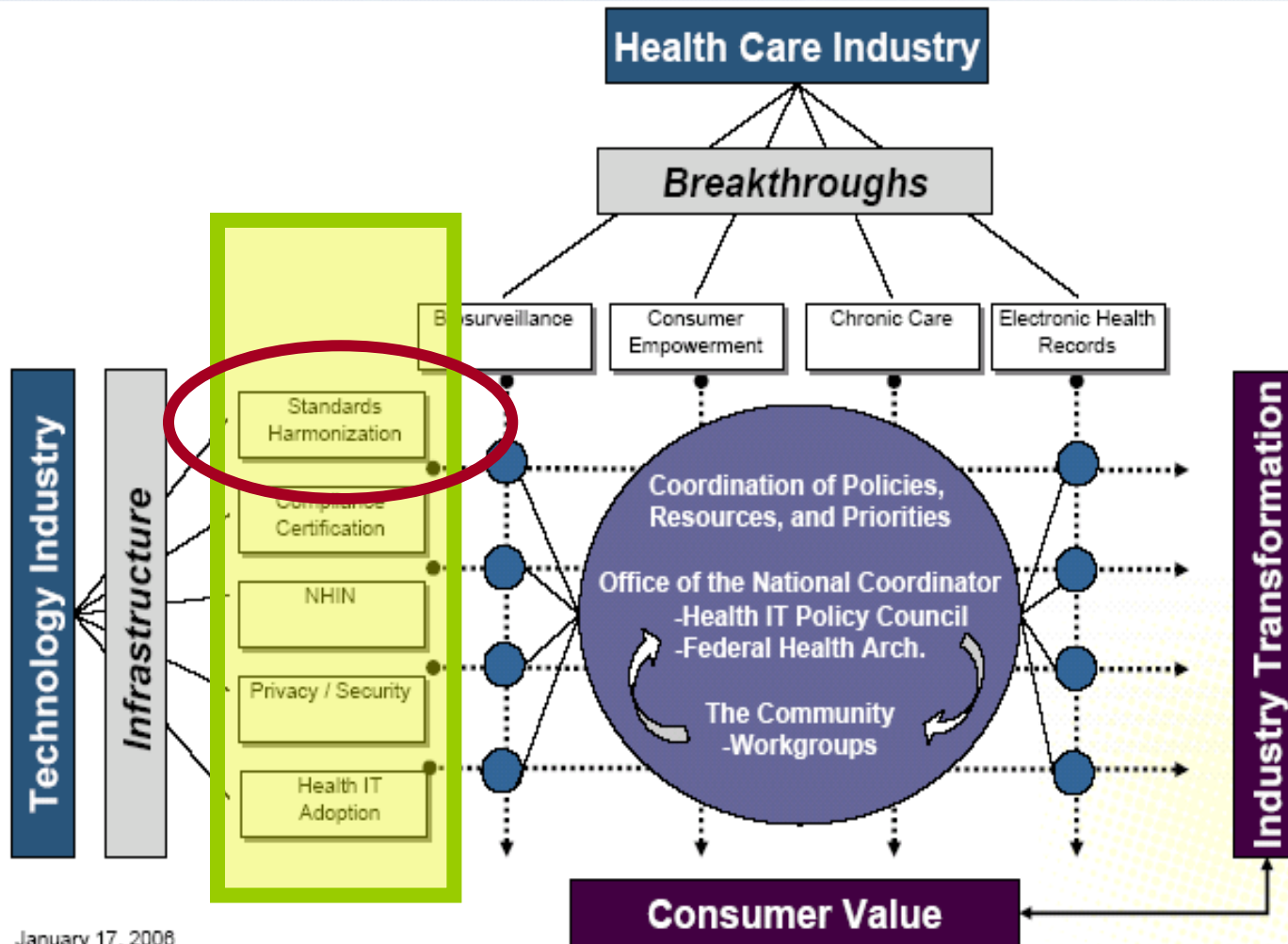# HIT STANDARDS & INTEROPERABILITY COLLABORATIVE

HITSP Medication Management Interoperability Specification Overview

December 21, 2007

The purpose of this presentation is to orient the Nursing Informatics Community to the HITSP Inspection Testing Process and specifically the Medication Management Interoperability Specification . . .
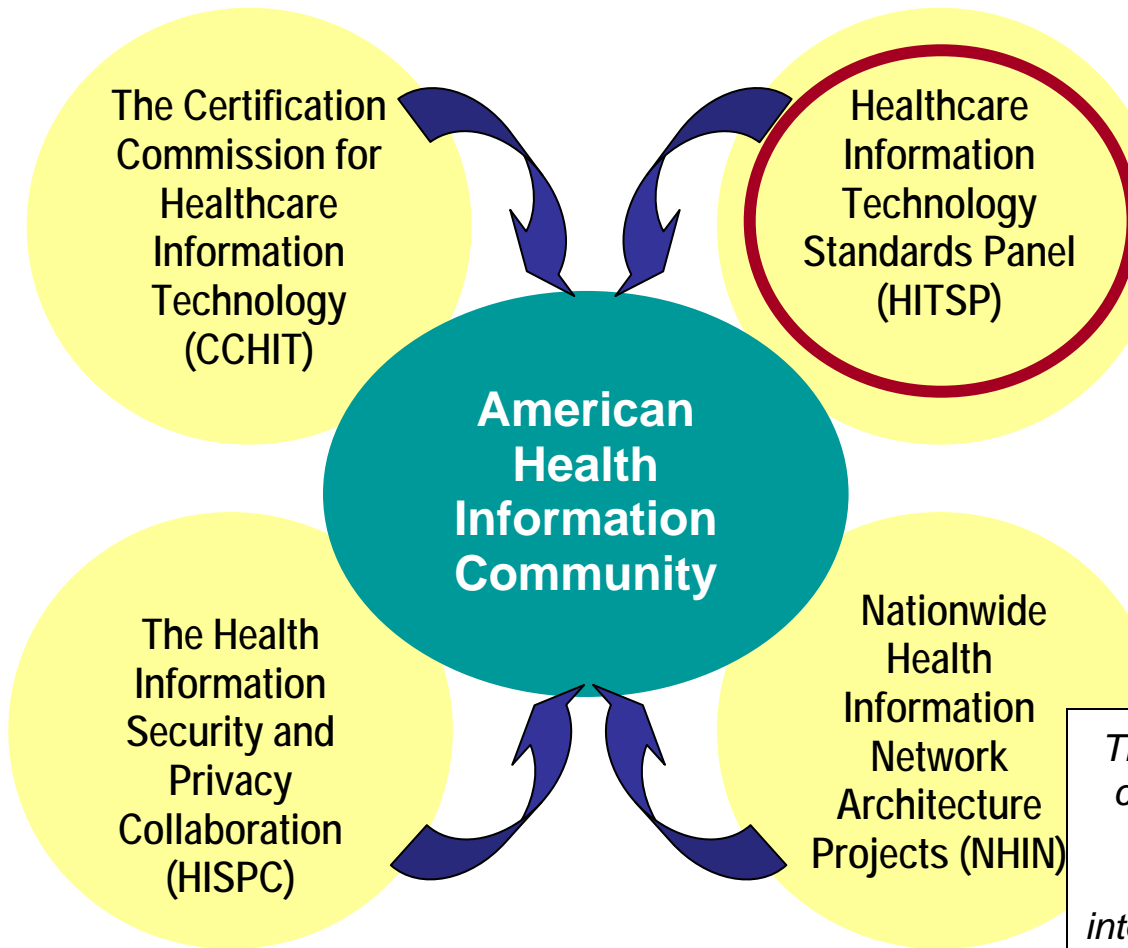
- Background Information about HITSP
- An Overview of the HITSP Harmonization Process
- Medication Management Interoperability Specification
- Public Comment Schedule/Process

HHS 2005 Contracts

Health Care Industry

Breakthroughs

Biosurveillance | Consumer Empowerment | Chronic Care | Electronic Health Records

Technology Industry

Infrastructure

Standards Harmonization

Compliance Certification

NHIN

Privacy / Security

Health IT Adoption

Coordination of Policies, Resources, and Priorities

Office of the National Coordinator
-Health IT Policy Council
-Federal Health Arch.

The Community
-Workgroups

Industry Transformation

Consumer Value

January 17, 2006

The American Health Information Community

The Certification Commission for Healthcare Information Technology (CCHIT)

Healthcare Information Technology Standards Panel (HITSP)

American Health Information Community

The Health Information Security and Privacy Collaboration (HISPC)

Nationwide Health Information Network Architecture Projects (NHIN)

HITSP includes 351 different member organizations and is administered by a Board of Directors
19 SDOs
263 Non-SDOs
28 Govt. bodies
13 Consumer groups

The Community is a federally-chartered commission and will provide input and recommendations to HHS on how to make health records digital and interoperable, and assure that the privacy and security of those records are protected, in a smooth, market-led way.

HITSP Mission and Role

Mission:
To harmonize relevant standards in the health care industry to enable and advance interoperability

The standards harmonization process is an open, inclusive, collaborative, use case driven process

www.hitsp.org

1. Identify a pool of standards for a general breakthrough area

2. Identify gaps and overlaps for a specific context

3. Make recommendations for resolution of gaps and overlaps

4. Develop interoperability specifications for using the selected standard for a specific context

5. Test the instruction for using the standard

Technical Standards Not Policy

- HITSP focuses on technical standards and NOT on policy definition

- A standard specifies a well defined approach that supports a business process and . . .
  - has been agreed upon by a group of experts
  - has been publicly vetted
  - provides rules, guidelines, or characteristics
  - helps to ensure that materials, products, processes and services are fit for their intended purpose
  - is available in an accessible format
  - is subject to ongoing review and revision process

- Harmonization is required when a proliferation of standards prevents progress rather than enables it

HITSP Technical Committees

Focus on AHIC breakthrough areas: Initial focus was these 4 use cases

- ***Biosurveillance*** -- Transmit essential ambulatory care and emergency department visit, utilization, and lab result data from electronically enabled health care delivery and public health systems in standardized and anonymized format to authorized public health agencies with less than one day lag time.
- ***Consumer Empowerment*** -- Deploy to targeted populations a pre-populated, consumer-directed and secure electronic registration summary. Deploy a widely available pre-populated medication history linked to the registration summary.
- ***Electronic Health Records*** -- Deploy standardized, widely available, secure solutions for accessing laboratory results and interpretations in a patient-centric manner for clinical care by authorized parties.
- ***Emergency Response EHR –*** Describes the role that an emergency responder electronic health record, comprising at minimum demographics, medication, allergy and problem list information, can be used to support emergency and routine health care activities.

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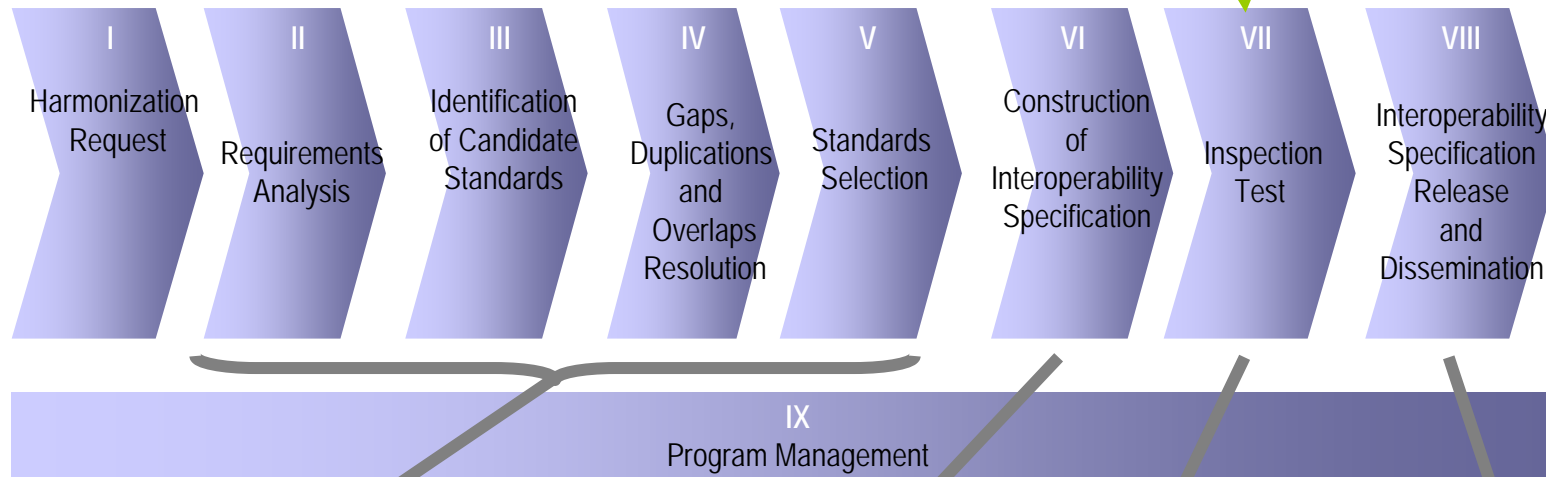- Public Comment Schedule/Process

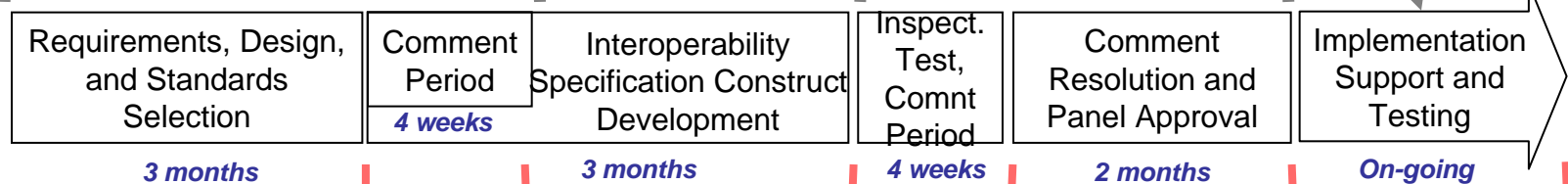# HITSP Framework: Basis for Interoperability Specification Template

- HITSP receives Use Cases and Harmonization Requests from external sources, such as AHIC and ONC.
- The Use Case or Request defines scenarios, business actors, and business and functional/interoperability requirements.
- HITSP decomposes the Use Case requirements into scenarios and then into transactions providing context: technical actors, actions and content. It may create or reuse a transaction or a grouping of transactions (transaction package) based on commonality at this level.

Standards Harmonization Work Plan Tasks

T.I.G.E.R.

PROCESS

I	II	III	IV	V	VI	VII	VIII
Harmonization Request	Requirements Analysis	Identification of Candidate Standards	Gaps, Duplications and Overlaps Resolution	Standards Selection	Construction of Interoperability Specification	Inspection Test	Interoperability Specification Release and Dissemination

IX
Program Management

TASKS

Requirements, Design, and Standards Selection	Comment Period	Interoperability Specification Construct Development	Inspect. Test, Comnt Period	Comment Resolution and Panel Approval	Implementation Support and Testing
3 months	*4 weeks*	*3 months*	*4 weeks*	*2 months*	*On-going*

DOCUMENTATION

Requirements Design & Standards Selection	*Consolidated comments*	*IS Docs Review Draft*	*Consolidated comments*	*IS Docs V 1.0*	*Annual Updates as Required*
		Summary of comment resolution		*Summary of comment resolution*	

HITSP Framework: Basis for Interoperability Specification Template

- Transactions are logical groupings of actions that are decomposed into components, which are groupings of base standards that work together, such as message and terminology.
- Each HITSP construct, i.e., transaction package, transaction or component, may constrain the construct or standard below it. Constraints follow a strict hierarchy and are only imposed by the next higher construct.
- Transaction packages, transactions and components all are potential candidates for reuse if a new set of requirements and context are successfully fulfilled by the existing construct.
- While reuse is a HITSP goal, it is established in the context of a Use Case and its functional/interoperability requirements.
- HITSP constructs are version controlled and, if reused, will be uniquely identified.

HITSP Framework

Use Case or Modification Request

Interoperability Specification

Transaction Package
(1..m transactions or composite standards)

Transaction
(1..n components or composite standards)

Component
(1..c base or composite standards)

Interoperability Specification

For External Use

Transaction Pkg.
(Composite)

Transaction
(Composite)

Component
(Composite)

For Internal Reuse

SDOs

Base Standard #1	Base Standard #2	Base Standard #3	Base Standard #4	Base Standard #5	Base Standard #...	Base Standard #n

Definitions and Rules

Level	Definition	Example	Rules
Use Case or Harmonization Request	▪Defines business and functional requirements ▪Sets Context	▪ONC Harmonized Medication Management Use Case	
Interoperability Specification	▪Models business/ functional/ interoperability requirements ▪Identifies technical/system requirements to meet use-case ▪Identifies how to use one or more HITSP constructs to meet use-case requirements	▪HITSP EHR Interoperability Specification	▪Uses UML diagram to identify technical actors and actions ▪Sets context ▪Testable functional requirements ▪Ids transactions or transaction packages

Definitions and Rules (continued)

Level	Definition	Example	Rules
Transaction Package	▪ Defines how two or more transactions are used to support a stand-alone information interchange within a defined context between two or more systems	▪ Record Locator Service ▪ Entity Identification Service	▪ Thin context and interoperability requirements ▪ Testable ▪ Based on analysis of like technical actors, context and content harmonized across transactions ▪ May be fulfilled by one or more transactions or composite standard ▪ Expresses constraints on transactions or composite standard
Transaction	▪ Logical grouping of actions, including necessary content and context, that must all succeed or fail as a group.	▪ Query lab result ▪ Send lab result	▪ Fulfills all actions between two or more systems needed to meet one or more interoperability requirements ▪ Testable ▪ May be fulfilled by components or composite standard ▪ Expresses constraints on components or composite standard

Definitions and Rules (continued)

Level	Definition	Example	Rules
Component	▪ An atomic construct used to support an information interchange or to meet an infrastructure requirement (e.g., security, logging/audit)	▪Lab result message ▪Lab result context	▪ Typically will use one "primary" standard and may have other "secondary" standards ▪ Expresses constraints on base or composite standards

Definitions and Rules (continued)

Level	Definition	Example	Rules

Base Standard	▪A standard capable of fulfilling a discrete function within a single category produced and maintained by a single standards organization.	▪Messaging standard
		▪Security standard
		▪Code set.
			Per HITSP definition the term "standard" refers, but is not limited to:
			   –Specifications
			   –Implementation Guides
			   –Code Sets
			   –Terminologies
			   –Integration Profiles

Composite Standard	▪Grouping of coordinated base standards, often from multiple standards organizations, maintained by a single organization. In HITSP, it can serve as a component, transaction or transaction package functional requirements.	▪Integration profiles ▪Implementation guides ▪Health transaction services	Per Definition above

Inspection Testing / Public Comment Process

Helps ensure that:

- The Interoperability Specification and its constructs meet Use Case requirements

- The documents contain accurate references and data

- The approach is technically valid

- The Specification and constructs provide a reasonable solution

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Medication Management Interoperability Specification

- IS07 – Medication Management
- T40 – Patient Generic Health Plan Eligibility Verification
- T42 – Medication Dispensing Status
- TP43 – Medication Orders
- TP46 – Medication Formulary and Benefits Information

IS07 – Medication Management

- The goal of the Medication Management Use Case is improving medication management to promote patient safety and support relevant aspects of the medication management cycle.

- Use case describes medication management in two scenarios.
  - Inpatient setting, includes medication reconciliation and ordering, along with other supporting interactions in the hospital
  - Ambulatory setting, addresses access to current medication and allergy information, and support for electronic prescribing.

- Each scenario is then broken into 3 perspectives
  - Clinician perspective
  - Pharmacist perspective
  - Consumer perspective

IS07- Medication Management

- Not all long-term care needs can be addressed explicitly, areas are highlighted where the existing considerations may also be appropriate for long-term care.

- Gaps and overlaps were found in the areas of data representation, terminologies/code sets and information exchange formats. These are being referred to the Foundations Committee for harmonization.
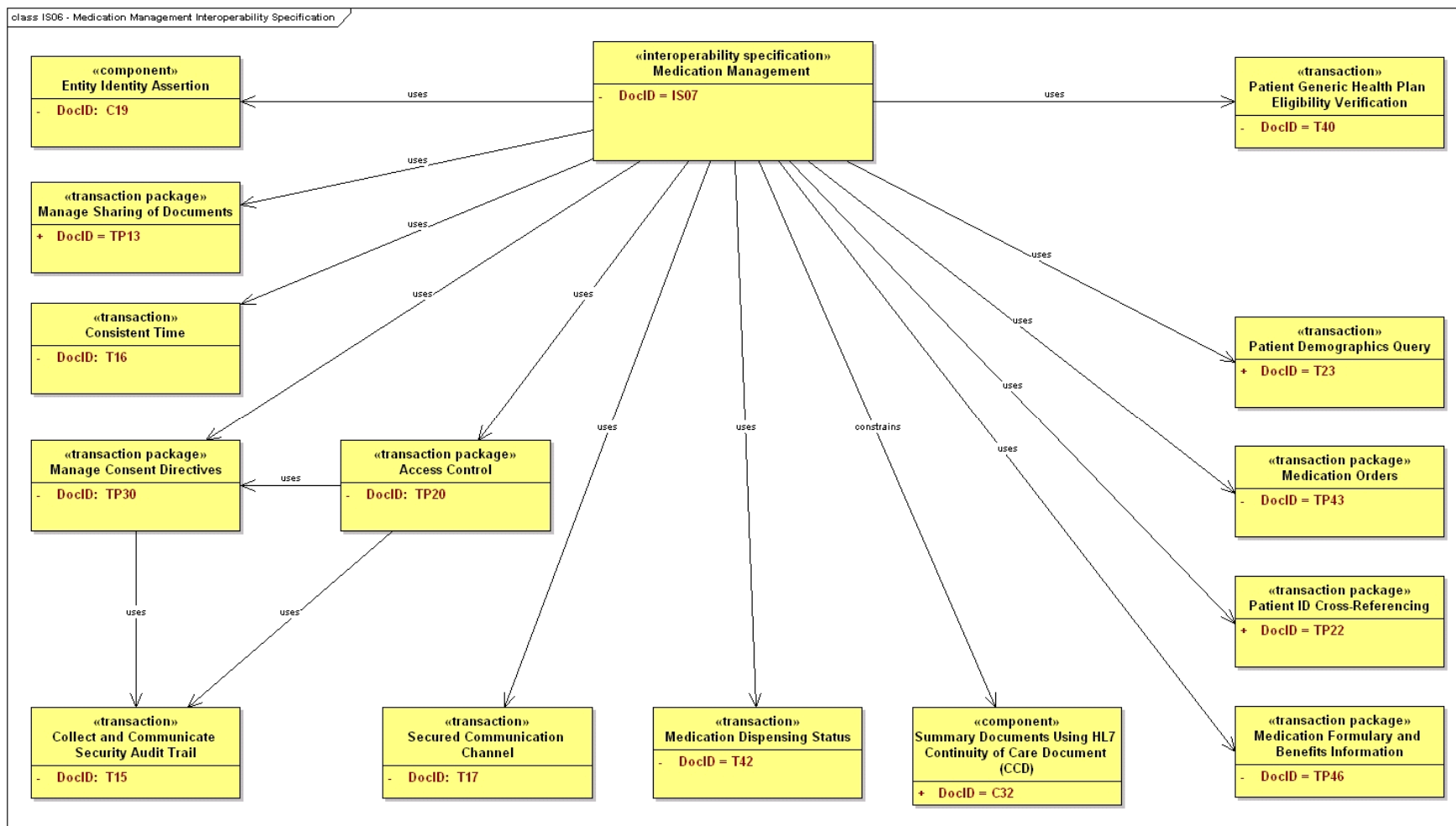
IS07 – Reuse Constructs

Construct	Description
HISTP/TP13	HITSP Manage Sharing of Documents Transaction Package
HITSP/T15	HITSP Collect and Communicate Security Audit Trail Transaction
HITSP/T16	HITSP Consistent Time Transaction
HITSP/T17	HITSP Secured Communication Channel Transaction
HITSP/C19	HITSP Entity Identity Assertion Component
HITSP/TP20	HITSP Access Control Transaction Package
HITSP/TP22	HITSP Patient ID Cross-Referencing Transaction Package
HITSP/T23	HITSP Patient Demographics Query Transaction
HITSP/TP30	HITSP Manage Consent Directives Transaction Package
HITSP/C32	HITSP Summary Documents Using HL7 Continuity of Care Document (CCD) Component

T40 – Patient Generic Health Plan Eligibility Verification
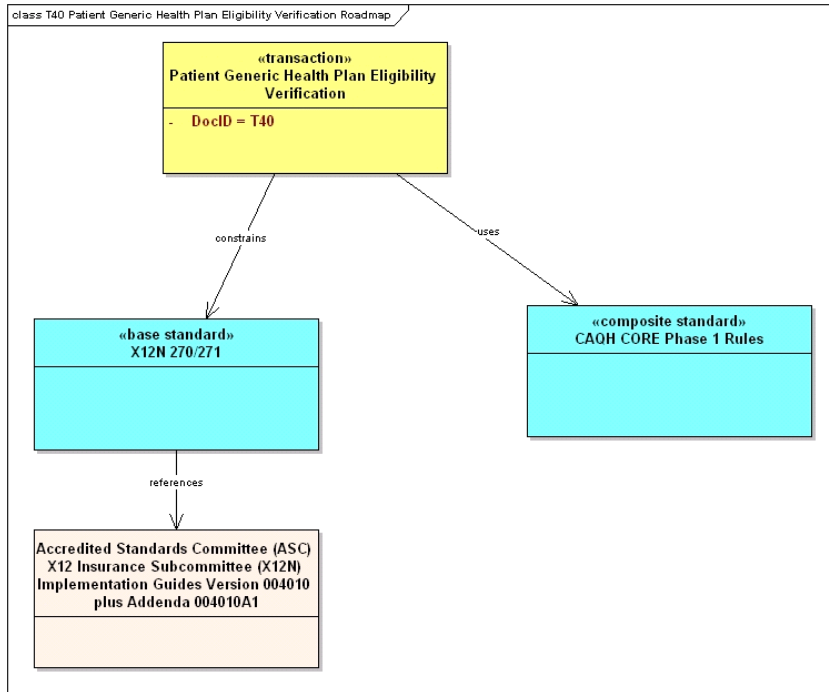
- Provides status of a health plan and details regarding patient liability for a base set of generic benefits or services
- TC is currently reviewing if restraints beyond CAQH CORE Phase 1 rules need to be implemented

T40 – Patient Generic Health Plan Eligibility Verification

sd Patient Generic Health Plan Eligibility Verification

- Eligibility Information Receiver
- Eligibility Information Source
- Eligibility Information Request (X12N 270)
- Eligibility Information Response (X12N 271)
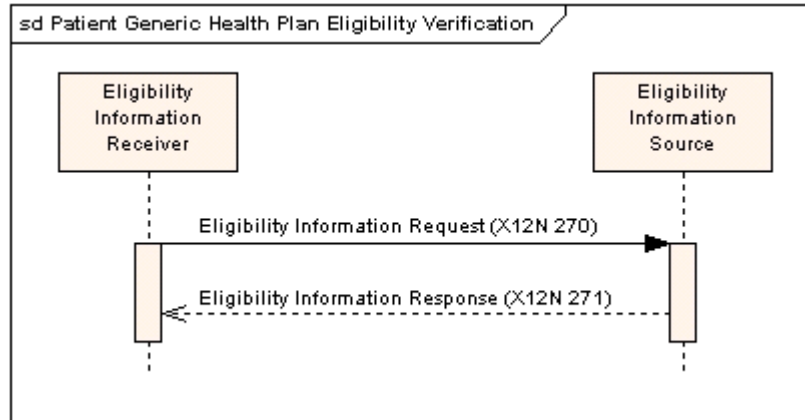
▸ Two Technical actors

- Eligibility Information Receiver that asks about an individual's health plan insurance eligibility
- Eligibility Information Source that holds and maintains the information regarding an individual's health plan insurance eligibility

▸ Two Transactions

- Eligibility request is initiated via the X12N 270
- Eligibility information is returned via the X12N 271

T42 – Medication Dispensing Status

class T42 Medication Dispensing Status Transaction Roadmap

«composite standard»
Federal Medication Terminologies

«transaction»
Medication Dispensing Status

- DocID = T42

«base standard»
RxNorm

«base standard»
Health Care Provider Taxonomy

«base standard»
NCPDP Script 10.1

«base standard»
CMS NPI

«base standard»
FIPS 5-2

«base standard»
DEA Provider Number
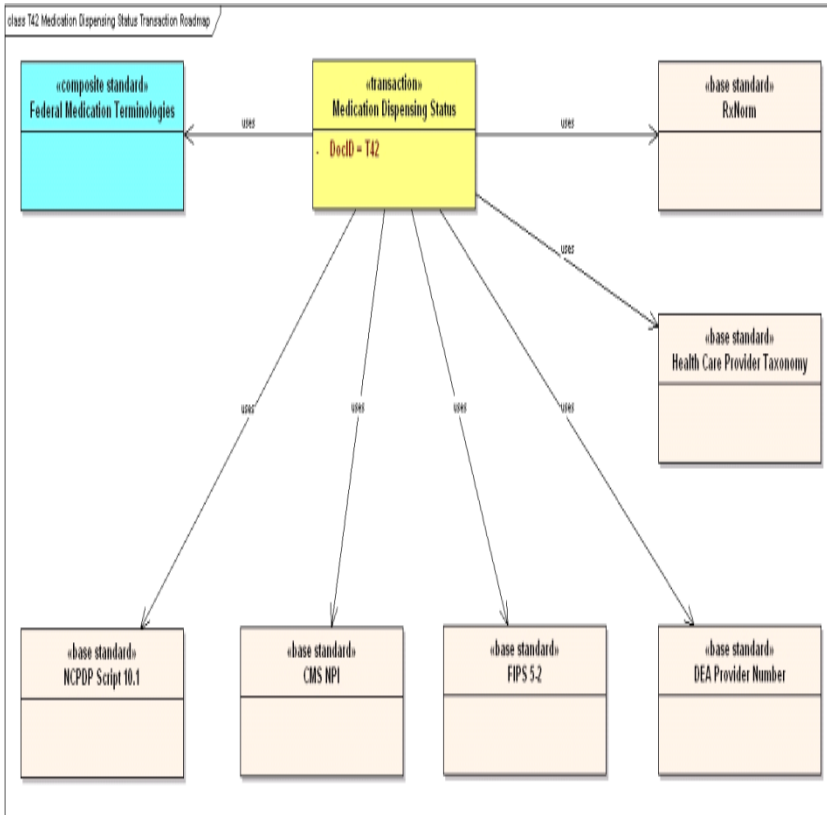
- Provides the prescriber the dispensing status of an ordered prescription.

- Status provided
  - Dispensed
  - Partially dispensed
  - Not dispensed

T42 – Medication Dispensing Status
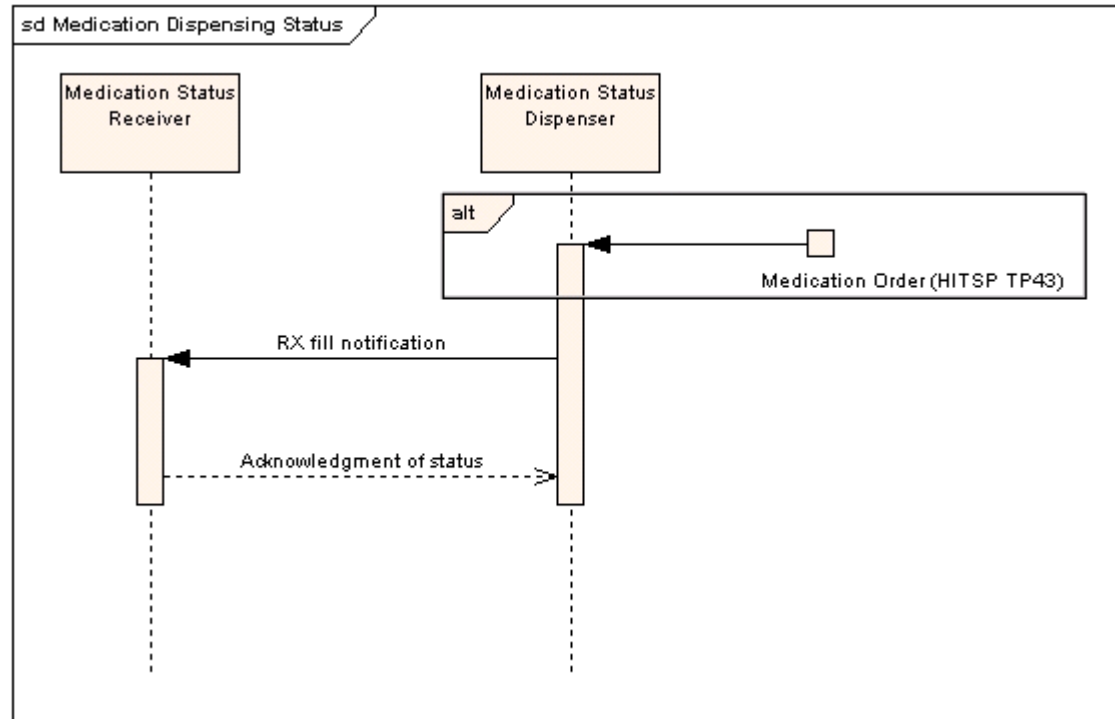
- ‣ Two Technical Actors
  - – Medication Status Receiver that gets a dispensing status
  - – Medication Status Dispenser that provides a dispensing status

TP43 – Medication Orders
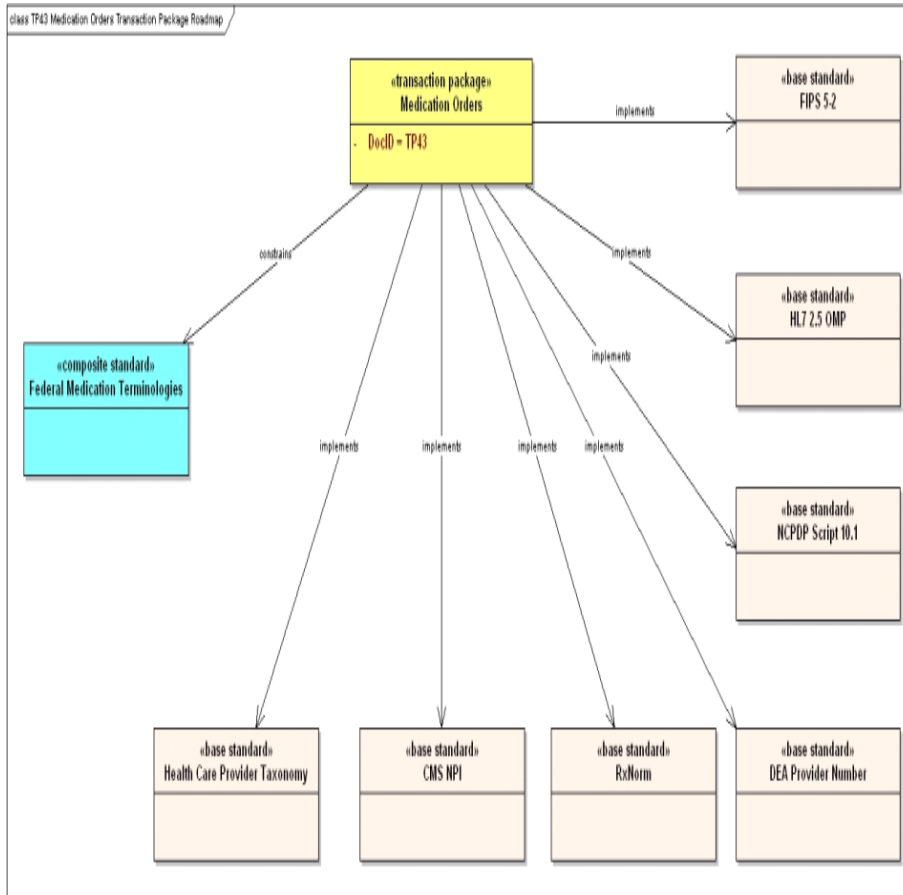
- Specifies how to create/manage medication orders
- Used for new prescriptions, refill requests, prescription change requests, and prescription cancellations.
- Describes two methods
  - NCPDP SCRIPT 10.1
  - HL7 2.5/2.5.1 – Pharmacy/Treatment Orders

TP43 – Medication Orders

sd Medication Orders

Medication Order Prescriber → Medication Order Filler: Request prescription

Medication Order Filler ⇢ Medication Order Prescriber: Status Response
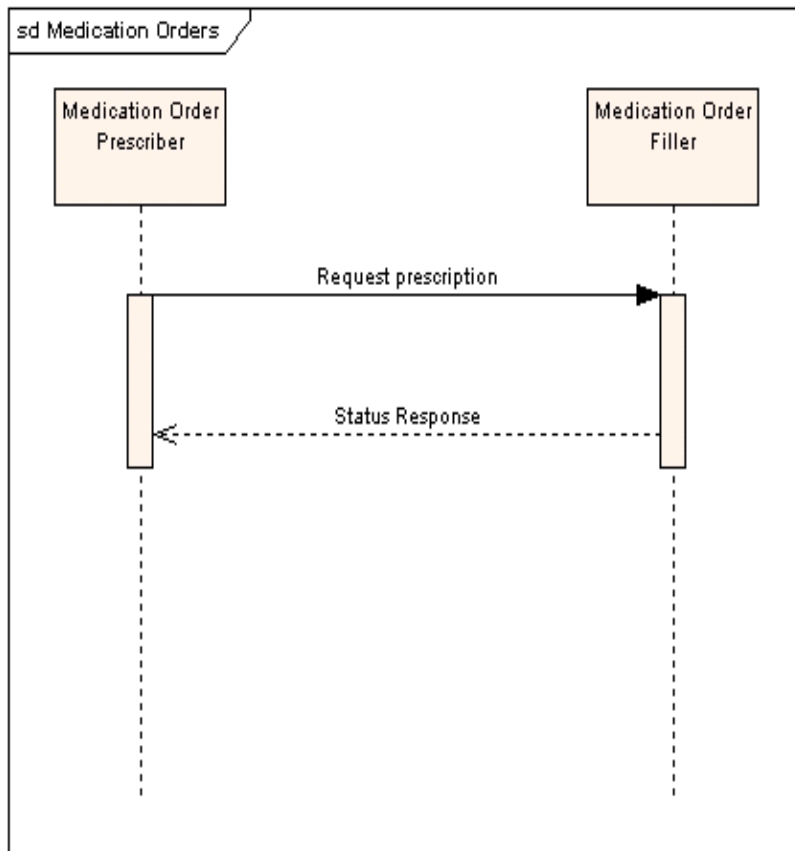
- **Two Technical Actors**
  - Medication Order Prescriber that initiates medication order
  - Medication Order Filler that responds to the order request

- **Two methods for orders**
  - NCPDP SCRIPT V10.1 for long-term care and ambulatory settings
  - HL7 V2.5/2.5.1 for inpatient orders

TP46 – Medication Formulary and Benefits Information

class TP46 Medication Formulary and Benefits Information Roadmap

«transaction package»
Medication Formulary and Benefits Information

- DocID = TP46

«composite standard»
X12N 270/271 v004010 and 004010A1 Addenda Eligibility & Benefit Inquiry and Response Transactions

«base standard»
X12N 270/271

«base standard»
NCPDP Script 10.1

«base standard»
NCPDP Formulary And Benefit Standard Implementation Guide

«base standard»
NCPDP Telecommunication Standard Implementation Guide

- **Performs two tasks**
  - Eligibility check for a specific patient's pharmacy benefits
  - Obtain the medication formulary and benefit information
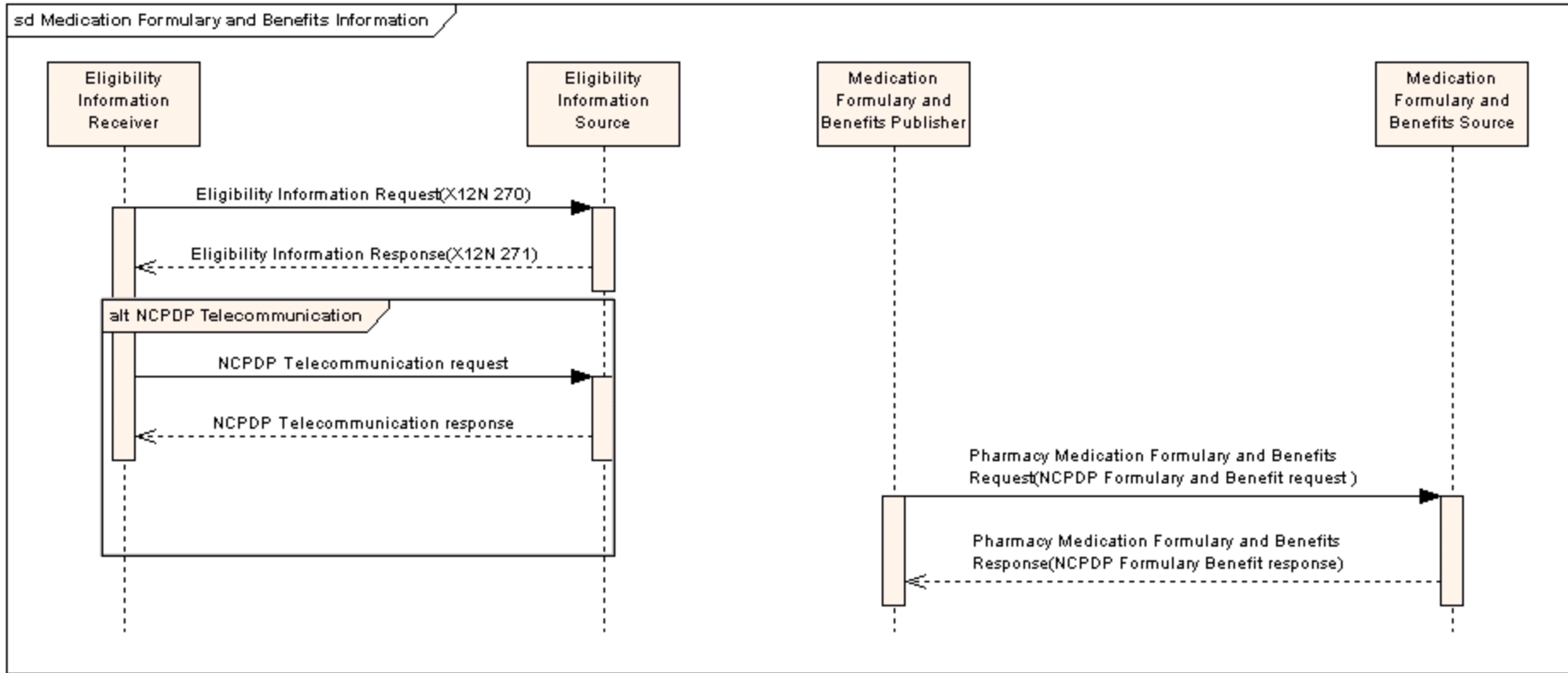
‣ Medication formulary and benefits information performed via NCPDP Formulary and Benefit request and information returned in NCPDP Formulary Benefit response

TP46 – Medication formulary and Benefits Information

- Two data flows for eligibility check
  - Request initiated via the X12N 270 and information returned via the X12N 271 response
  - Request initiated via the NCPDP Telecommunication request and information returned via the NCPDP Telecommunication response
- Four Technical Actors
  - Eligibility Information Receiver that initiates an inquiry about an individual's insurance eligibility, coverage and benefits
  - Eligibility Information Source that holds and maintains information regarding an individual's insurance eligibility, coverage and benefits
  - Medication Formulary and Benefits Publisher that initiates queries about an individual's formulary and benefits information
  - Medication Formulary and Benefits Source that maintains an individual's formulary and benefits information.

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Public Comment Schedule

➢Medication Management IS Release – December 11, 2007

➢Nursing Community Presentation
➢Overview of IS and Constructs } December 21, 2007

➢Public Comments Due to HITSP – January 11, 2008

Public Comment Process

3 Ways to Comment…
     1. HITSP Website (www.hitsp.org)
     2.   HIMSS Comment Form
     3. HITSP Inspection Testing Spreadsheet

Public Comment Process

HITSP Website (www.hitsp.org)

Public Comment Process

HITSP online comment tool (www.hitsp.org)

T.I.G.E.R.

Public Comment Process
HIMSS Comment Form

HIMSS Comments

IS07 - Medication Management Interoperability Specification and Associated Constructs

12/10/2007

Committee/Group:			
Section Number:	**Page Number:**	**Comment:**	

Submit Public Comments to:
Theresa Wisdom twisdom@himss.org

Public Comment Process

HITSP Inspection Testing Spreadsheet

Useful HITSP Contacts

- Access to HITSP use cases, constructs and online public comment form: www.hitsp.org

- Public Comment questions or HIMSS form: Theresa Wisdom twisdom@himss.org

- HITSP Inspection Testing Form: hitsp@ansi.org

- TIGER Standards Collaborative questions: Joyce Sensmeier Joyce@tigersummit.com Beth Halley Beth@tigersummit.com

TIGER Standards and Interoperability Collaborative Team Communication

- Website www.tigersummit.com/standards

- WIKI   http://tigerstandards.pbwiki.com

- Email   standards@tigersummit.com

- Email facilitators:
  - Joyce@tigersummit.com
  - Beth@tigersummit.com