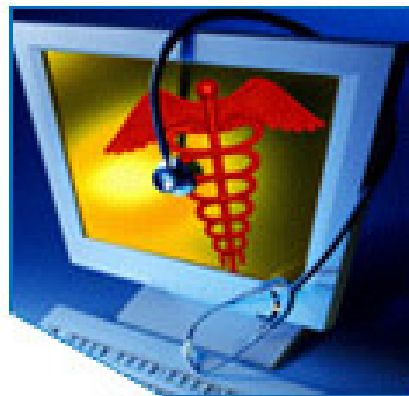


Discussion Document

# Standards Harmonization Use Cases

## Interim Use Case Committee Recommendations to the Healthcare Information Technology Standards Panel



Washington, DC  
September 27, 2005

This briefing is being provided to the HITSP members prior to the September 27<sup>th</sup> session, along with the draft Use Case Documents.

This material is intended to facilitate discussions during the HITSP inaugural session.

All information contained in this briefing and the related Use Case Documents is draft and pending ratification by the HITSP in accordance with pending HITSP Charter.

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## HITSP guides, informs, and enables the standards harmonization process

- ▶ The HITSP is sponsored by the American National Standards Institute (ANSI) and endorsed by the Healthcare Information and Management Systems Society (HIMSS) in collaboration with the *Standards Harmonization Collaborative*
- ▶ The Panel's goal is to ensure the broadest possible participation of all affected parties, in order to stand up and maintain an entity capable of achieving readily-implemented, consensus-based outcomes
- ▶ HITSP is a cooperative partnership between the public and private sectors to achieve a widely accepted and useful set of standards that will enable and support widespread interoperability among healthcare software applications in a Nationwide Health Information Network for the United States
- ▶ The harmonization process is a Use Case driven process
  - *Use cases visually describe a system's behavior and have proven to be an effective way to document system functionality. They provide development teams and stakeholders a common language and means of understanding of the system to be built. Use cases improve the chances of a successful project. (IBM Rational)*



## Harmonization means developing, reconciling, setting and maintaining standards required to achieve interoperability

- ▶ *Standards* are restricted to the structure and content of healthcare data, information, or concepts that are usefully exchanged or provided between and among care providers and public health authorities, and the interchange methods used to facilitate these exchanges
- ▶ *Structure* refers to format, method, or language whose purpose is representing or using information so that it may be exchanged electronically
  - XML or a specific schema for XML
- ▶ *Content* means terms or codes used to describe procedures, items, diagnoses, or similar aspects of healthcare
  - ICD-9 diagnosis code, or a NDC code for pharmaceutical products
- ▶ *Interchange methods* include technological considerations
  - Web services or remote messaging
  - Infrastructure for metadata or semantic brokering
  - Other such means to facilitate data relay, translation, and interpretation



## **Use Cases will be used to support standards harmonization, compliance certification, and NHIN prototype projects**



Provide a narrative and graphical description (*a storyboard with figures and diagrams*) of the behaviors of persons or things (*actors*), and/or a sequence of actions, in a targeted area of interest (*domain*).

*Linking real-world situations with the technology required to support them*

Present a *technical specification* that guides how systems and technology must be implemented to meet the use case requirements. Includes a *data model*, *process flows*, and *criteria* to test whether the system can fully support the actions described in the story board.



## There are many different uses of the term *Use Cases*

- ▶ Some are very specific detailed technical descriptions of actors and messages required to complete a transaction
  - This type of use case is most relevant in an Implementation Guideline
- ▶ Others contain large amounts of clinical detail to test functionality and data input
  - This type of use case is most relevant for Product Certification (e.g. CCHIT)
- ▶ Still others need only enough detail to specify transactions that occur over time and focus on setting where multiple standards will need to be used
  - This type of use case is most relevant when the goal is gap analysis and harmonization

***Standards Harmonization Uses Cases focus on interoperability among different information systems, software applications and networks to communicate and exchange information in an accurate, effective, useful, and consistent manner***



## The recommended Standards Harmonization *Use Cases* take varying approaches to the same goal: Interoperability

- ▶ Use Cases may be developed with varying levels of details and areas of focus

Some may focus on the data types and the organizations that exchange the data

- Medication Records
- Lab Results
- Images
- Immunizations
- Medical Summaries
- Administrative Financial Data

Some may focus on clinical scenarios and involve information that could be considered part of several uses cases

- Emergency Department visit for illness with Primary Care follow-up
- PCP visit reference with referral to specialist

- ▶ Regardless of the approach, HITSP will craft use cases using industry best practices to achieve the goal of standards harmonization for interoperability
  - Include an overview that explains why this healthcare domain should be a priority including the impact it will have on the healthcare profession and patients
  - Document healthcare standards for each step of the different use scenarios
  - Include basic architecture documents to better prepare for the handoff between requirements and technical development



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## **Volunteers\* representing SDOs, non-SDOs, and government participated in a two-day work session**

- ▶ Presented more than 17 use case scenarios for consideration
  - Health System-level use cases, Certification use cases, and Interoperability use cases that covered multiple care settings and public health concerns
  
- ▶ Established consensus on a set of ranking criteria that would influence a subjective and relative ranking of the presented use cases
  - Pragmatic and suitable for a year 1 HITSP project
  - Adds value and solves real-world problem and national priority
  - Likelihood for measurable outcomes – we know we succeeded
  - Comprehensive and spans more than one SDO and care setting
  - Compatible and likely to integrate with other ONCHIT projects
  - Pertains to population/public health Issues



\*ACC, ACCE, ACP, AHIMA, AMA, ASTM, CDC, DoD, Eclipsys Corp, Mayo Clinic, NCPDP, Pfizer, HL7, EHR VA, IHE, Liberty Alliance, CCHIT, RSNA, Siemens, U.S. TAG, and X12N with ANSI, HIMSS, Booz Allen, eHealthsign and ATI in supporting roles.

## Committee members ranked all of the candidate use cases and identified their top options

Primary Purpose	Secondary Purpose	Tertiary Purpose
1. E-prescribing	Formulary	Prior Authorization
2. Chronic Disease Management	Chronic care/diabetes	Cancer patient survivors/PHR
3. Well Child Care	Immunization, Newborn D/C	Public health
4. Primary Care - Specialist Referral (renamed <i>Care Coordination</i> )	Infrastructure Bundle	XDS
5. Infectious Disease	Public Health/flu/lab	DX Reporting
6. ER Visit		
7. Health Monitoring		
8. OB/GYN		
9. Meta Data Definition		



## Discussions following the ranking resulted in consensus on the top four use cases

- ▶ Committee members discussed the rankings and came to consensus on a set of four likely use case subject areas
- ▶ Work groups formed and participated in breakout sessions to further refine the definition of the use case subject areas
- ▶ Work group leaders vetted the results of the breakout sessions with the full committee to validate the feasibility of continuing
- ▶ Work groups remained intact and continued to evolve the use case definitions for vetting with the HITSP
  - Electronic Prescribing (Ross Martin, Pfizer Global)
  - Well Child Care with Immunization (Alan Zuckerman, ASTM)
  - Care Coordination (Charles Parisot, EHR VA)
  - Chronic Disease Management (Lori Fourquet, eHealthsign)



## Next steps for the Use Case activity

- ▶ Sept 29      Chair to notify Use Case Committee of ratified Use Cases

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- ▶ Sept 29      Workgroup leaders orchestrate and further develop use cases

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*Assuming contract award is announced by September 30th*

- ▶ Oct 4-5      Use Case Committee members meet in Rosemont, IL

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- ▶ Oct 6-24      Workgroup leaders orchestrate final refinements
  - Convene a Review Session with contract officer and broader stakeholder group, if required
  - Conduct an electronic HITSP Board review if requested

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- ▶ Oct 14      Submit interim report to HHS ONCHIT Project Officer

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- ▶ Oct 25-26      Submit final deliverable to HHS ONCHIT Project Officer



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## The Interim Use Case Committee recommends the HITSP ratify four Use Cases and their year-one scenarios

### ▶ UC1 Electronic Prescribing

- Ambulatory Electronic Prescribing Interoperability
- Electronic Processing of Prior Authorization Requirements
- Comprehensive Medication History Exchange

### ▶ UC2 Chronic Disease Management

- Diabetic Patient Management
- Cancer Patient Management
- Practitioner Access to Med Summary
- Patient Referral
- E-Transfer of Assessment and Orders

### ▶ UC3 Well Child Care with Immunization

- Hospital Discharge, healthy newborn
- First Office Visit, healthy newborn
- First Well Child visit

### ▶ UC4 Care Coordination

- Acute care to inpatient
- Acute care to primary care
- Primary care to specialist



## UC1 Electronic Prescribing – *an early success story*

- ▶ Nationally accepted standards for UC1 E-Prescribing have the potential to enable the selection, prescribing, dispensing, and claims processing of medications in the ambulatory setting
  - Empower consumers
  - Reduce medication errors and improve patient safety
  - Enable processing efficiencies
- ▶ Recent events in the Gulf states around E-Prescribing provided a localized pilot test for many aspects of ambulatory E-Prescribing interoperability
  - With UC1, we are positioned to leverage that momentum into national interoperability
- ▶ The first year goal of interoperability for ambulatory prescribing, gaining prior payor authorization, and exchanging information about consumer prescription medication history will use well established standards and focus efforts on the known gaps
  - We have a high likelihood of successfully harmonizing these standards in one year
- ▶ Future extensions to UC1 could include controlled substances, LTC, AER, SPL, clinical guidelines, detection of abuse, and delivery of contextually sensitive information



## UC2 Chronic Disease Management – *enabling community care*

- ▶ Chronic disease management is one of the most significant opportunities to capitalize on HIT to enhance care quality and patient safety
  - WHO identified that chronic diseases will be the leading cause of disability by 2020 and If not managed, will become the most expensive problem for health systems
- ▶ UC2 is the first step toward the level of interoperability needed to successfully manage chronic disease
- ▶ Year-one goals focus on direct patient care management scenarios
  - Access to patient medical summaries to the community provider stakeholders
  - Communication of clinical information exchanges/orders
- ▶ The scenarios primarily describe information movement in order to demonstrate interoperability among a broad range of practitioners, diagnostic services, and pharmacies
  - Implementation guidelines will be based upon existing exchange standards such as HL-7, DICOM, NCPDP, ASTM, and ISO
- ▶ Future extensions could address related clinical trials, epidemiology (quality, outcomes, efficacy measurement) and clinical practice guideline assessment





## UC3 Well Child Care w/ Immunization – *an ounce of prevention*

- ▶ Well child care data provides an opportunity to observe patterns, detect and potentially prevent disease, and monitor immunization efficacy and adverse reactions
  - Well care begins at birth and continues through adulthood
  
- ▶ Harmonized standards can enable data exchanges needed to improve individual health outcomes and public health reporting
  - Improved immunization rates can decrease outbreaks of contagious diseases
  - Exchanged data can address state-to-state issues for relocated children; ancillary benefit related to school enrollments after relocations
  
- ▶ UC3 provides a national-level pilot of health information exchange with a scope consistent with our one-year time frame for completion
  - Data requirements are relatively straightforward; immunizations, growth measurements, developmental assessments, and screening tests (e.g., vision)
  - The focus is on essential records required for school and public health use
  - Hospitals are likely to implement a newborn discharge summary; it improves their stand in the competitive maternity services market



## UC4 Care Coordination – *maximizing and collaborating*

- ▶ Maximizing the use of existing processes and working collaboratively across HHS healthcare IT contractors is a key element of a successful harmonization process
- ▶ With UC4, we seek build on the Cross-Enterprise Document Sharing work performed within the IHE and identify cross-program opportunities for collaboration
  - CCHIT, NHIN prototype contractor, and contractors engaged in addressing the state-by-state security and privacy issues
- ▶ The scope of UC4 is narrow to ensure harmonization within one year while demonstrating a broad impact across the healthcare system
- ▶ UC4 will demonstrate that transparency of care and patient safety can be improved by enabling timely access of health summary information while protecting patient privacy
  - Referral and consultation of specialists
  - Discharge from acute care and rehabilitation
  - Documentation of emergency treatment
- ▶ The goal is to simplify collection and tracking of patient health information across providers and to enable public health access to critical information (e.g. immunizations)



## We recommend HITSP ratify these four use cases for further development and delivery to HHS ONCHIT/AHIC 30 days after contract award

### ▶ UC1 Electronic Prescribing

- Ambulatory Electronic Prescribing Interoperability
- Electronic Processing of Prior Authorization Requirements
- Comprehensive Medication History Exchange

*An early success . . .*

### ▶ UC2 Chronic Disease Management

- Diabetic Patient Management
- Cancer Patient Management
- Practitioner Access to Med Summary
- Patient Referral
- E-Transfer of Assessment and Orders

*Enabling community care . . .*

*An ounce of prevention . . .*

*Maximizing and collaborating . . .*

### ▶ UC3 Well Child Care with Immunization

- Hospital Discharge, healthy newborn
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