## Standards and Clinical Operations Technology

Achieving Value Using HIT Standards For Patient-Centered Care

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## **Agenda**

**US Standards For EHR Certification And Meaningful Use of EHRs** 

**Current US Standards For Health Information Exchange** 

**Learning From Worldwide Use Of Health IT Standards** 

**Choices For Resource-Constrained Patients, Clinicians And Hospitals** 





## **US Health IT – Key Standards Used In EHRs**

## MU Stage 1 Timing Final

- Most EHR messaging to use HL7 v2.5.1
- Care summary documents use HL7 CCD, or ASTM CCR
- Problem List uses
  SNOMED or ICD-9

# **MU Stage 2 Timing Recommendations**

- Quality measures to use SNOMED, LOINC and RxNorm
- Care plans may be represented in CCD
- Problem List to use SNOMED or ICD-10
- HIE to use IHE Health Provider Directory (HPD)

# MU Stage 3 Timing Under Discussion

- E-Prescribing must use RxNorm semantic drug and package names
- Claim attachments??
- Problem List to use SNOMED CT



## **US Health IT – Key Mechanisms Used In HIE**

# PHR, Web, & Blue Button

- Unstructured free text
- Variety of standards and mechanisms employed
- Limited content/vocab standards

# Direct Project eMail

- MIME, s/MIME, SMTP
- Unstructured free text
- IHE XDM is optional
- Limited content/vocab standards

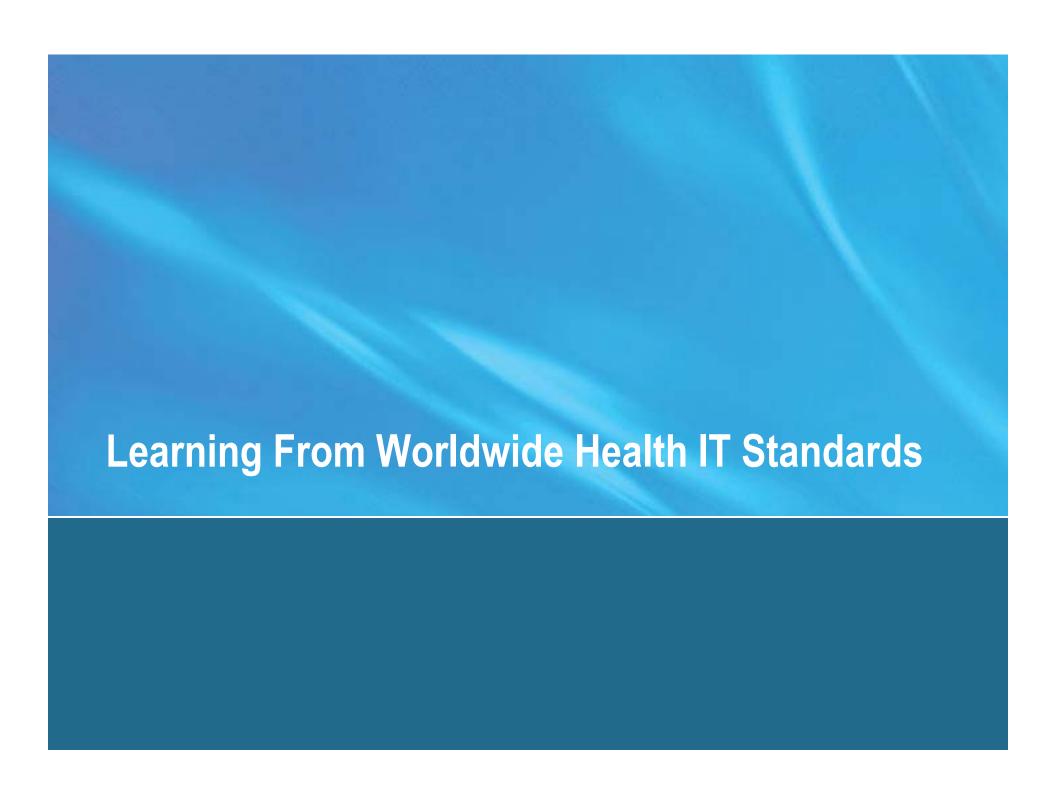
# Vendor Proprietary

- Vendorspecific content specs tied to vendor EHR data model
- No vocab standards

# NwHIN Exchange

- IHE XCA, SOAP
- HL7 CDAr2 content specs
- SNOMED and LOINC vocab standards





### HIT Standards In Other Developed Countries

#### Learning from national models elsewhere

- HL7 standards—based national models
  - Canada, Australia and EU countries creating integrated, patient-centered data
- ISO CEN 13606 standards—based models
  - EU requires a certain level of national compliance with CEN 13606
  - Sweden is building the first 13606-based national EHR system.
- UK Logical Record Architecture (LRA)
  - Ability to implement HL7 CDA templates based on national information model while maintaining EU compliance with ISO CEN 13606 archetypes
  - Successful LRA pilot last year with hospital discharge records



### HIT Standards In Less Developed Countries

### Learning from resource-constrained countries

### Kenya

- Integrated systems/measures for HIV/AIDS screening and care, using SMS
- Extensive use of mobile technologies, SIM card + password = patient ID
- National integration of health financing with micro-credit on mobile applications
- Drug and vaccine supply chain integrated but not highly automated

#### Rwanda

- Rapid adoption of HIT, leveraging the Canadian national e-health architecture
- High adoption of EHRs with standard coding and analytics for HIV and Malaria
- Integrated maternal & child health national programs using SMS texting
- National mobile banking infrastructure integrates government health payments, private insurance health payments and micro-credit



## **Results From Clinical Operations HIT Experience**

- Results of integrated care with HIT in Africa
  - Rwanda national life expectancy increased from 36 years to 54 years
  - Maternal mortality in pregnancy and childbirth reduced by over 90%
- Results of integrated care with computable HIT in Northern California
  - About 25% fewer deaths from heart attacks than NCal as a whole
  - About 65% fewer serious heart attacks that do permanent damage
- Results of integrated care with computable HIT across the US
  - Highest screening rates for breast cancer, HIV/AIDS
  - Progressive results with diabetic nephropathy

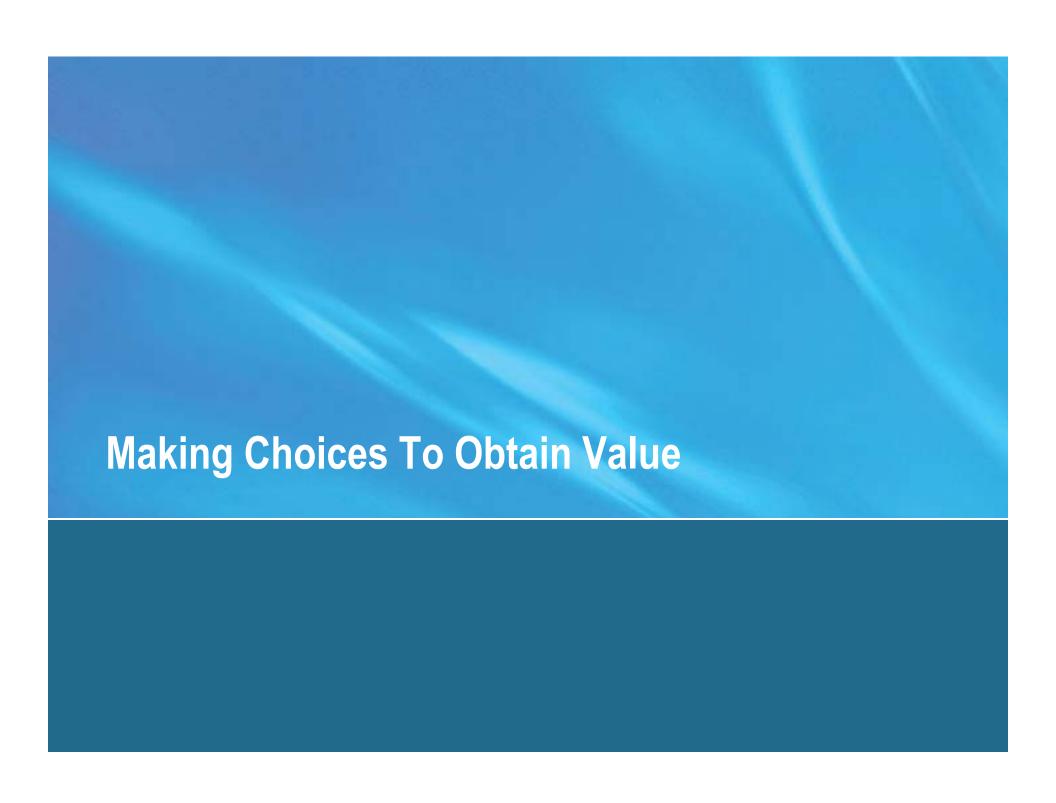


## HIT Implementation Experience Worldwide

 HIT can improve health and healthcare, a lot.

- HIT alone is not enough.
- HIT with standards can get significant health improvement results when implemented in a vertically integrated care delivery system





## **Using Standards To Achieve Health**

- The results are in:
   Using patient-centered, standardized computable HIT data in vertically integrated delivery systems can improve health
- Some HIT standards enable computable data to be used across organizational and jurisdictional boundaries
- Other standards do not
- We are all resource-constrained. Where will you apply your resources?

