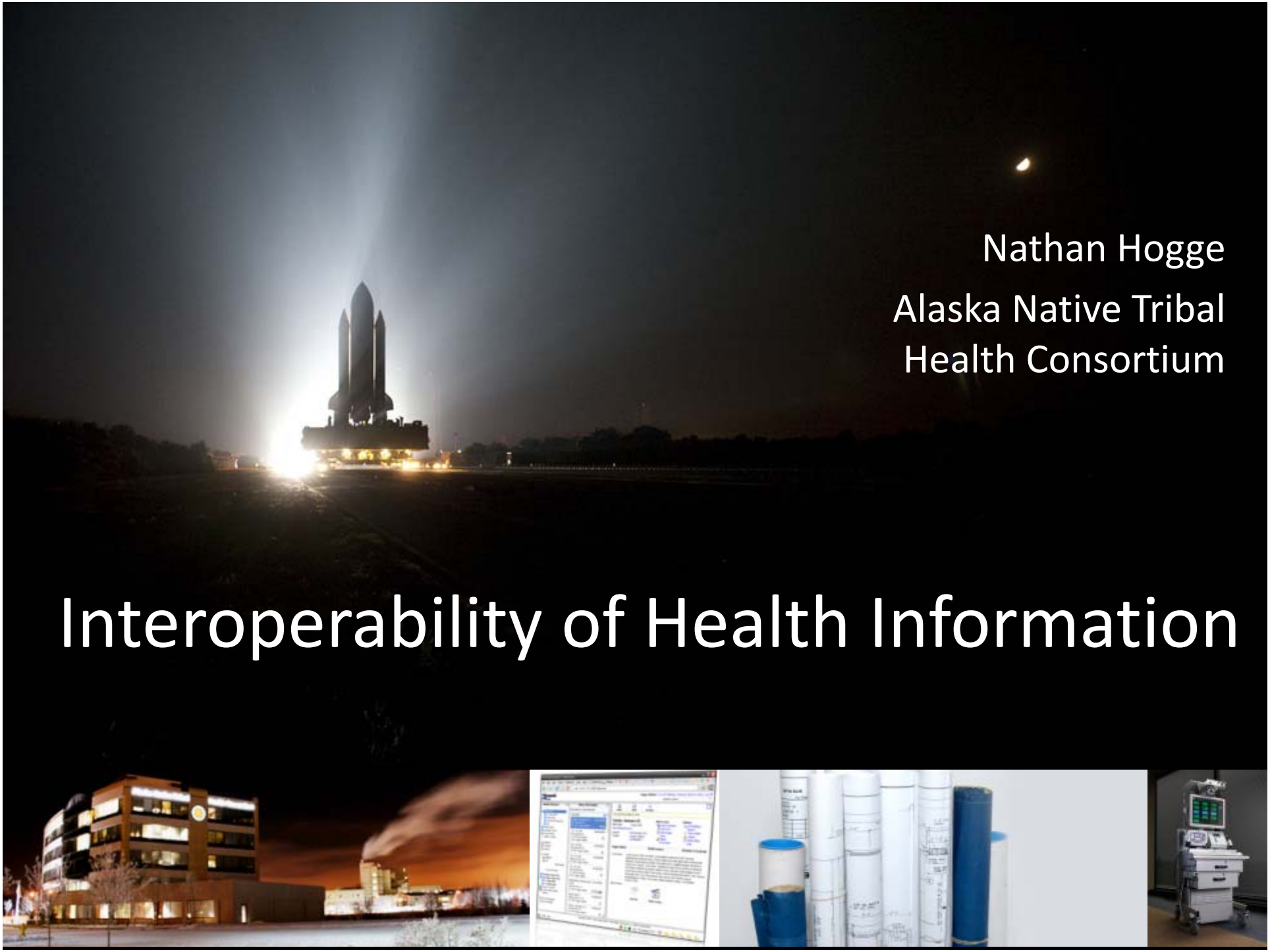
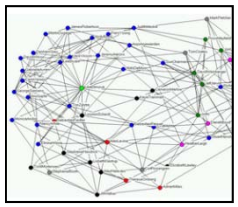


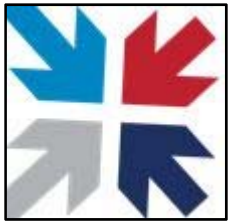
Nathan Hogge
Alaska Native Tribal Health Consortium

Interoperability of Health Information

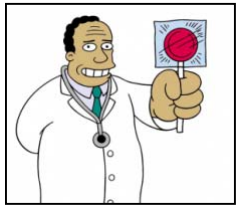
AGENDA



BACKGROUND



CURRENT ENVIRONMENT

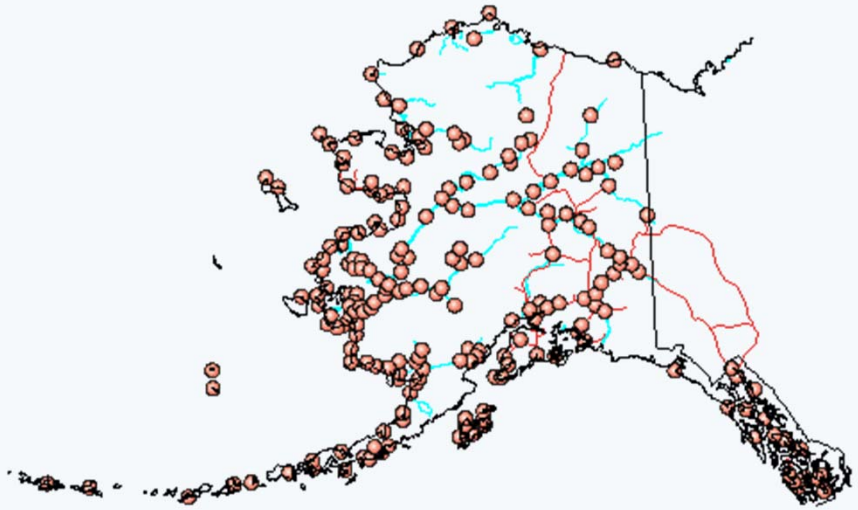


WHAT IS MEANS TO YOU

Background

Perspective

Why does a store and forward telehealth solution from Alaska care about interoperability?



Communication

Be able to understand each other when talking about health information exchange

Content

Make sure we are collecting and sharing the “right” kind of data

Reuse

Make our software work with as many other products as possible

Background

Sharing Health Information

Isolated systems can not stay isolated

Sharing health information is a key piece to success

Background

What to standardize

Content — *How the data is packaged*

Vocabulary — *How we identify the data*

Privacy and security

Transport — *How to move the data*

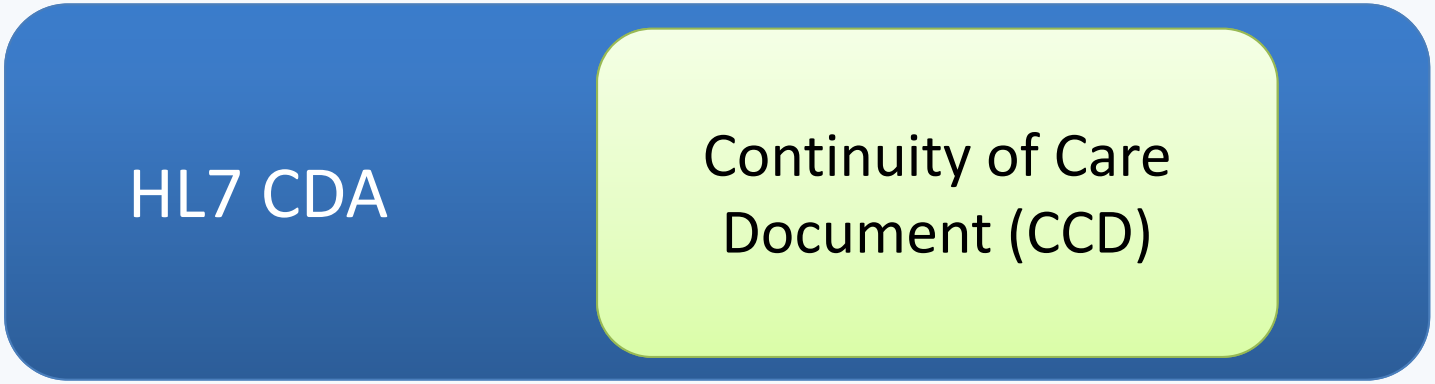
Background

What to standardize

Content

(How the data is packaged)

Example:



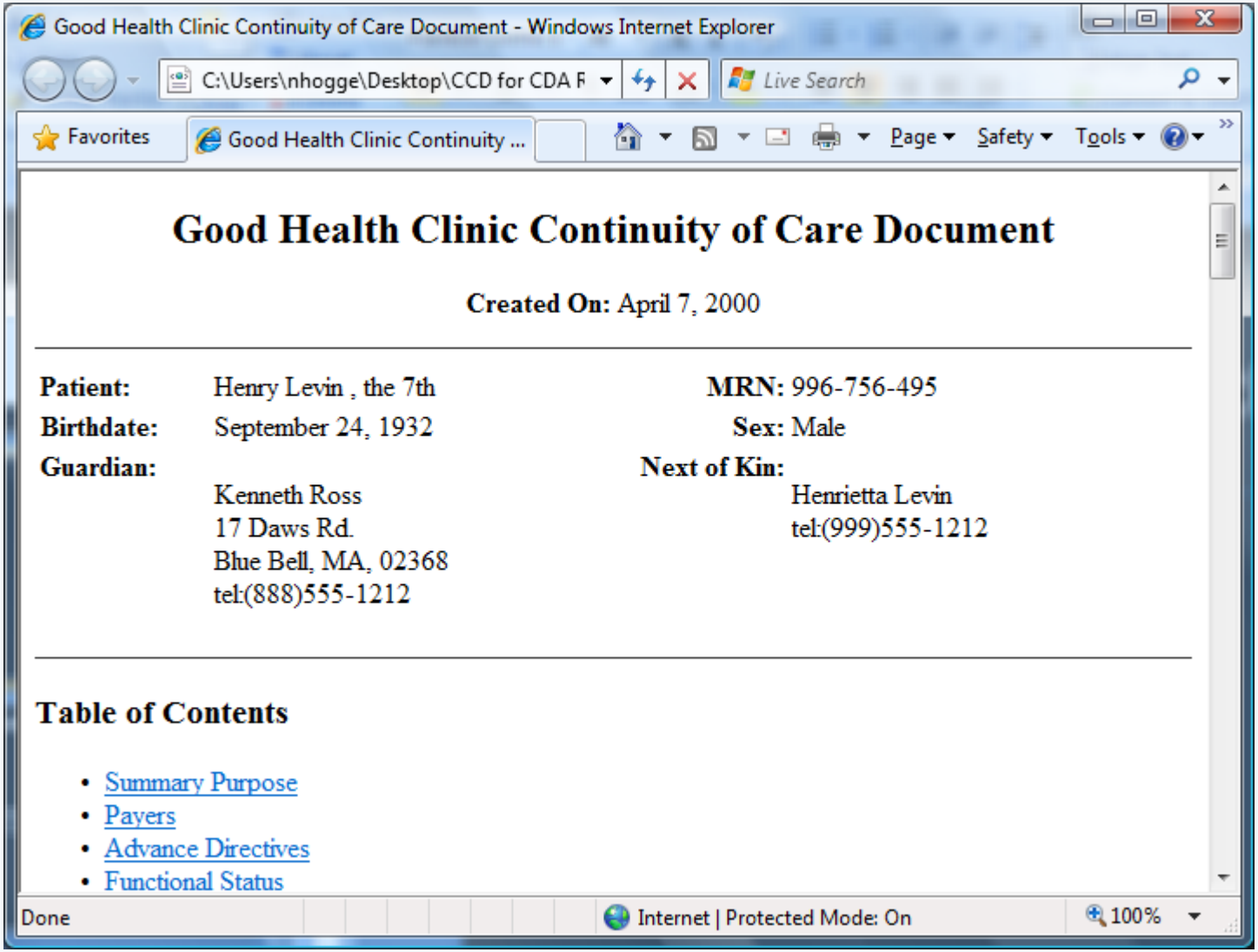
HL7: Health Level Seven

CDA: Clinical Document Architecture

Background

What to standardize

Sample CCD in human readable format



Background

What to standardize

Sample CCD in machine readable format

SampleCCDDocument.xml - Notepad

File Edit Format View Help

```
<?xml version="1.0"?>
<?xml-stylesheet type="text/xsl" href="CDASchemas\cda\Schemas\CCD.xsl"?>
<!-- The following sample document depicts a fictional character's health summary. An
<ClinicalDocument xmlns="urn:hl7-org:v3" xmlns:voc="urn:hl7-org:v3/voc" xmlns:xsi="ht
        <!--
**********************************************************
CDA Header
**********************************************************
-->
        <typeId root="2.16.840.1.113883.1.3" extension="POCD_HD000040"/>
        <templateId root="2.16.840.1.113883.10.20.1"/> <!-- CCD v1.0 Templates Root -
        <id root="db734647-fc99-424c-a864-7e3cda82e703"/>
        <code code="34133-9" codeSystem="2.16.840.1.113883.6.1" displayName="Summariz
        <title>Good Health Clinic Continuity of Care Document</title>
        <effectiveTime value="20000407130000+0500"/>
        <confidentialityCode code="N" codeSystem="2.16.840.1.113883.5.25"/>
        <languageCode code="en-US"/>
        <recordTarget>
                <patientRole>
                        <id extension="996-756-495" root="2.16.840.1.113883.19.5"/>
                        <patient>
                                <name>
                                        <given>Henry</given>
                                        <family>Levin</family>
                                        <suffix>the 7th</suffix>
                                </name>
                                <administrativeGenderCode code="M" codeSystem="2.16.8
                                <birthTime value="19320924"/>
                        </patient>
                        <providerOrganization>
                                <id root="2.16.840.1.113883.19.5"/>
                                <name>Good Health Clinic</name>
                        </providerOrganization>
                </patientRole>
        </recordTarget>
```

What to standardize

Vocabulary

(How we identify the data)

Example:

ICD-9-CM

ICD: International Statistical Classification of Diseases and Related Health Problems

Background

What to standardize

Listing of ICD-9-CM codes from Wikipedia

ICD-9-CM Volume 3

From Wikipedia, the free encyclopedia

ICD-9-CM Volume 3 is a system of procedural codes. It is a subset of ICD-9-CM (volumes 1 and 2 are used for diagnostic codes.)

Contents [hide]

1 Main sections
2 (00) Procedures and interventions, not elsewhere classified
3 (01–05) Operations on the nervous system
4 (06–07) Operations on the endocrine system
5 (08–16) Operations on the eye
6 (18–20) Operations on the ear
7 (21-29) Operations on the nose, mouth and pharynx
8 (30–34) Operations on the respiratory system
9 (35–39) Operations on the cardiovascular system
  9.1 Heart
  9.2 Vessels
10 (40–41) Operations on the hemic and lymphatic system
11 (42–54) Operations on the digestive system
12 (55–59) Operations on the urinary system
13 (60–64) Operations on the male genital organs
14 (65–71) Operations on the female genital organs
15 (72–75) Obstetrical procedures
16 (76–84) Operations on the musculoskeletal system
17 (85–86) Operations on the integumentary system
18 (87–99) Miscellaneous diagnostic and therapeutic procedures
  18.1 Diagnostic radiology
  18.2 Interview, evaluation, consultation, and examination
  18.3 Nuclear medicine
  18.4 Physical therapy, respiratory therapy, rehabilitation, and related procedures
  18.5 Procedures related to the psyche
  18.6 Ophthalmologic and otologic diagnosis and treatment
  18.7 Nonoperative intubation and irrigation
  18.8 Replacement and removal of therapeutic appliances/nonoperative removal of foreign body or calculus
  18.9 Other nonoperative procedures
19 External links

93.52 Application of neck support

What to standardize

Privacy and security

Example:

FIPS pub 197 - AES

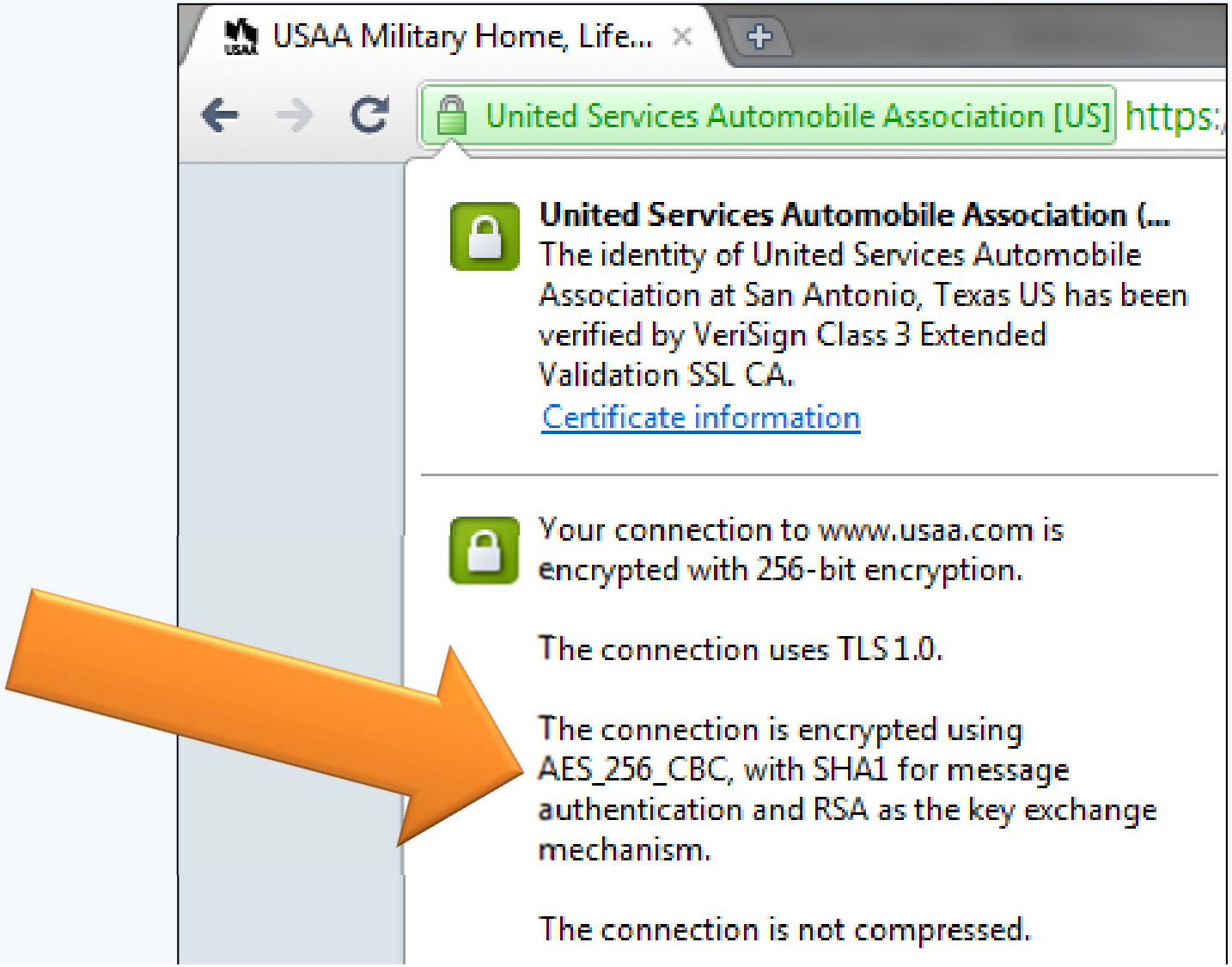
FIPS: Federal Information Processing Standards

AES: Advanced Encryption Standard

Background

What to standardize

Security information for secure web site



What to standardize

Transport

Under debate…

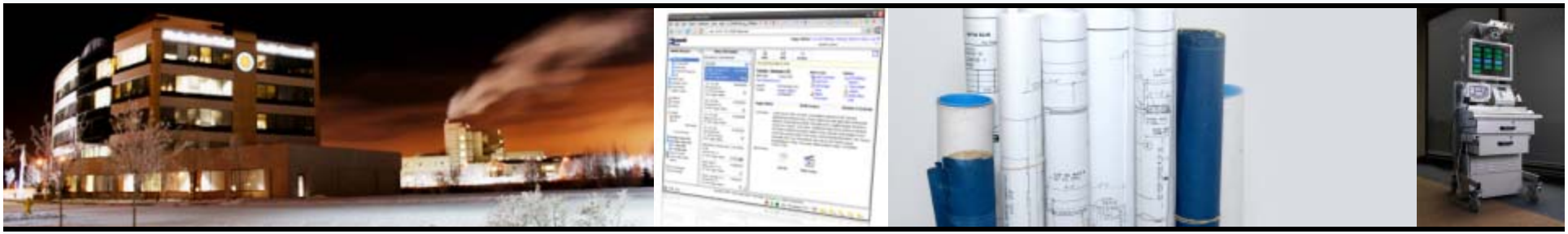
Background

Moving Target

Standards are not perfect

As we learn more things change

CURRENT ENVIRONMENT



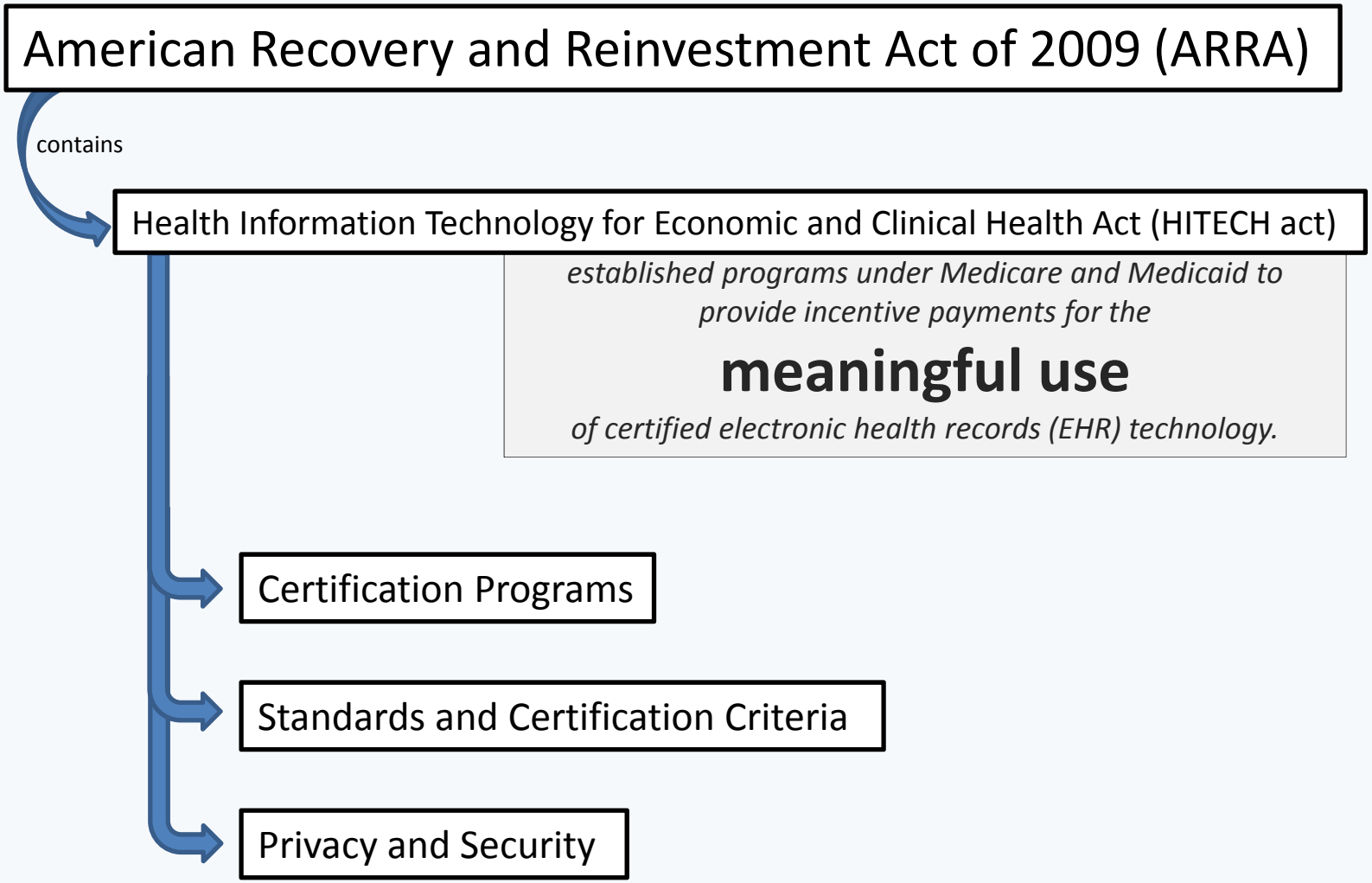
Current Environment

The Players

Federal Government	**ONC**: Office of the National Coordinator for Health Information Technology **CMS**: Centers for Medicare & Medicaid Services
State Government	Health Information Exchange (HIE)
Vendors	Participate in pilot programs, certifications
Providers	Adjust to new requirements
Standards Development Organizations	Harmonization of existing standards

Current Environment

MEANINGFUL USE



Current Environment

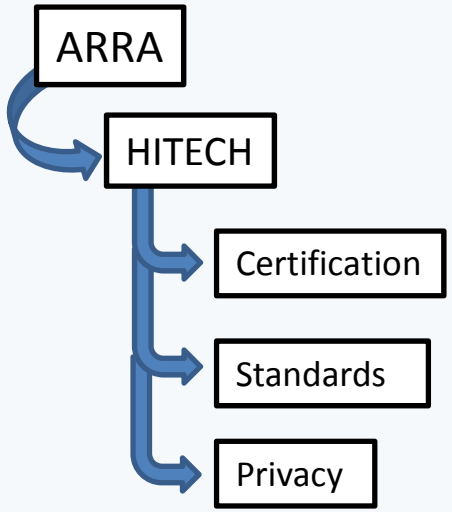
MEANINGFUL USE

Certification Programs

"Defines Meaningful Use"

A defined **process** to ensure that EHR technologies meet the adopted standards, certification criteria, and other technical requirements to achieve meaningful use of those records in systems.

Stage 1: 2011 → Stage 2: 2013 → Stage 3: 2015



Sample from document

TABLE 2—STAGE 1 CRITERIA FOR MEANINGFUL USE—Continued

Health outcomes policy priority	Care goals	Stage 1 objectives		Stage 1 measures
		Eligible professionals	Hospitals	
Engage patients and families in their health care.	Provide patients and families with timely access to data, knowledge, and tools to make informed decisions and to manage their health.	Provide patients with an electronic copy of their health information (including diagnostic test results, problem list, medication lists, allergies), upon request.	Provide patients with an electronic copy of their health information (including diagnostic test results, problem list, medication lists, allergies, discharge summary, procedures), upon request.	At least 80% of all patients who request an electronic copy of their health information are provided it within 48 hours.

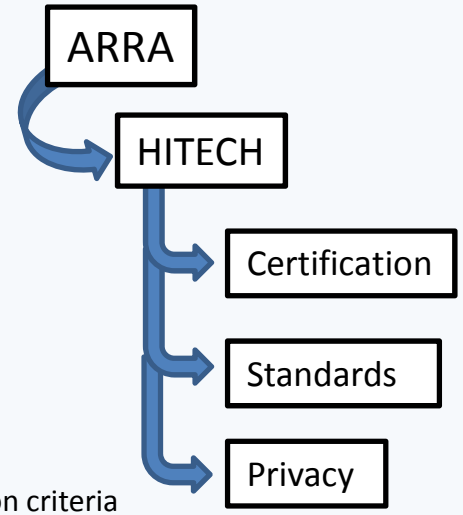
Current Environment

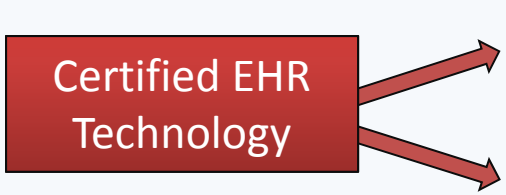
MEANINGFUL USE

Standards and Certification Criteria

"Defines how to implement"

First step in an incremental approach to adopting **standards**, implementation specifications, and certification criteria to enhance the interoperability, functionality, utility, and security of health IT and to support its meaningful use.





Complete EHR — meets all applicable certification criteria

EHR Module — any service, component, or combination thereof that can meet the requirements of at least one certification criterion

Sample from document

TABLE 2A—ADOPTED CONTENT EXCHANGE AND VOCABULARY STANDARDS

Row No.	*Purpose*	*Category*	*Adopted standard(s) to support meaningful use stage 1*	*Candidate standard(s) to support meaningful use stage 2*
1	*Patient Summary Record*	Cx	HL7 CDA R2 CCD Level 2 or ASTM CCR.	Alternatives expected to be narrowed based on HIT Standards Committee recommendations.

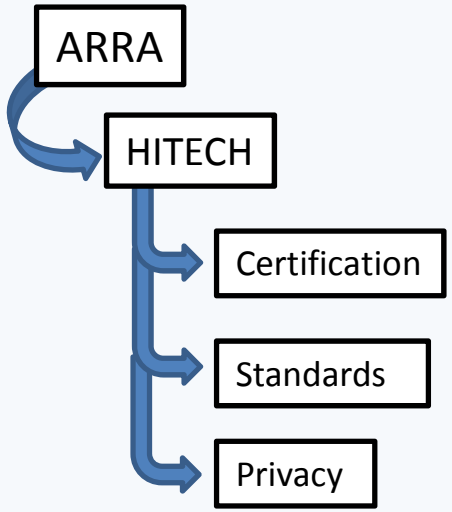
Current Environment

MEANINGFUL USE

Privacy and Security

"Defines how to enforce"

The purpose of these modifications is to implement recent statutory amendments under the Health Information Technology for Economic and Clinical Health Act (''the HITECH Act''), to strengthen the privacy and security protection of health information, and to improve the workability and effectiveness of these HIPAA Rules.



Sample from document

41. In § 164.502, revise paragraphs (a), (b)(1), (e), and (f) to read as follows:

§ 164.502 Uses and disclosures of protected health information: General rules.

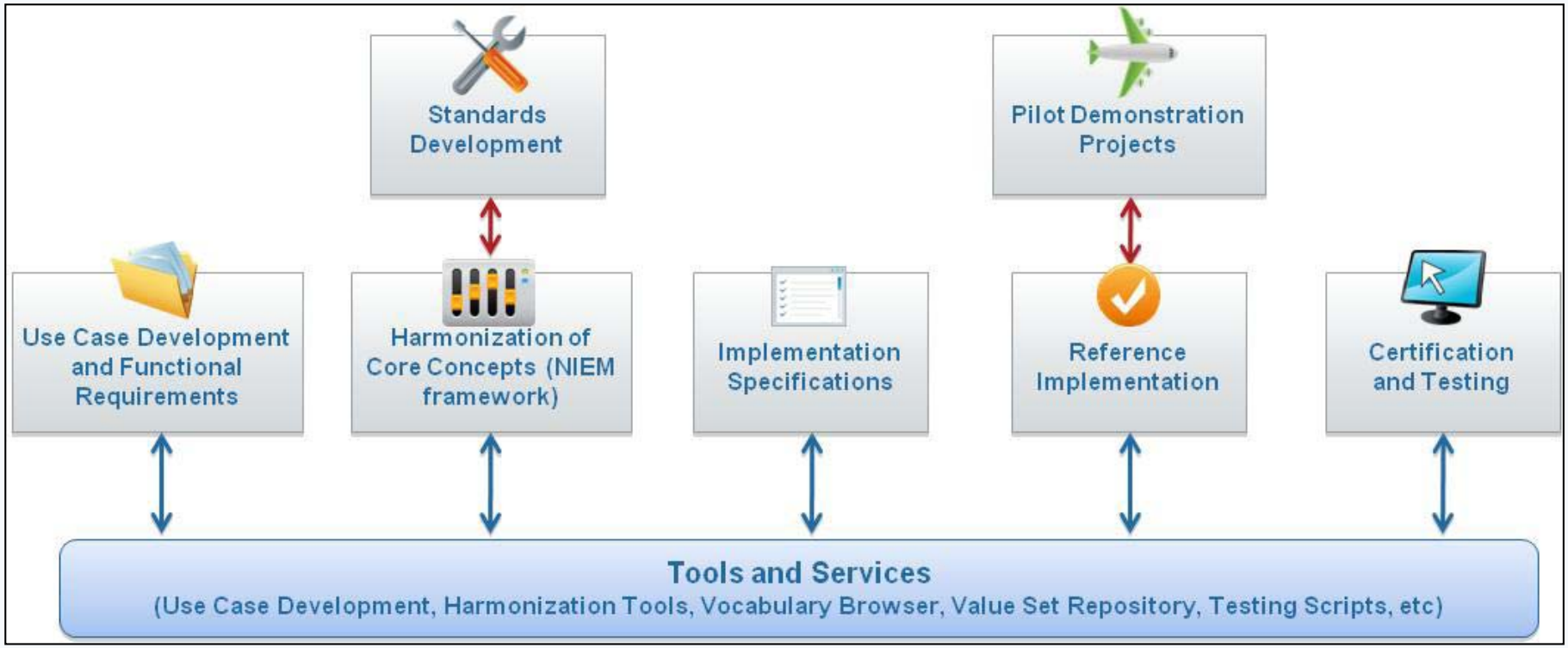
(a) *Standard.* A covered entity or business associate may not use or disclose protected health information, except as permitted or required by this subpart or by subpart C of part 160 of this subchapter.

(1) *Covered entities: Permitted uses and disclosures.* A covered entity is permitted to use or disclose protected

Current Environment

Latest ONC Initiative

Standards and Interoperability (S&I) Framework



Current Environment

Existing Projects

Nationwide Health Information Network (NWHIN)

Formally NHIN

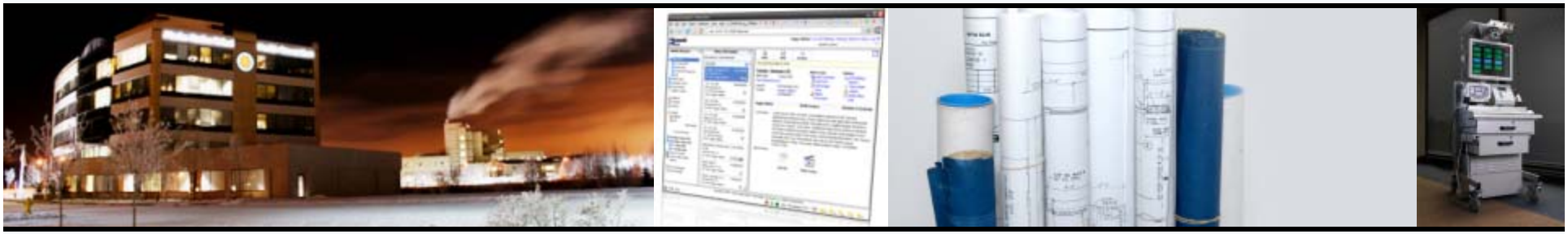
"NWHIN Exchange"

Robust Exchange: push or pull, subscriptions, consent, reporting

"The Direct Project"

NWHIN CONNECT:
Open source implementation of a gateway to help you connect to the NWHIN Exchange

WHAT IT MEANS TO YOU



What it means to you

Know what you are working with

- Don’t be afraid to ask
- Ask about interoperability
- Avoid one off implementations
- Verify collecting good health information content
- Keep an eye on certifications
- (Try to) Stay up to date with latest movement

Thank You

Questions?

Nathan Hogge
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AFHCAN
nhogge@anthc.org