The Office of the National Coordinator for Health Information Technology

Standards Strategy Roadmap

Feb 4, 2014

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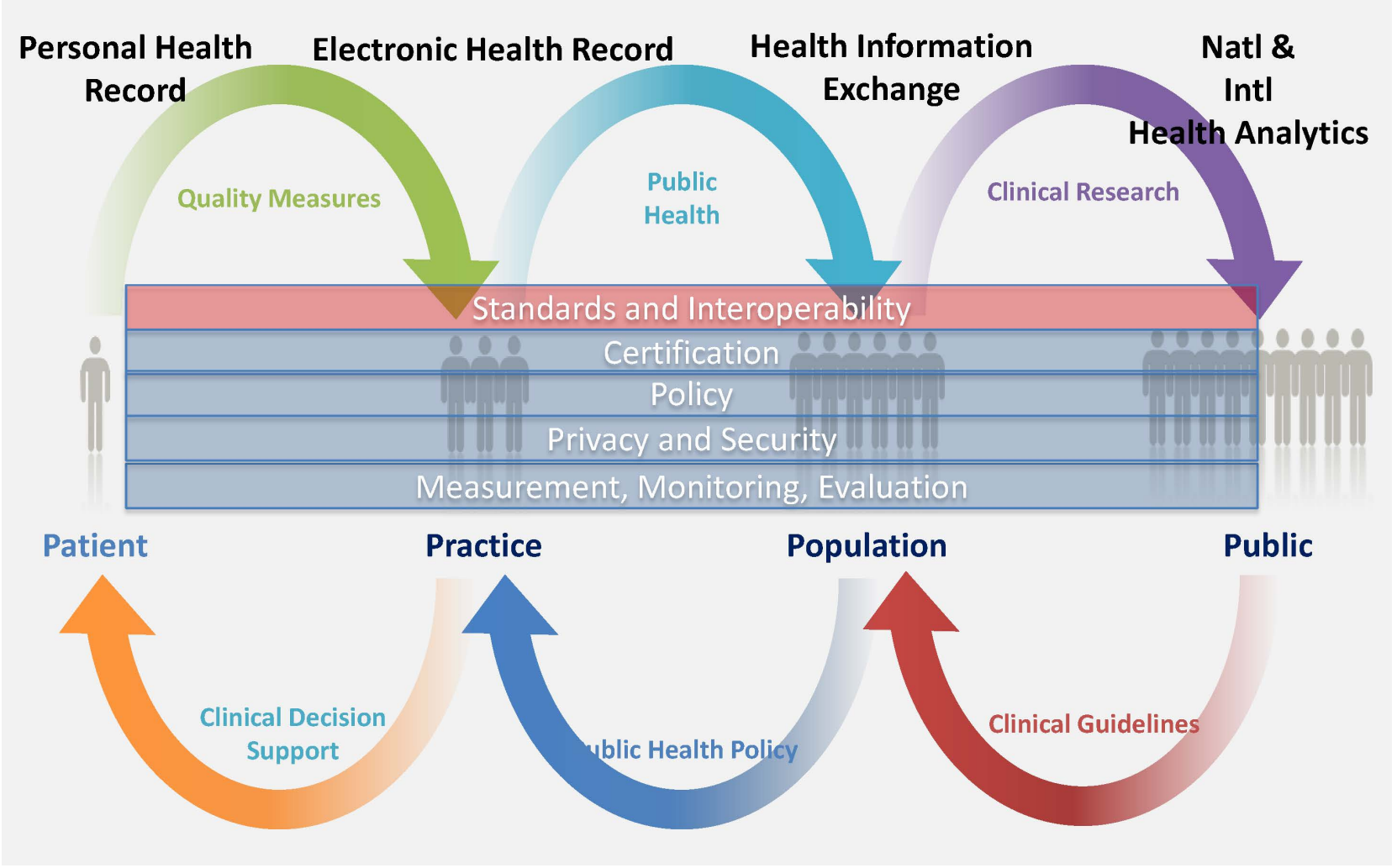
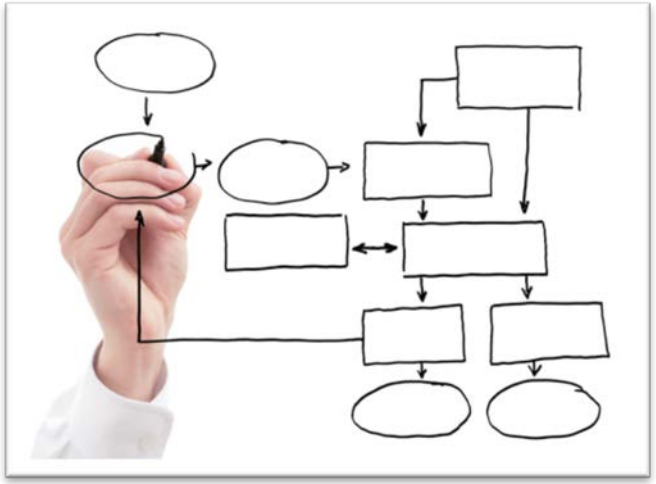


ONC's Interoperability Strategy

- Support the success of MU1 and MU2
- Continue to expand the value of the portfolio of standards to support ACOs, payment reform, DoD/VA systems acquisitions, and other admin priorities
- Modernize standards portfolio to include newer, simpler & more powerful standards



OST's Guiding Principles

- Leverage *government as a platform* for innovation to create conditions of interoperability
- Health information exchange is *not one-size-fits-all;* create a portfolio of solutions that support all uses and users
- Build in *incremental steps* – "don't let the perfect be the enemy of the good"

Standard Interoperability "Building Blocks"

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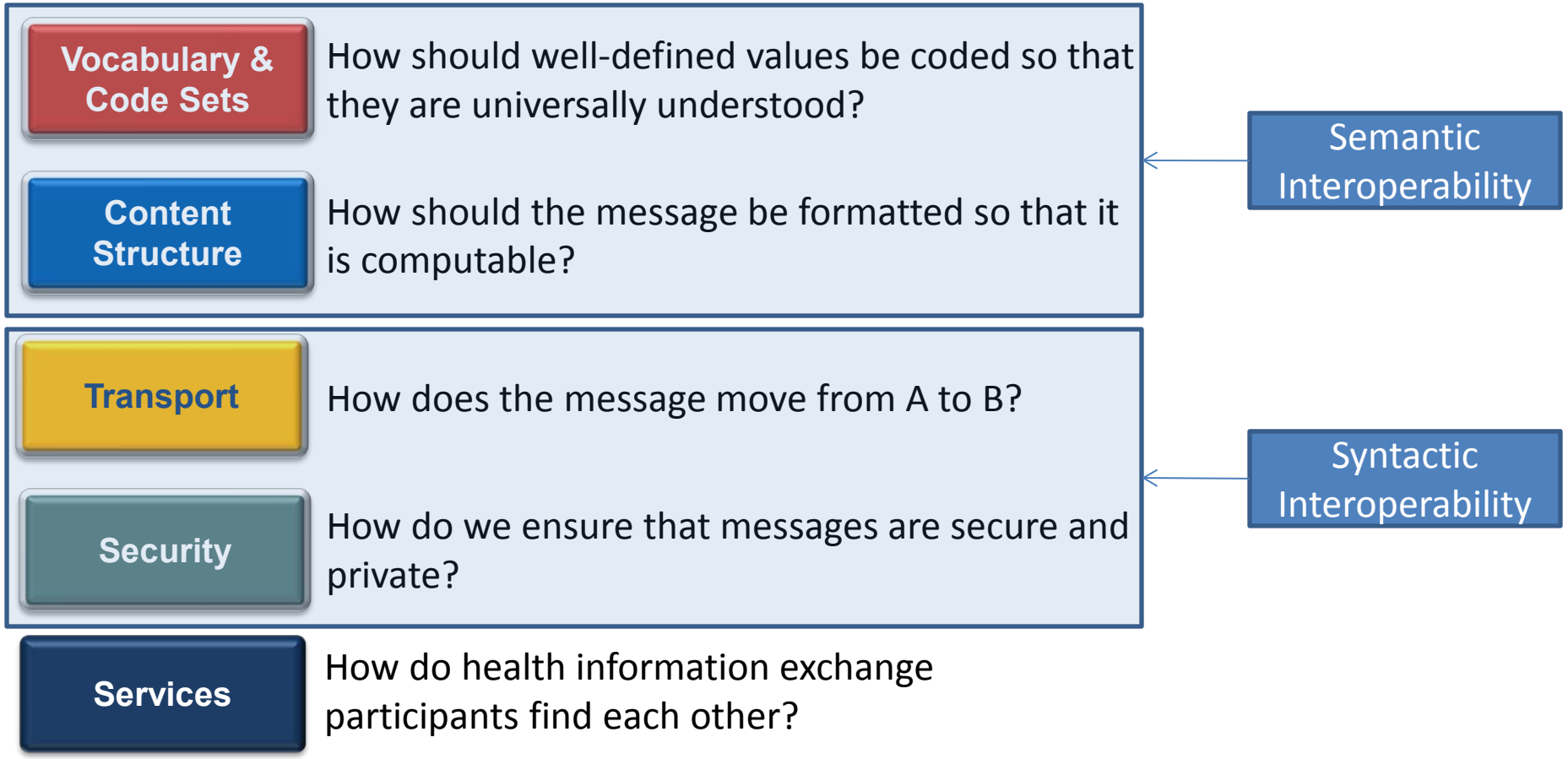

Standardized meaning

- Refine what we have
  - Work with VA and NLM to expand SNOMED to include additional codes and terms to describe functional status
  - Develop vocabulary subsets of the most common codes for LOINC, SNOMED, ICD-10 and RxNorm to speed adoption of these coded terms
- Expand our portfolio based on new use cases
  - Explore other vocabularies that support high value use cases
    - Consumers
    - User interfaces
    - Functional status
    - Long term care
- Move from *declarative semantics* to *computable semantics*
  - Leverage descriptive logic in terminologies to create "computable representations" of concepts.
    - No more lists of codes, but a query-like way of describing the concepts for a quality measure
  - Investigate OWL, semantic web, and other emerging technologies to support meaning

Standardized structure

- Refine what we have
  - Refine the CCDA and other HL7 standards to eliminate errata, based on community input and implementation experience
    - This will leverage the SITE activities and JIRA tool
- Expand our portfolio based on new use cases
  - Consider new CCDA templates to accommodate behavioral health and long-term care use cases
  - Expand the blue button portfolio to include administrative data (WEDI explanation of benefits) and other consumer focused standards (patient data portability)
- Move from *document-centric standards* to *data-centric standards*
    - Develop a common data element specification that can represent more granular data elements
    - Accelerate the FHIR activities (based on high value use cases)

Standardized transport

- Refine what we have
  - Support the DIRECT project implementation
  - Refine the SOA approaches to information exchange
    - Modularity and substitutability across standards and profiles
- Expand our portfolio based on new use cases
  - RESTful approaches to information exchange
    - consumers, EHRs, regional exchange and national/international efforts
  - Couple RESTful approaches with OpenID and Oauth 2.0 technology
- Move from *complex orchestration* to *simple RESTful approaches*
    - Generalize Blue Button pull (pub/sub) model to data holders and EHR vendors
    - Support FHIR resources and APIs
    - Create certifiable criteria for implementation

Standardized Security

- Refine what we have
  - Support the DIRECT project implementation
    - Support for certificate management and trust bundles
- Expand our portfolio based on new use cases
  - Couple RESTful approaches with OpenID and Oauth 2.0 technology
  - Evaluate other authentication methods (IHE)
  - Move from *PKI-based infrastructure to federated NSTIC compliant approaches*
  - Support new use cases with OpenID and Oauth 2.0
  - Develop new pilots that align with NSTIC
  - Establish a modular trust policy that enables consistent and modular policy development

Standardized Services (APIs)

- Refine what we have
  - No current APIs in our portfolio
- Expand our portfolio based on new use cases
  - Support the provider directory activities through IHE
  - Be opportunistic in moving toward more APIs
    - Leverage the data access framework activities
  - Develop an incremental API strategy for (open APIs →Stadardized APIs)
- Move from *interoperability based on "what to build" (specifications) to interoperability based on "how to use" (APIs)*
  - Create an API for Data Access Framework
  - Other approaches to consider?
    - Presentation layer
    - Middleware layer
    - Semantic layer
    - Data layer
    - Security layer

Certification and Testing

- Refine what we have
  - Continue to refine testing methods and testing tools
    - SITE support for broader testing methods and tools
- Expand our portfolio based on new use cases
  - Addition of scenario-based testing
  - Additional certification and testing criteria based on MU3 priorities
- Move from *interoperability based on conformance to specifications to demonstration of interoperability*
  - Apply *Postel's principle* to interoperability testing
    - Test for conformance to specification on send (OR for options)
    - Test for robustness to interoperability on receive (AND for options)
  - Extend the SI Framework specifications to include testing methods as part of a comprehensive implementation guide
  - Support additional SITE testing methods (both link and build)
  - Pivot to more community/industry lead testing approach (UL approach)

Additional Considerations for the Standards and interoperability Strategy

- Structured vs. Unstructured data
  - Develop systems and standards that are resilient to big data approaches
    - Use structured approaches for specific patients interventions (like CDS) and tolerate less structured approaches with large aggregated data sets
- Device interoperability
  - Mobile for consumers
  - Device integration (home and hospital) for EHRs
  - Cloud-based services (spoke and hub)
- Refine an iterative, incremental approach that leverages real world experience
  - Expand our support of the implementation community to get real-time feedback into what is working and what is not
  - Use both policy directives and communities needs to drive new initiatives and challenges