



OFFICE OF THE
CHIEF INFORMATION OFFICER
DEPARTMENT OF HEALTH AND HUMAN SERVICES

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

HHS Requirements for the industry in support of HHS' priorities

Twenty-Fourth Annual Federal Networks

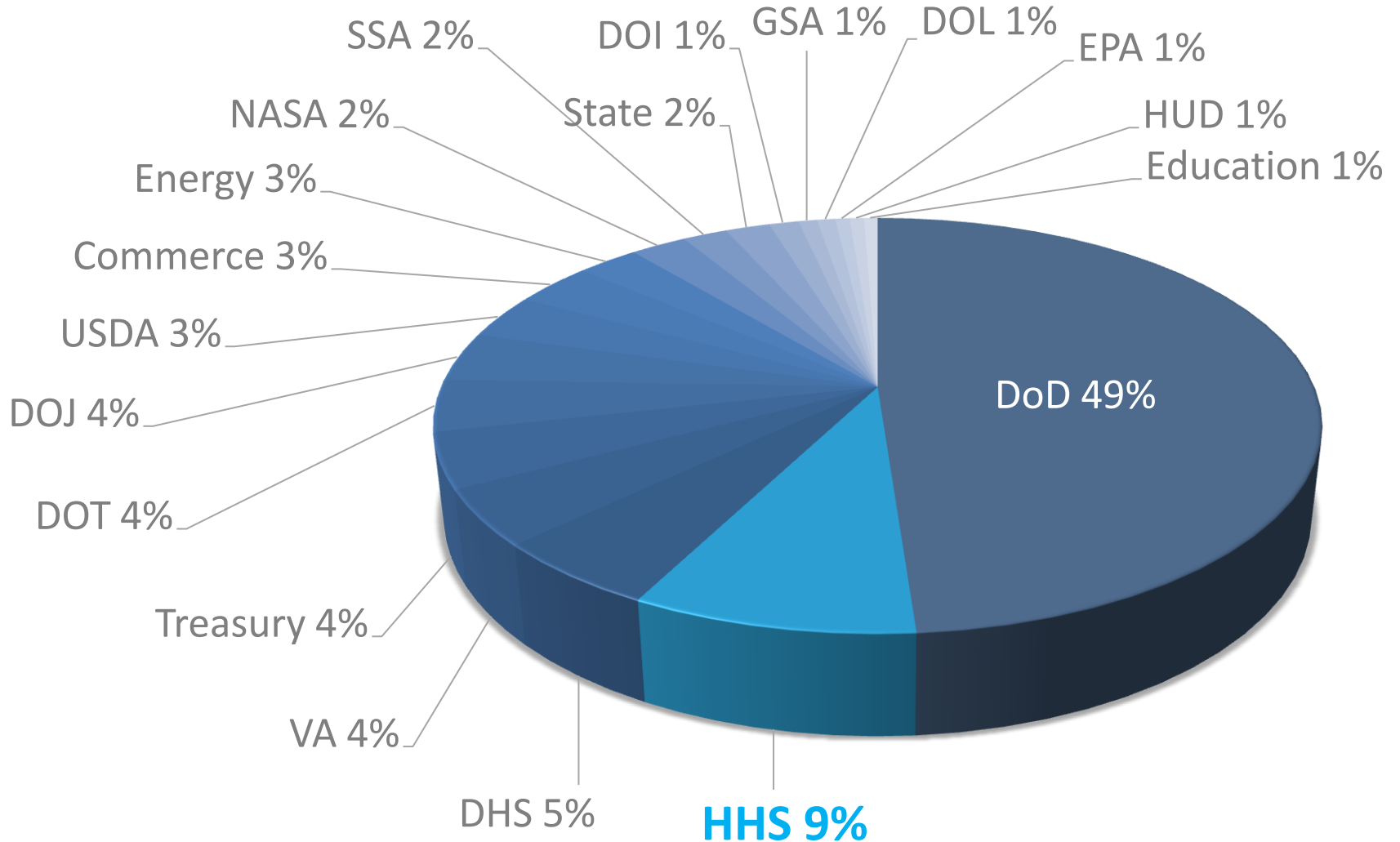
February 15, 2011

John Teeter

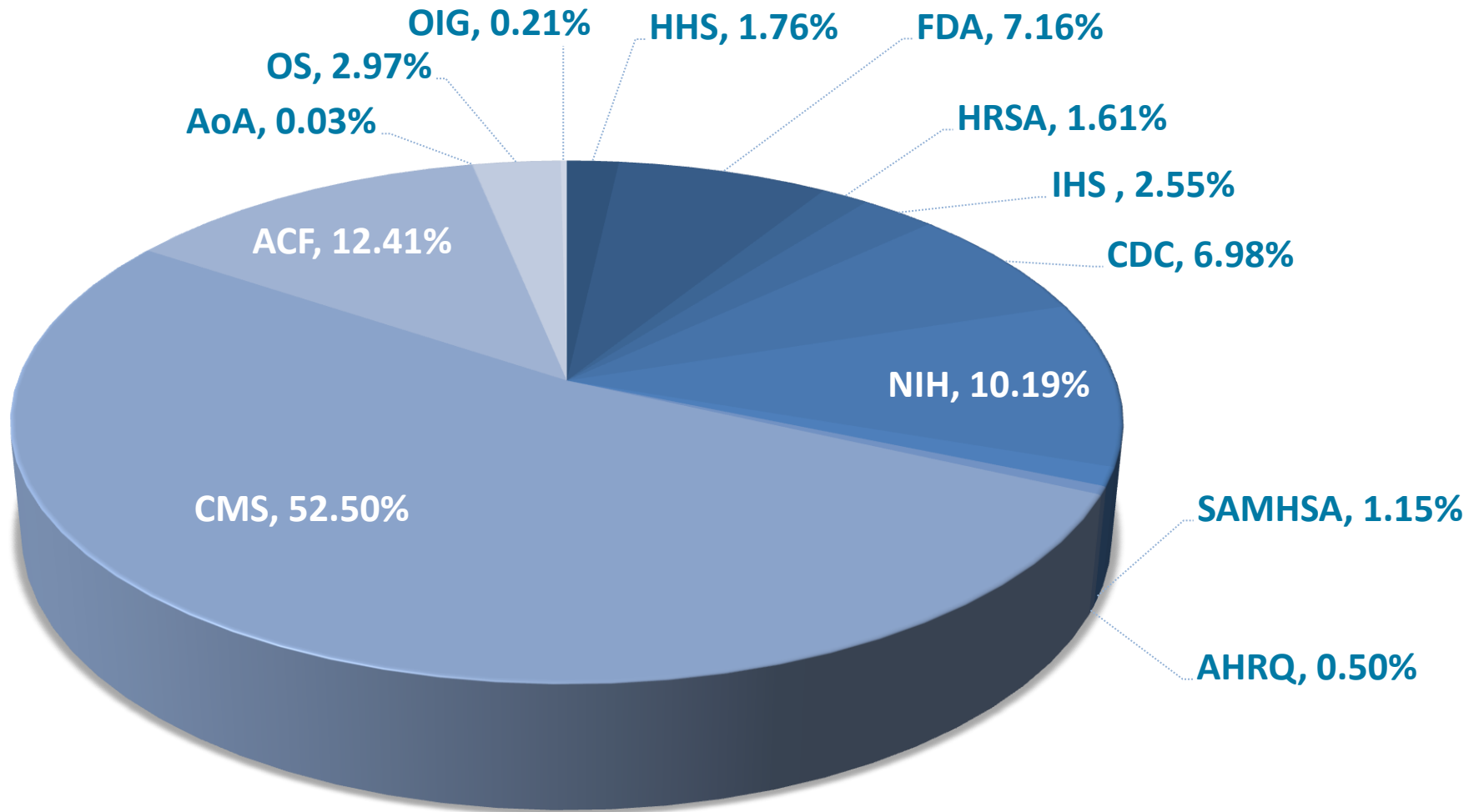
Deputy Chief Information Officer

U.S. Department of Health and Human Services

HHS and the Federal budget: 78.5 B



HHS budget FY2011: \$6.5 B



“Our goal is for all Americans to live healthier, more prosperous, and more productive lives.”

- Secretary Kathleen Sebelius



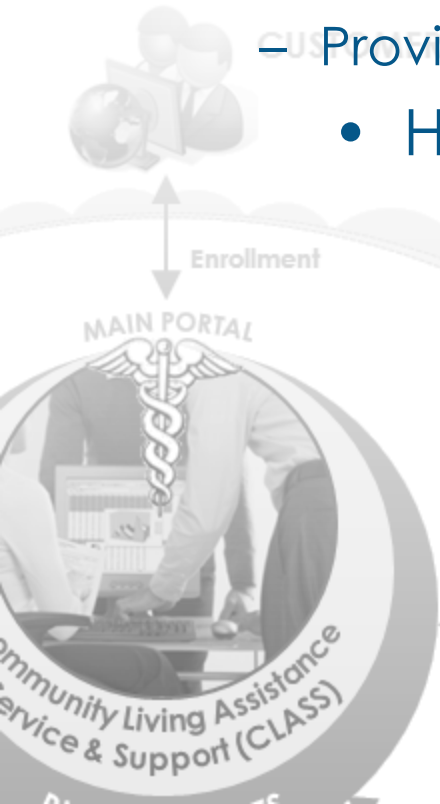
- ➔ Transform Health Care
- ➔ Implement the Recovery Act
- ➔ Promote Early Childhood Health and Development
- ➔ Help Americans Achieve and Maintain Healthy Weight
- ➔ Prevent and Reduce Tobacco Use
- ➔ Protect the Health and Safety of Americans in Public Health Emergencies
- ➔ Accelerate the Process of Scientific Discovery to Improve Patient Care
- ➔ Implement a 21st Century Food Safety System
- ➔ Ensure Program Integrity and Responsible Stewardship

HHS IT and Technical Priorities

- Cloud Computing
- Fraud, waste and abuse
- Information Sharing
- Information Security
- Service Architecture
- Open Government
- IT Governance

Cloud Computing

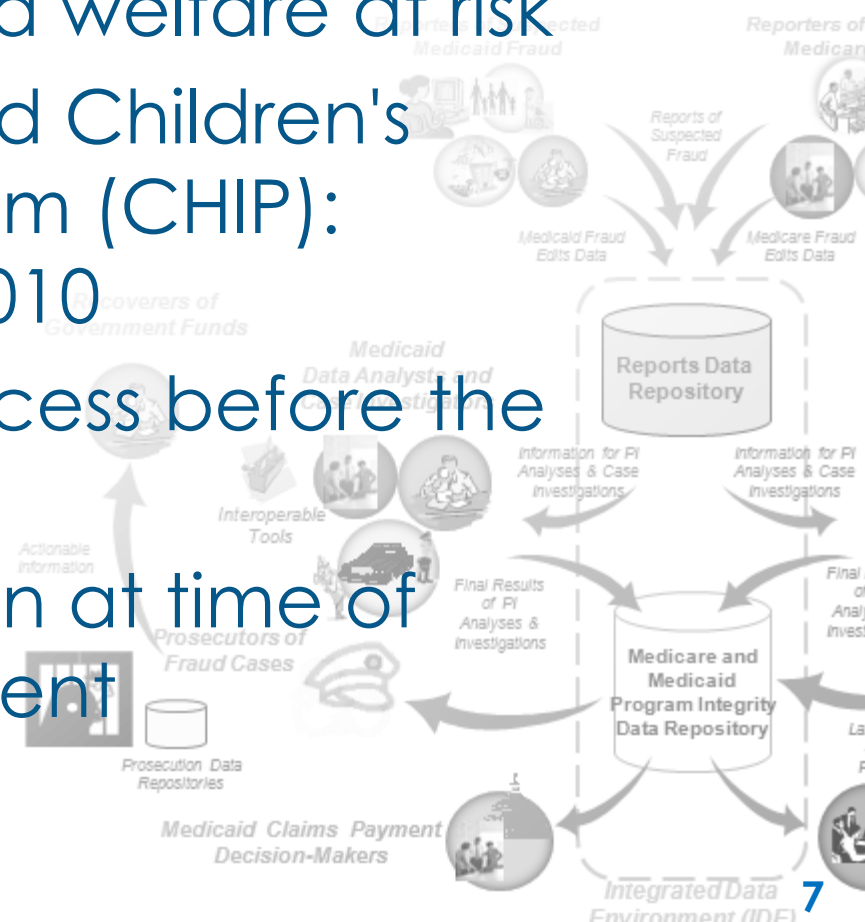
- Driver: **Cloud First** (25 Points IT reform)
- What HHS is doing:
 - Identifying services to be moved to the Cloud
 - Updating internal governance processes to ensure the Cloud First policy is implemented
 - Provide guidance, definition, decision criteria
 - How the industry can help:
 - Cloud definition and boundaries
 - When is cloud appropriate
 - Definition of decision criteria for moving to the Cloud
 - Provide more Cloud options
 - Be more proactive about the security aspects





Fraud, Waste and Abuse

- Fraud, waste and abuse cost taxpayers billions of dollars each year and put beneficiaries' health and welfare at risk
- Medicare, Medicaid and Children's Health Insurance Program (CHIP): recovered \$4 Billion in 2010
- Move the discovery process before the payments are made
- Exploring fraud detection at time of provider or biller enrollment



Information Sharing

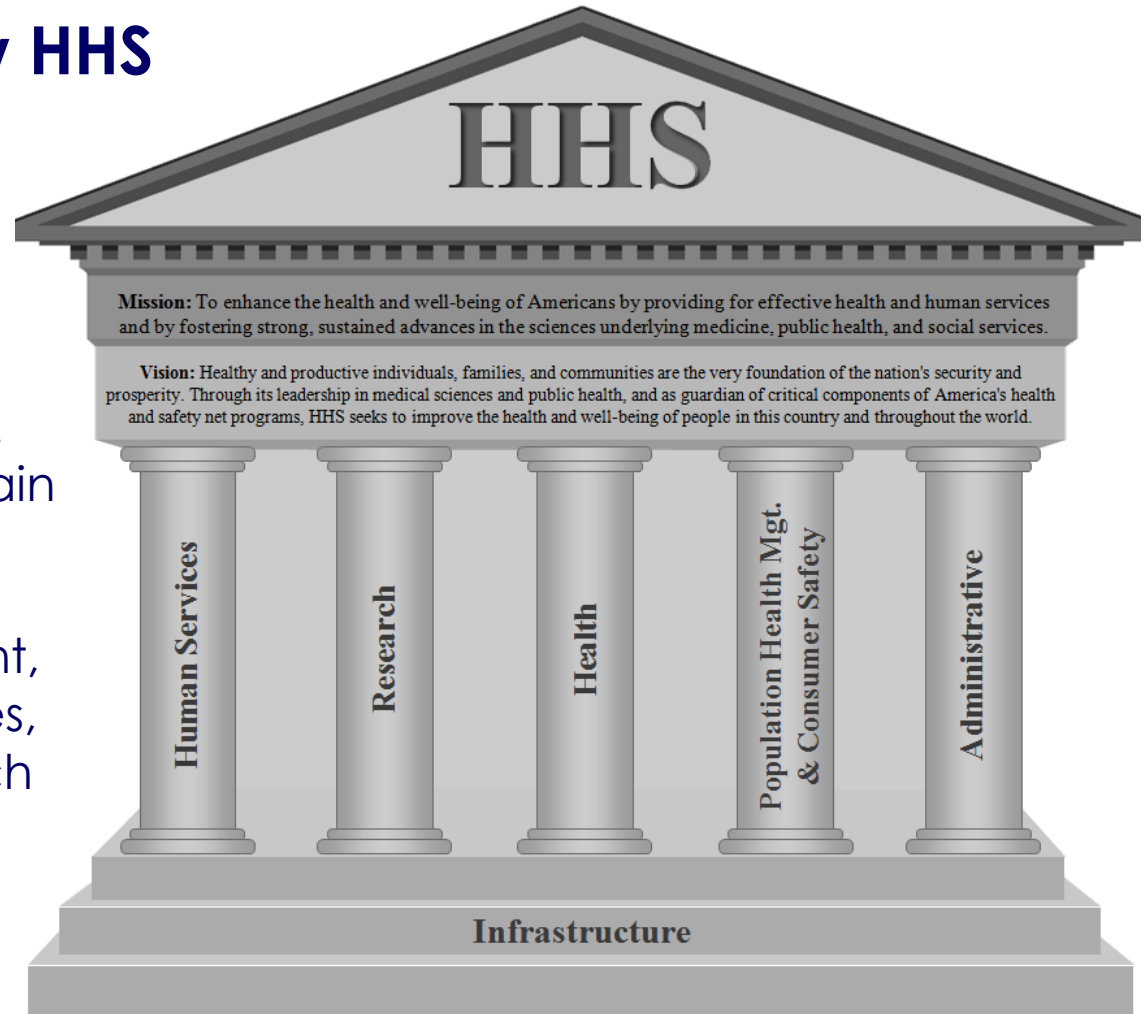
Nationwide Health Information Network

- Expansion of standards and specifications definitions
- Implementation guides
- Testing frameworks
- Health community can utilize NHIN deliverables to accelerate health information capacity
- Adopt data and technical standards for health IT
- Participate in efforts to prove capabilities and fill solution gaps
- Work to promote interoperability among regional, state, and local health exchanges
- Provide service built on standards & specifications
- Add industry services to service library



HHS Domains

- **Define and build new HHS domains**
- **NIEM Domain:** A domain can be defined as a sphere of activity, concern, or function. For purposes of NIEM, a domain refers to a business enterprise broadly reflecting the agencies, units of government, operational functions, services, and information systems which are more or less organized or affiliated to meet common objectives.



Information Sharing

National Information Exchange Model

- Establish Health Domain
 - Coordinating Committee
 - Health IT Steering Committee
 - Define NIEM Health Domain
 - Evolve metadata specification standards (Semantic web)
 - Leverage the Standard Web API
- Establish NIEM Human Services Domain

National Information Exchange Model

<http://www.niem.gov/>

<http://it.ojp.gov/default.aspx>

- Partnership of the Department of Justice and the Department of Homeland Security
- Develop and support enterprise-wide information exchange by:
 - Standards: data formatted in a semantically consistent manner
 - Processes: common semantic understanding among participating organizations
- Result: information sharing, focusing on information exchanged among organizations as part of their business practices

NIEM Value Proposition

Relevance to HHS

Improve sharing of critical information

Medicare fraud prevention and detection, child support enforcement

Develop standardized automated information exchanges with their partners

Health Care Eligibility Benefit Inquiry and Response (Medicare), Immunization data and patient charts (Indian Health Service)

Save time and resources by reusing existing information exchange specifications

“Child Support Order”, “Prescription Drug Monitoring Information Exchange”, “Psychiatric Assessment”

Engage new information exchange partners in the future

Department of Justice, Department of Homeland Security, state, local, tribal governments

Contribute to shaping nationwide standards for information sharing

Health IT Standards Committee, “Planning and Accountability” Domain

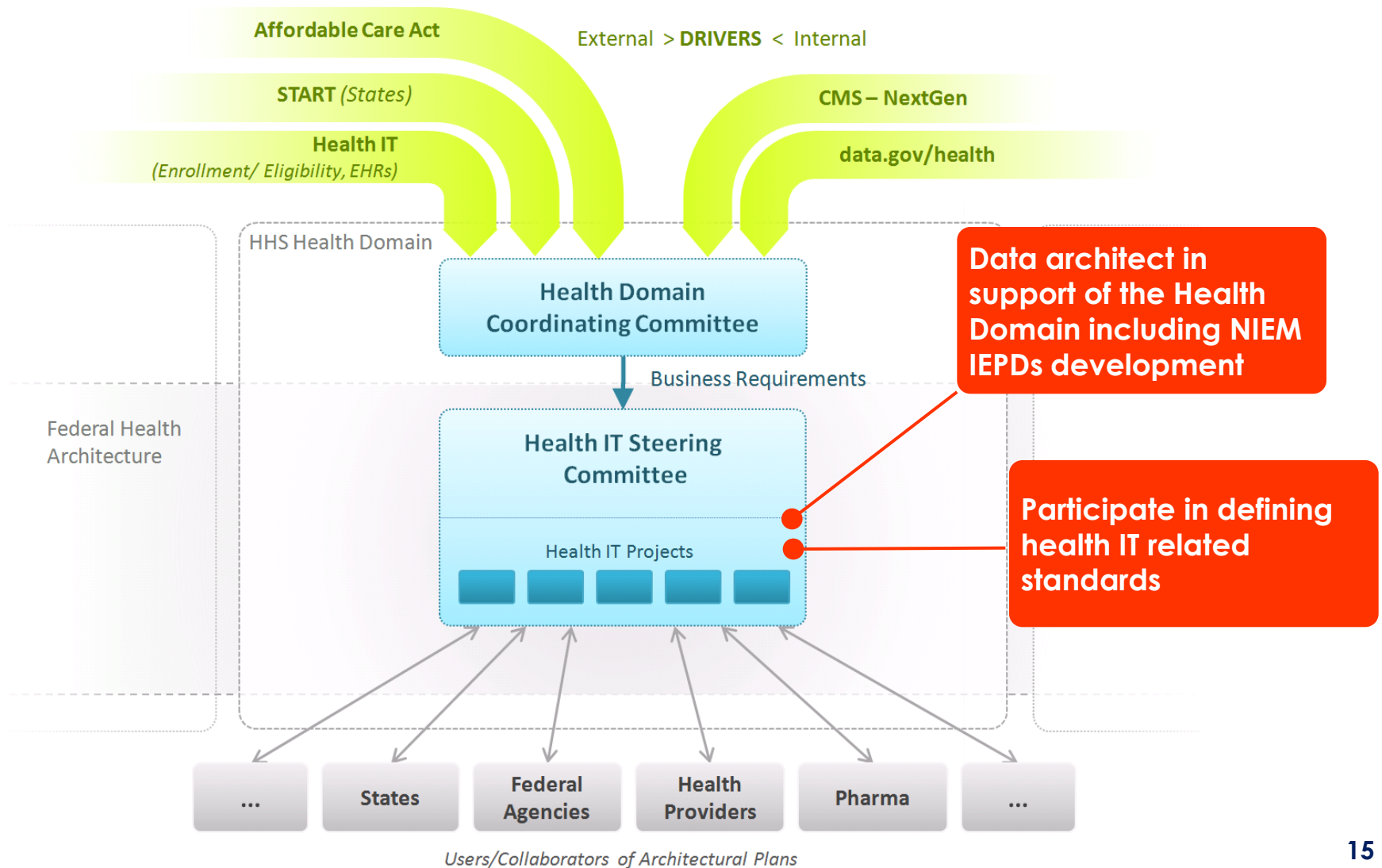
Evolution of NIEM

- Evolve metadata specification standards
 - To embrace the Semantic Web languages
 - That provide a Uniform Data Model
 - Across all Gov info domains
 - Enabling easier Dataset Assimilation
 - Realizing cross domain correlation via 'bridge' ontologies or 'connector' metadata
 - Uniform processing and persistence of any info domain
- Leverage the Standard Web API
 - Add REST to existing RPC service implementations
 - Uniform interface for metadata and dataset access (via HTTP)
 - Uniform query points (via SPARQL endpoints)

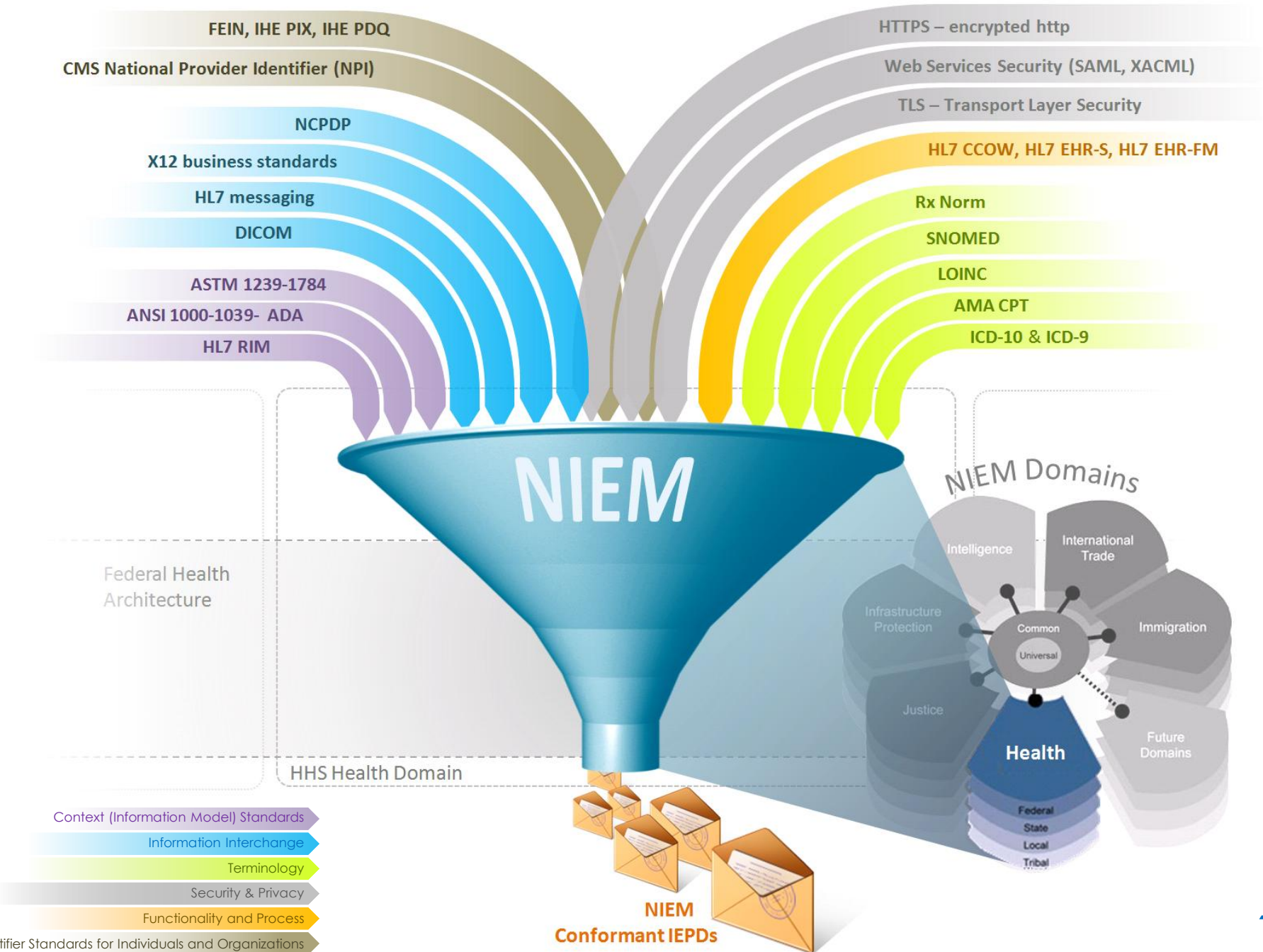
Semantics (Ontology, Metamodel)

- Domain specific standards evolve independently
 - Each authoritative domain stewards their published metadata standards and corresponding instance datasets on the Web
 - Metadata and instance datasets are cumulative, where one publisher reuses and extends other published metadata and datasets
- The Federated Data Portfolio implements a shared storage service
 - Aggregating independently published datasets from agency.gov/open sites
 - Assimilating their instance data via bridge or connector metadata for cross domain correlation
- Open Gov Directive
 - Participation with and by external dataset consumers
 - Collaboration for domain and cross domain correlation standards
- NIEM Governance and Momentum
 - Leverages existing NIEM constructs but lowers coordination cost

Approach to Implementing Health IT



NIEM & Standards for the Health Domain



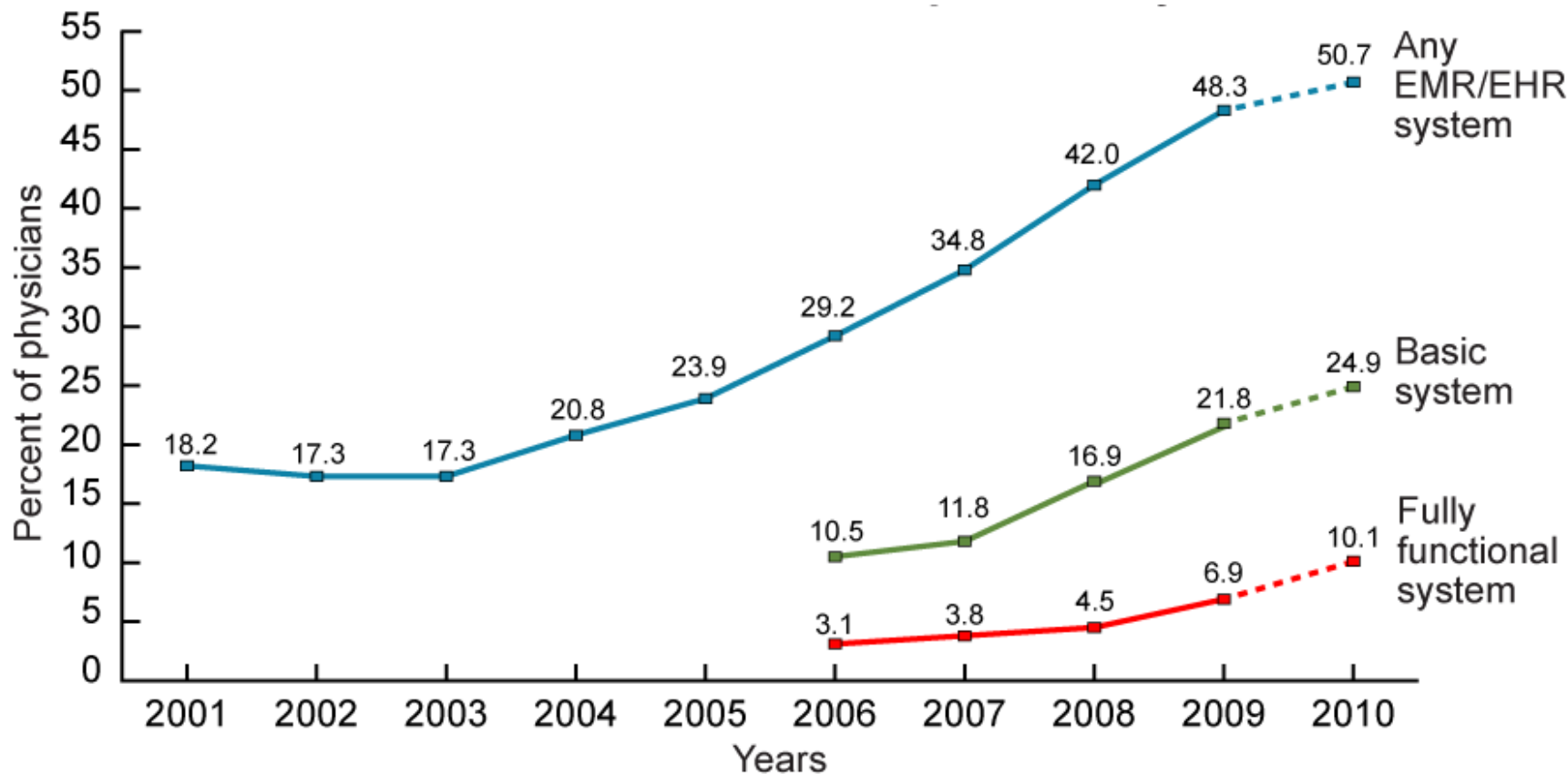
Information Sharing

Electronic Health Records

- Encourage adoption and use of electronic health records by care providers, and of personal health records by individuals.
 - Complete, accurate, and searchable health information, available at point of diagnosis and care, allowing for more informed decision-making
 - Facilitate better communication between clinicians and patients
 - Make delivery of care more efficient and convenient
 - Earlier diagnosis and characterization of disease, with the potential to improve outcomes and reduce costs
- Nationwide health information exchange capability to provide the best opportunity for each patient to receive optimal care – if data cannot be accessed and exchanged, it isn't useful

The Electronic Health Records challenge

Percentage of office-based physicians with electronic medical records/EHR 2001-2009 and preliminary 2010



Source: CDC NCHS Health E-Stat - Electronic Medical Record/Electronic Health Record Systems of Office-based Physicians: United States, 2009 and Preliminary 2010 State Estimates
http://www.cdc.gov/nchs/data/hestat/emr_ehr_09/emr_ehr_09.htm#fig1

Information Sharing

Public Health (Food/Product Safety)

- Data comes from many sources (surveillance, research, cohort, non-human, payer/provider, etc.) and huge variation in scope, definition, methodology, etc.
- High degree of data manipulation, documentation and quality assurance involved in order to prepare data for analysis
- High-degree of duplication and lack of coordination

Better collaboration

Information Sharing

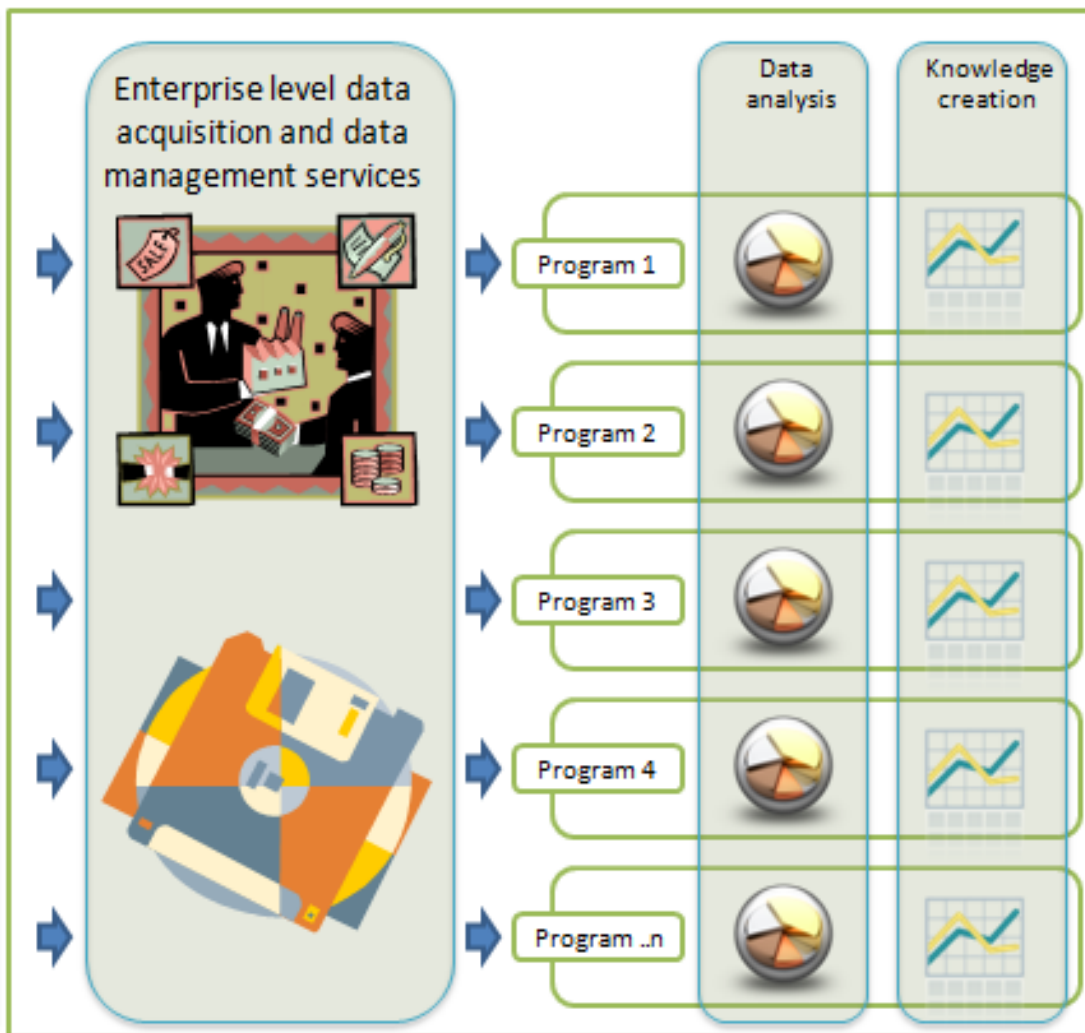
Public Health (Food/Product Safety)

Data and Information Sources

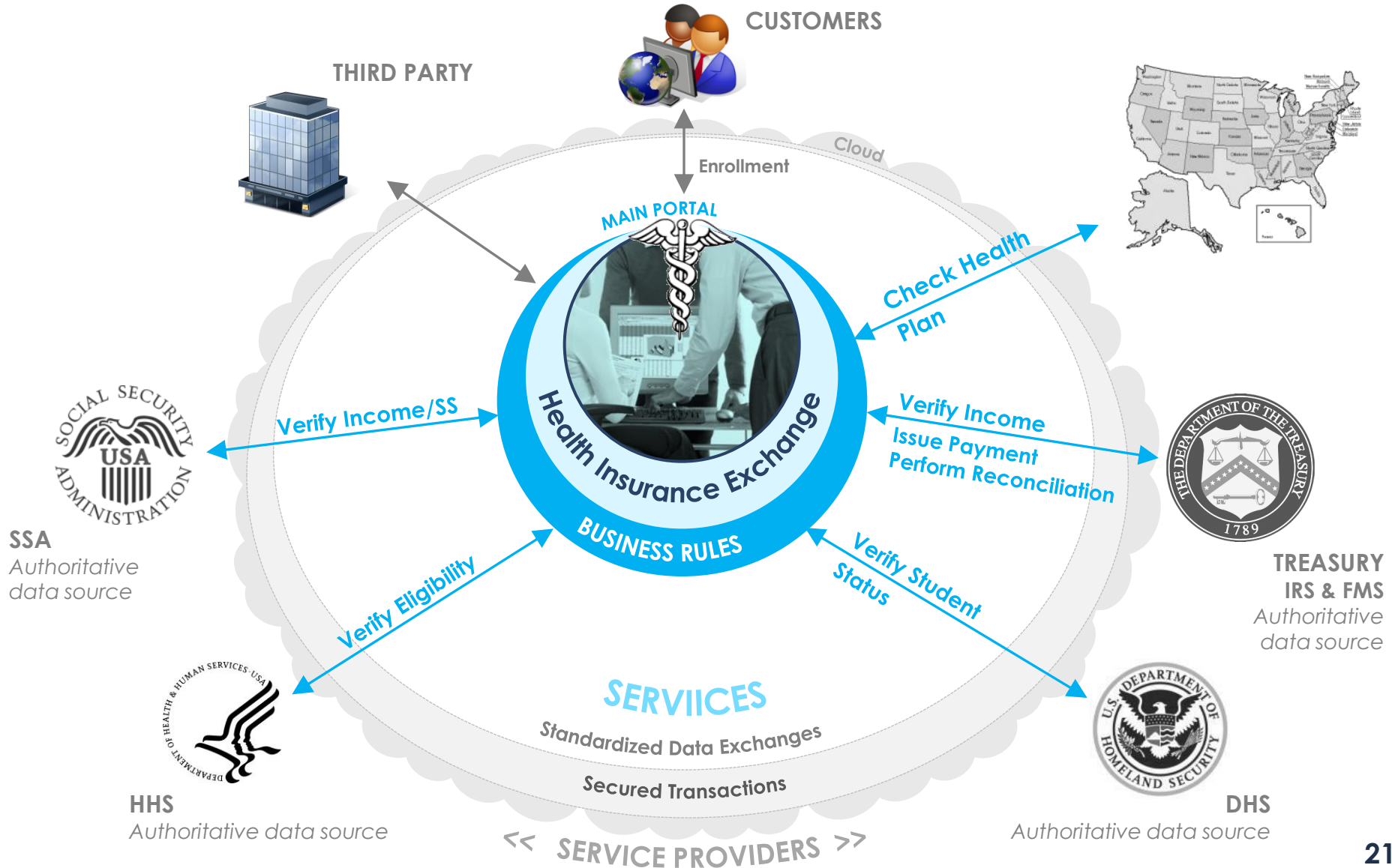
Many different sources, formats, definitions, scope, coding, sensitivity, representativeness, geography, cost, accessibility, etc.



Future State: Lifecycle of Knowledge Creation



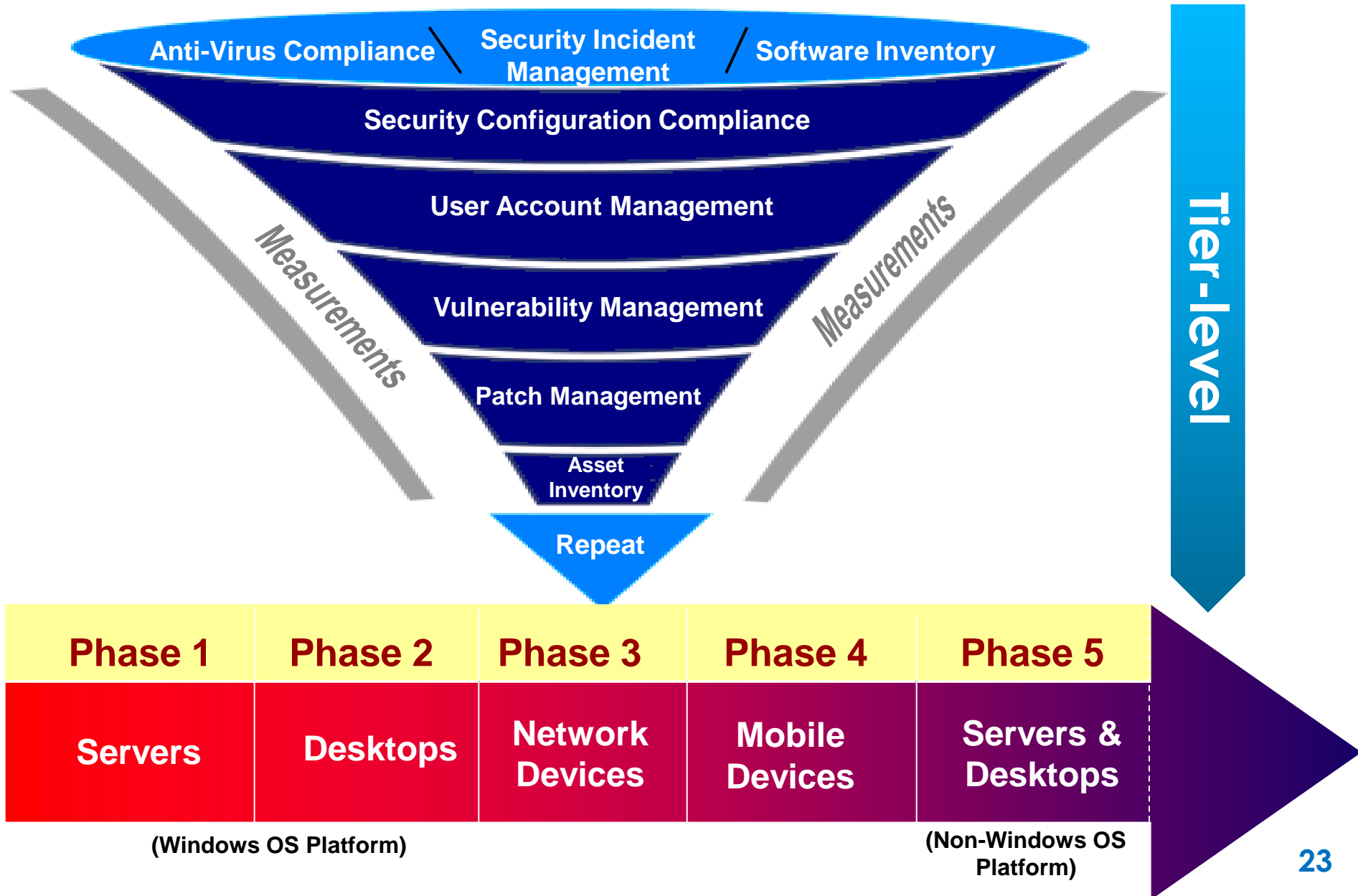
Health Insurance Exchange View



IT Security

- Help define and establish effective practices to achieve continuous monitoring
- Be more proactive implementing security, especially during software and solution development activities
- Demonstrate business value of achieving compliance with HIPAA and HITECH security and privacy regulations
- Recommend alternatives to voluntary enforcement of security rule compliance

SUMMARY: HHS Continuous Monitoring Concept



Improve service architecture

- Documented current architecture
- Catalog current services
- Standardize, consolidate, automate, move to the cloud
- Improve service performance



Secure Shared Services

“... There is also a clear connection between cybersecurity and information sharing. The same technology that will help improve information sharing is a critical part of protecting...”

“... Regular, automated compliance and behavior audits will not only protect privacy and make possible authorized use of information, they will greatly enhance the government’s ability to monitor misuse of its information networks...”

Markle Foundation, “Nation At Risk: Policy Makers Need Better Information to Protect the Country”

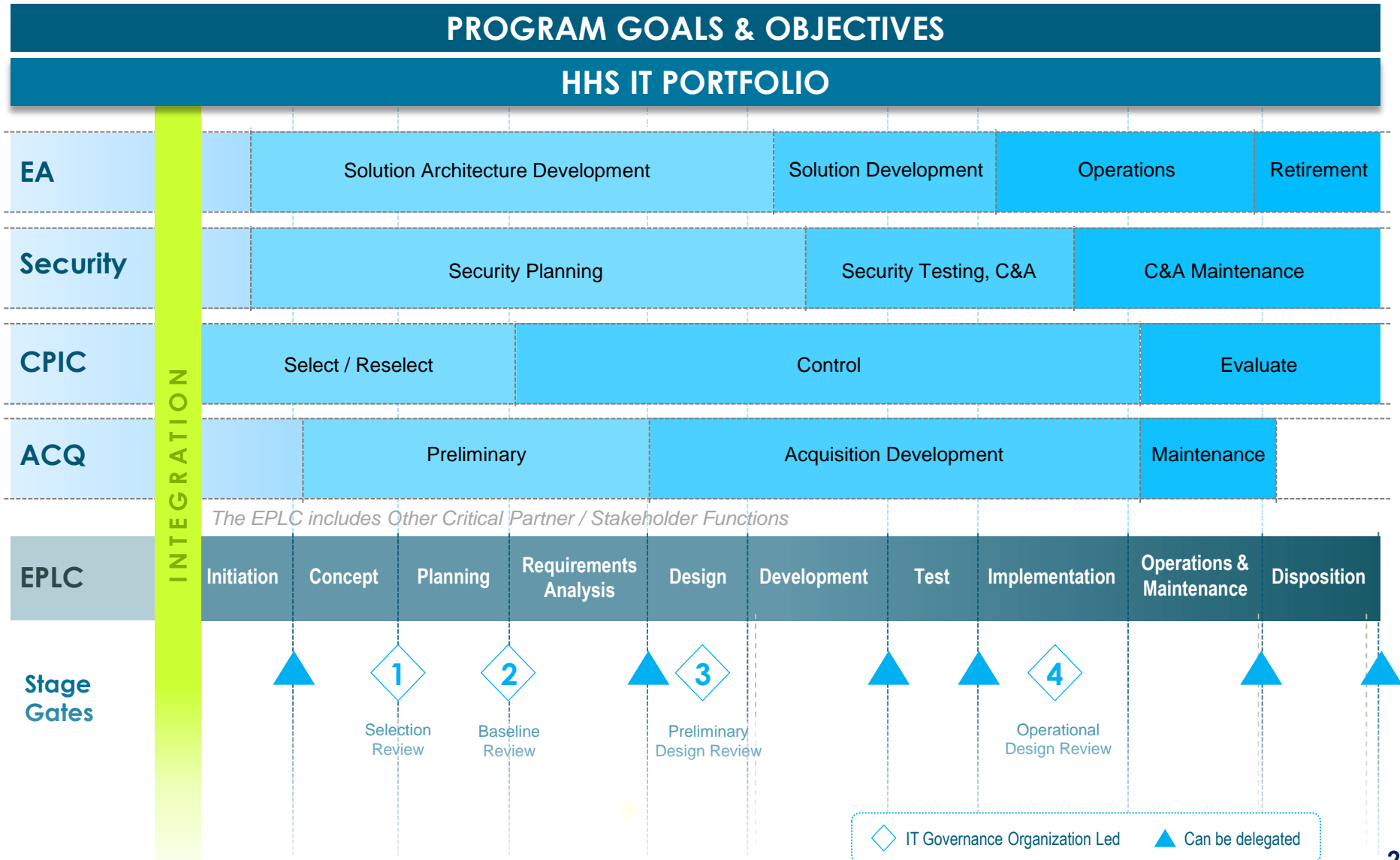
Open Government

- Foster transparency:
 - Continue to publish data by embedding the identification, prioritization, and publishing of datasets and tools in existing HHS's processes
- Encourage collaboration & participation with other agencies, industry, and the public
- Semantic
- Flagship initiatives:
 - CMS Dashboard
 - *FDA Basics & FDA TRACK* (performance management system)
- Community Health Data Initiative

Improve IT Governance

- Implement 25 Point IT reform
 - Improve efficiency and effectiveness of IT management in government
- Enterprise Performance Life Cycle (EPLC)
 - Continue to standardize effective processes, to improve project execution and performance
 - Flexibility required to accommodate legacy as well as new technologies and solutions
- Risk Management
 - Adopt formal risk-based decision making processes
 - Designate executive risk management role (potentially multiple individuals)

EPLC: Integrated IT Governance



Common Themes

- Provide compliant and interoperable services and tools
- Be proactive with voluntary standards and initiatives
- Provide innovative ideas
- Get involved:
 - Collaborate
 - Participate
 - Provide Feedback

QUESTIONS ?



John Teeter

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U.S. Department of Health and Human Services