Defining the need for a

Connecticut Health Information Authority

John Lynch, Executive Director
Connecticut Center for Primary Care

Vision

Transform the health care of Connecticut communities, measurably increasing the quality of care, improving patient health outcomes, and improving the overall cost/value of care in each of our communities. Transforming healthcare in Connecticut will require a broad array of solutions not limited to financing reform, the introduction of technology, exchange of health information, care coordination and teaming, major changes in patient-provider workflows, rapid deployment of evidence based clinical approaches, and fine tuned measurement of community outcomes.

Goals for CT Health Information Authority

To develop for our Connecticut communities a transformational infrastructure that includes EHR and data exchange technology solutions linking providers, patients, payers, and public health resources, analytic and decision support technology, process reengineering and clinical improvement tools, and feedback of lessons learned back into training curriculum for future staff and clinical providers.

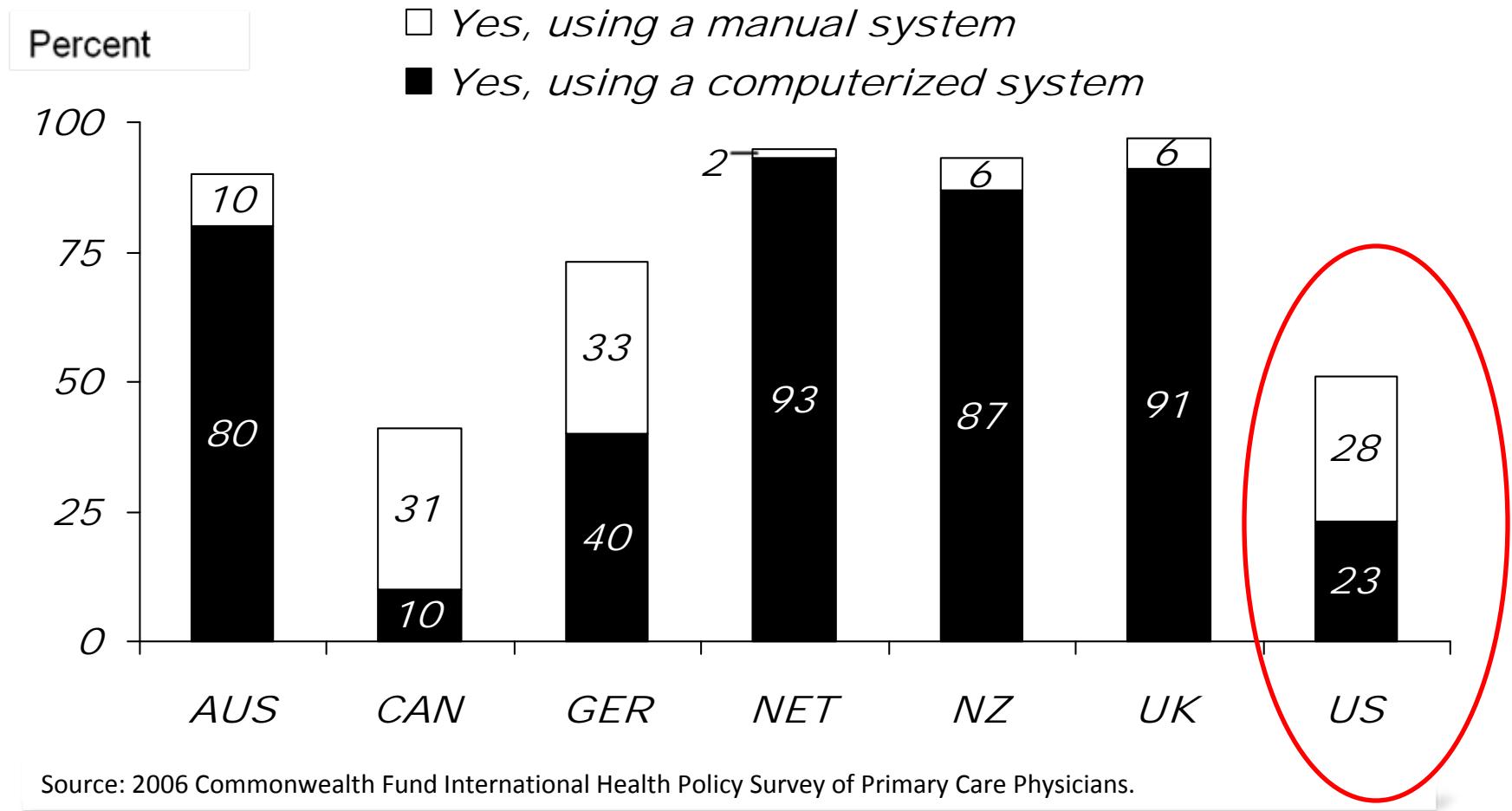# Community Benefit:
The Value of HIT and HIE
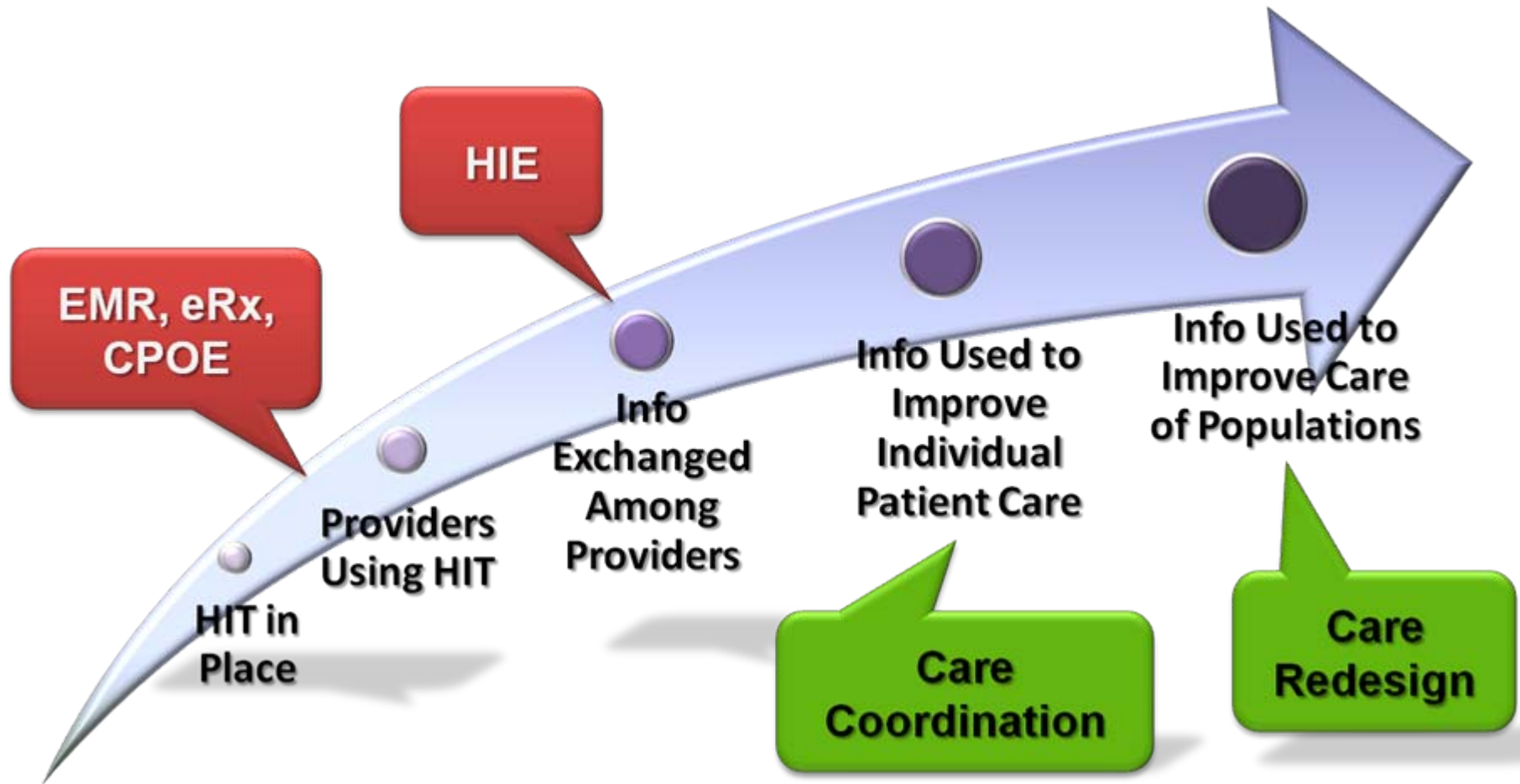
Impact of the Availability of Information

Country	Physicians Using EHR (%)	Healthcare Expenditures (annual, per capita)	Deaths From Medical Errors (per 100,000 population)
Netherlands	98%	$3,023	0.2
New Zealand	92%	$2,038	0.2
U.K.	89%	$2,508	0.5
Germany	42%	$3,043	0.6
U.S.	20%	$6,142	0.7

Source: 2006 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.

Doctor Routinely Receives Alert about Potential Problem with Drug Dose/Interaction

Percent

☐ *Yes*, *using a manual system*
■ *Yes*, *using a computerized system*

Country	Computerized	Manual
AUS	80	10
CAN	10	31
GER	40	33
NET	93	2
NZ	87	6
UK	91	6
US	23	28

Source: 2006 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.

Connecticut Health Information Authority Building Blocks

- Uniform governance/privacy and security policies/standards

- Training/workforce development

- Deployment of Certified Electronic Health Record (EHR)

- Statewide Health Information Architecture linked to National Health Information Network

  - Health Information Exchange (HIE)/RHIO

  - Interoperable clinical data repositories/registries

- Personal Health Record (PHR)/patient engagement

- Aggregation/analysis/reporting of community outcomes/public health reporting

- Support for identification of best practices; workflow improvement

Federal Opportunities Addressing HIE

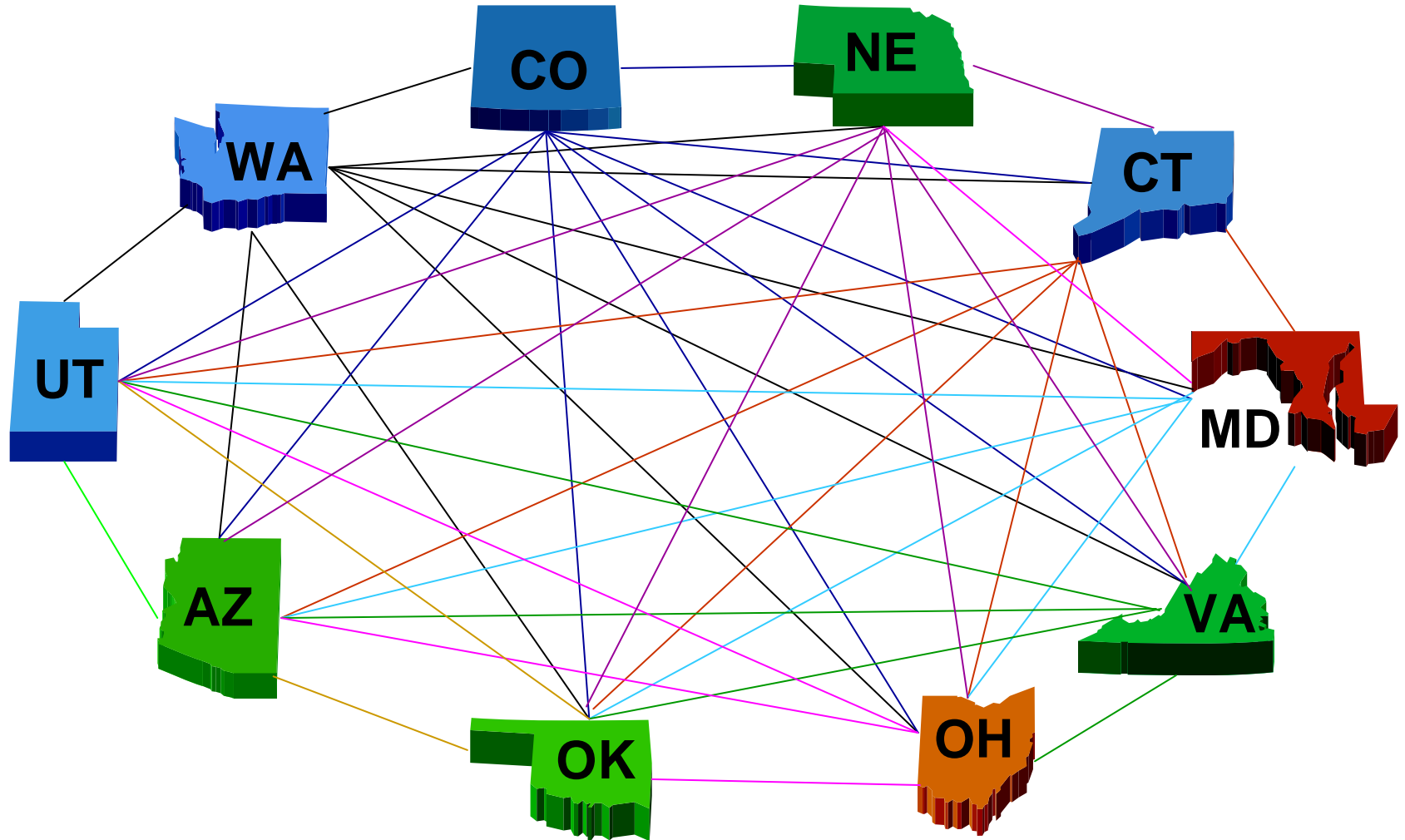Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009

- Medicare Incentives for Physicians

- Medicare Incentives for Hospitals

- Medicaid Incentives

- ONC: Health Information Exchange Planning and Implementation

- ONC: Health Information Technology Regional Extension Centers (REC)

- ONC: Community College (5 Regional) Consortia to Educate Health Information Technology Professionals (6 workforce roles)

- ONC: Curriculum Development Centers

- ONC: Competency Testing – Not yet announced

- ONC: Training in University Settings – Not yet announced (6 roles)

- ONC: Beacon Communities

Function of HIE

Design and deploy information networks and exchange between hospitals, physicians, labs, pharmacies, nursing homes, home health organizations, radiology services, patients, and payers using standards based components. The desire is to present all pertinent information about individual patients from all community sources available at the point of care. This will require deployment of interfaces at participant sites and the development of community based health information exchanges (HIE) to facilitate the location of and exchange of standardized data.

Challenge: How to Build Scalable Trust?

Evolution of Trust

Trust

Trust

Trust

Organization A

Data

Internal Policies

Business Associate Agreement

Data

Organization B

Data

Internal Policies

Authorization	Authentication	Access	Audit
Organizational: Business Goals; Policies; Employment; Liability			
State: Behavioral Health, HIV, Genetic; Sexual; Prison; Peds			
Federal: HIPAA , Alcohol and Drug, Medicare, Medicaid, FERPA,FDA			
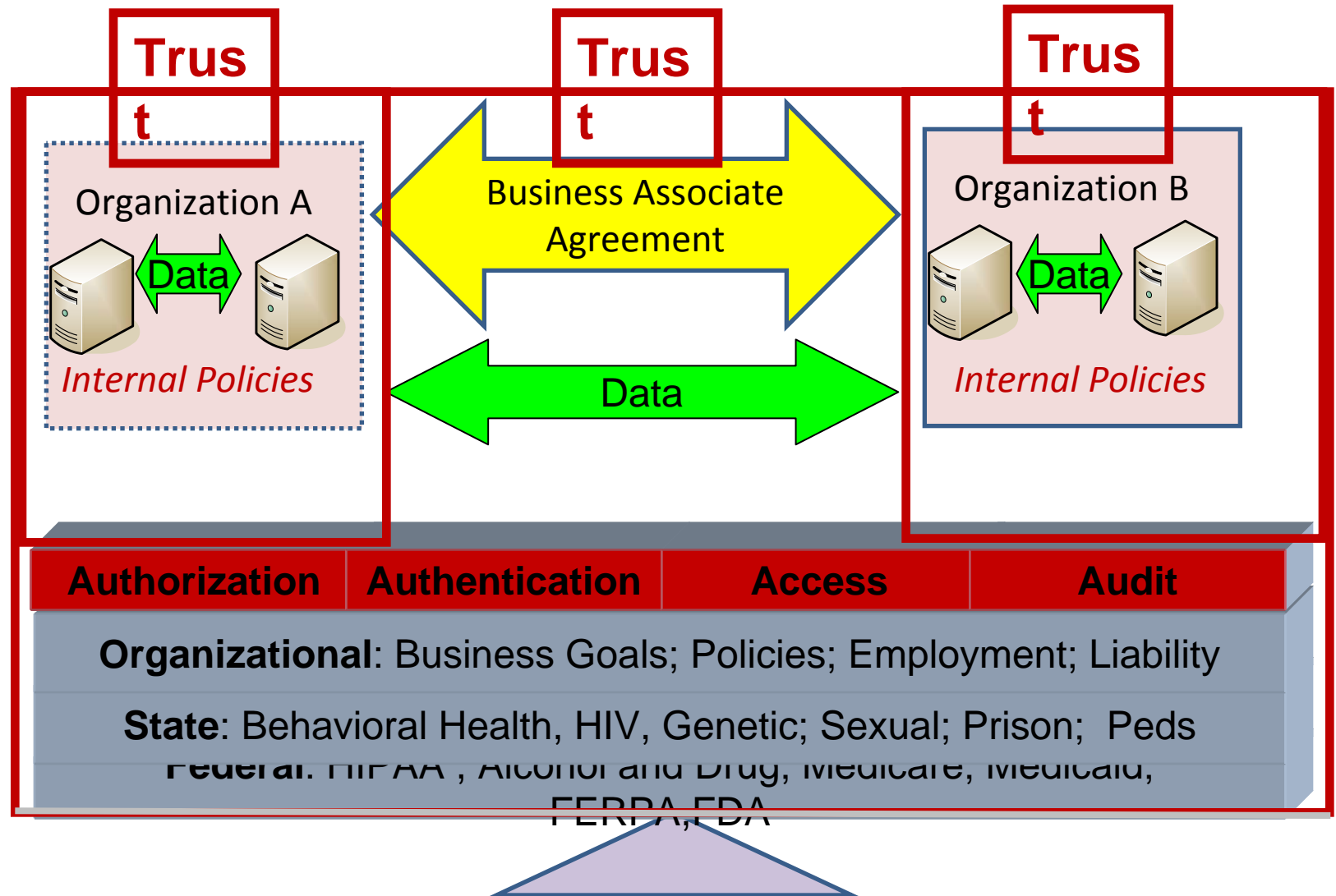
Solution: Uniform Privacy and Security Policy
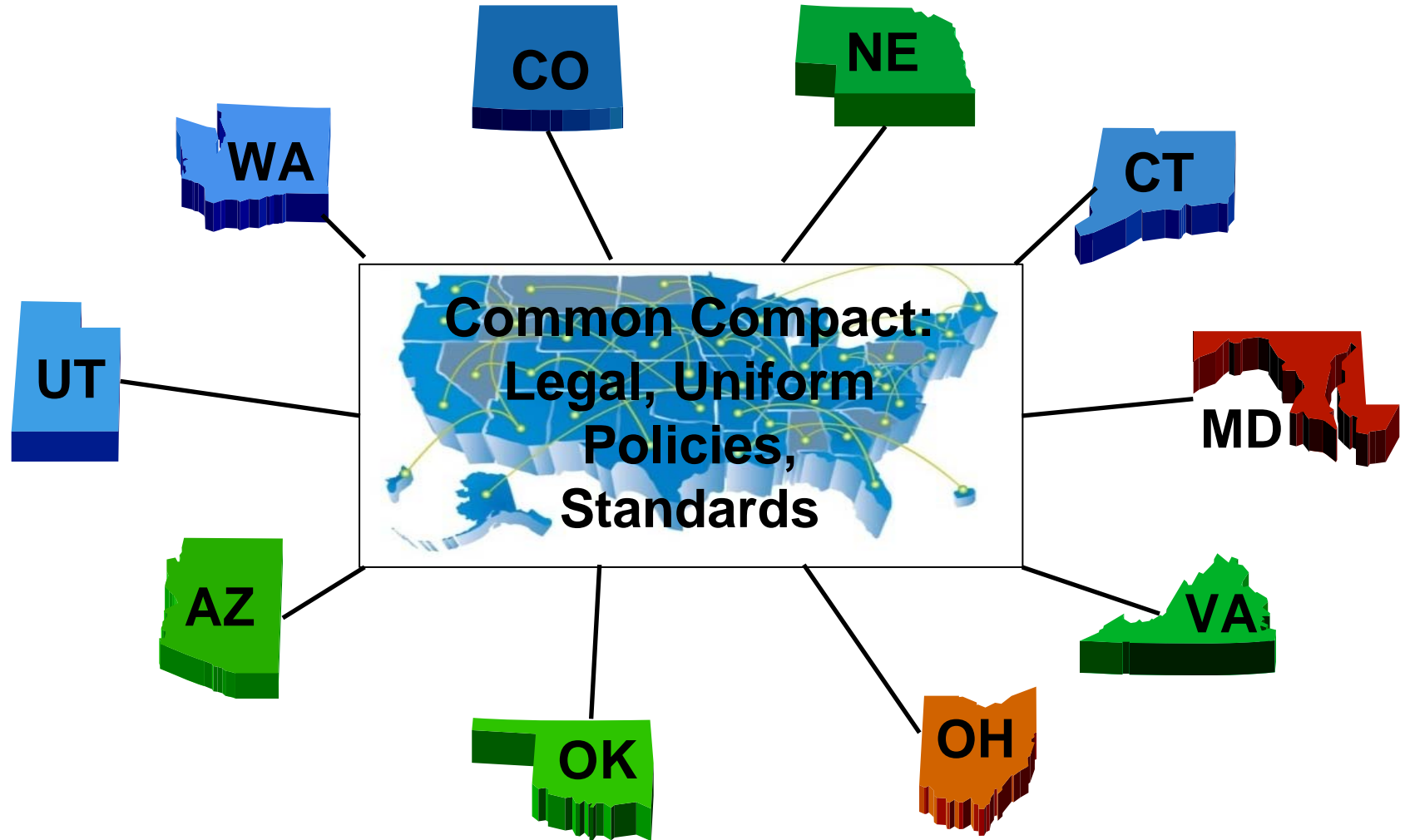
Federal Consortium and NHIN

Health Bank or
PHR Support Organization

Community
Health Centers

CDC

IHS

VA

SSA

CMS

NCI

DoD

Common "Dial Tone"
& "Chain of trust"

Community #1

Integrated
Delivery System

Community #2

The Internet

Standards, Specifications and Agreements
for Secure Connections
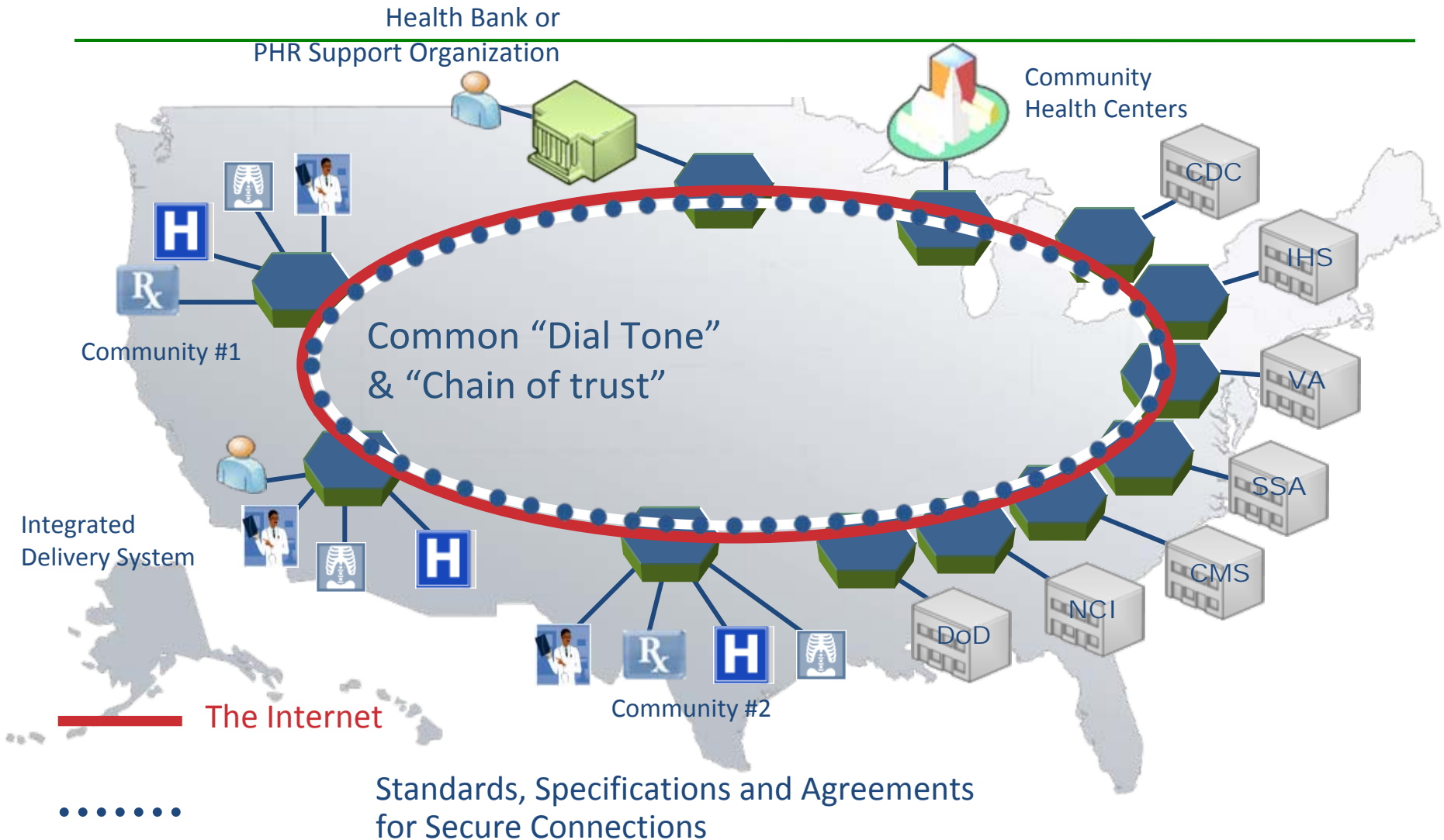
Example ROI Opportunity:
# Social Security Administration

Disability Determinations:

- Demonstration project to link provider clinical information with the SSA to speed disability application process. SSA is currently Funding $24 million for 7 – 10 competitive grants nationally.

- Current Determinations (15 million records from 500,000 hospitals, physicians, other providers per year) take 12-14 months per patient

- Pilot in Virginia – Health Information Exchange (HIE)submitting electronic Continuity of Care Document (CCD) – determinations in 8 minutes

- Encourages the use of open source HIE components to link SSA and the provider community.

- Similar projects under review for CDC, DoD and Veterans Administration

- Substantial ROI for SSA, patients and providers.

Health Information Exchange (HIE) for CT

CT Health Information Authority
- Legislative mandate
- Governing Body
- Convene, Coordinate
- CT Health IT Plan
- Support/Certify HIE Network
- Consumer education/outreach
- Audit; Enforce
- Issue Trusted Identities;
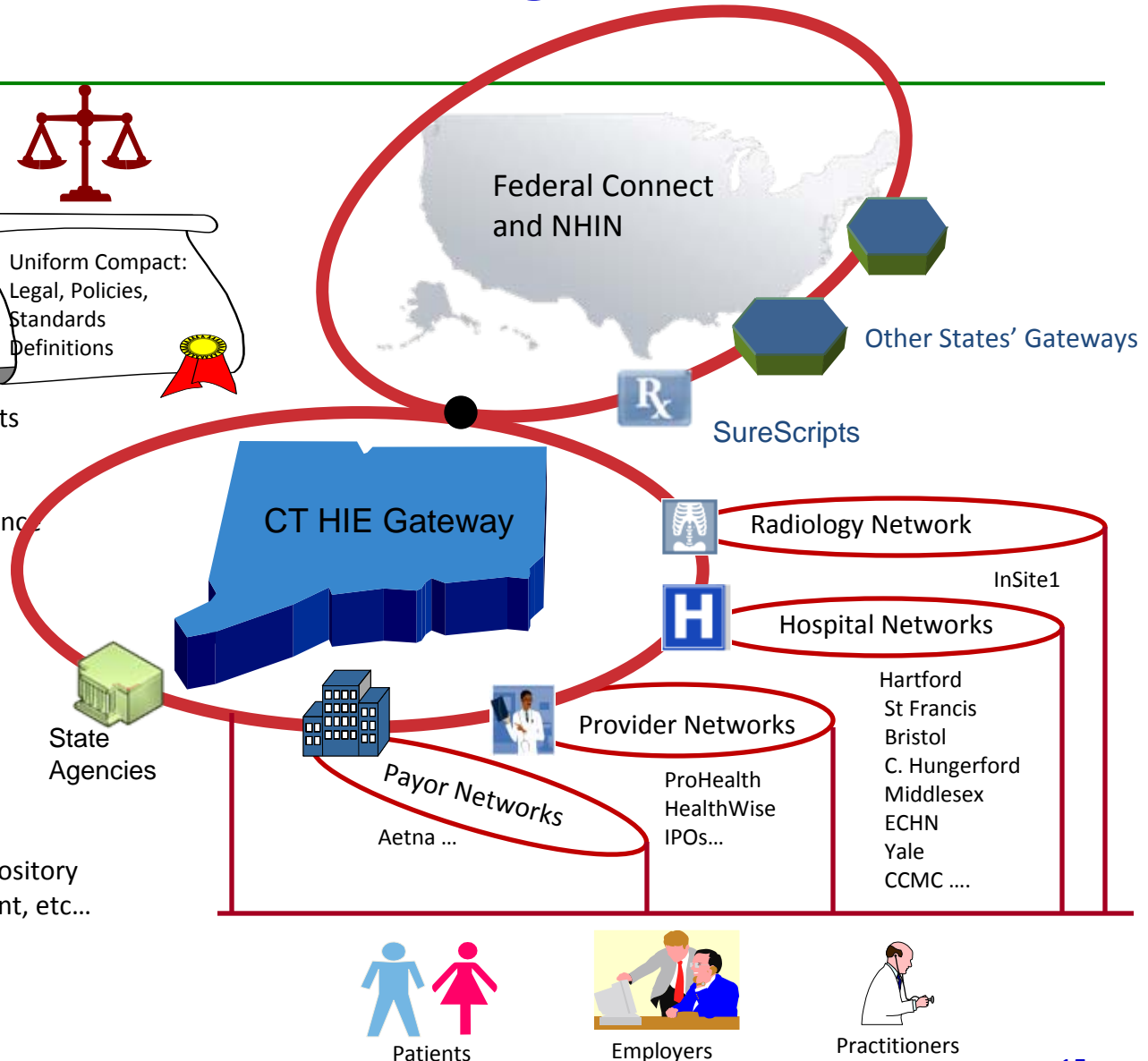- Sustainability; Grants; Assessments
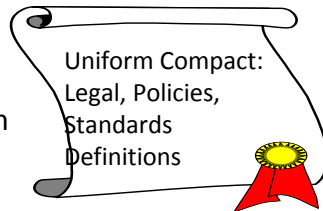
CT HIE Gateway
- NHIN/Federal Connect Gateway
- CT PIX Patient Identity Cross Reference
- CT RLS Record Locator Service
- CT XDS Document Registry
- Trusted User Directory
- Community Outcome Repository
- Unaffiliated Provider Portal
- Patient Portal

Community Aggregator
- Gateway "Edge Server"
  - EHR/EMR
  - XDS CDR Clinical Document Repository
  - CCD Continuity of Care Document, etc…
  - Direct Trading Partner Linkages

Individual Entities

Uniform Compact: Legal, Policies, Standards Definitions

Federal Connect and NHIN

Other States' Gateways

SureScripts

CT HIE Gateway

Radiology Network

InSite1

Hospital Networks

State Agencies

Provider Networks

Payor Networks

Aetna …

ProHealth
HealthWise
IPOs…

Hartford
St Francis
Bristol
C. Hungerford
Middlesex
ECHN
Yale
CCMC ….

Patients

Employers

Practitioners

Examples of HIE with State Agencies

- Immunizations
- Public Health Laboratory Results
- Infectious Disease Reporting
- Disease Registries
- Controlled Substance Management
- Disaster Coordination
- Medicaid
- Public Health Nursing/WIC
- Newborn/misc screenings
- School Physicals

CHIA Governance – Public/Private Authority

- Funding from ALL sources –
  - Public and private; Sustainable; Steady
- End user $ assessments
- Ability to rapidly hire/fire/respond
- Establish trust; Legislative legitimacy
- Engage knowledge experts from community
- Establish uniform compact: legal, policies, standards, definitions
- Issue trusted identities
- Audit; Enforce rules; Penalties
- Consumer education/outreach
- Support/Certify HIE Networks (remain independent)
- Establish, maintain statewide Health Information Plan
- Coordinate across all programs; instate; nationally

Which Use Cases are Supported?

- Clinical Care
  - Remote monitoring
  - Patient-Provide secure messaging
  - Personalized health care
  - Consultation & transfer of care
  - Immunization & response management
  - Emergency responder-EHR
  - Consumer empowerment/access
  - Medication Management
  - Consumer registration & medication history
  - Lab results reporting
- Treatment/payment/operations
- Quality
- Disease management
- Public Health Reporting/Biosurveillance
- Marketing
- Data aggregation
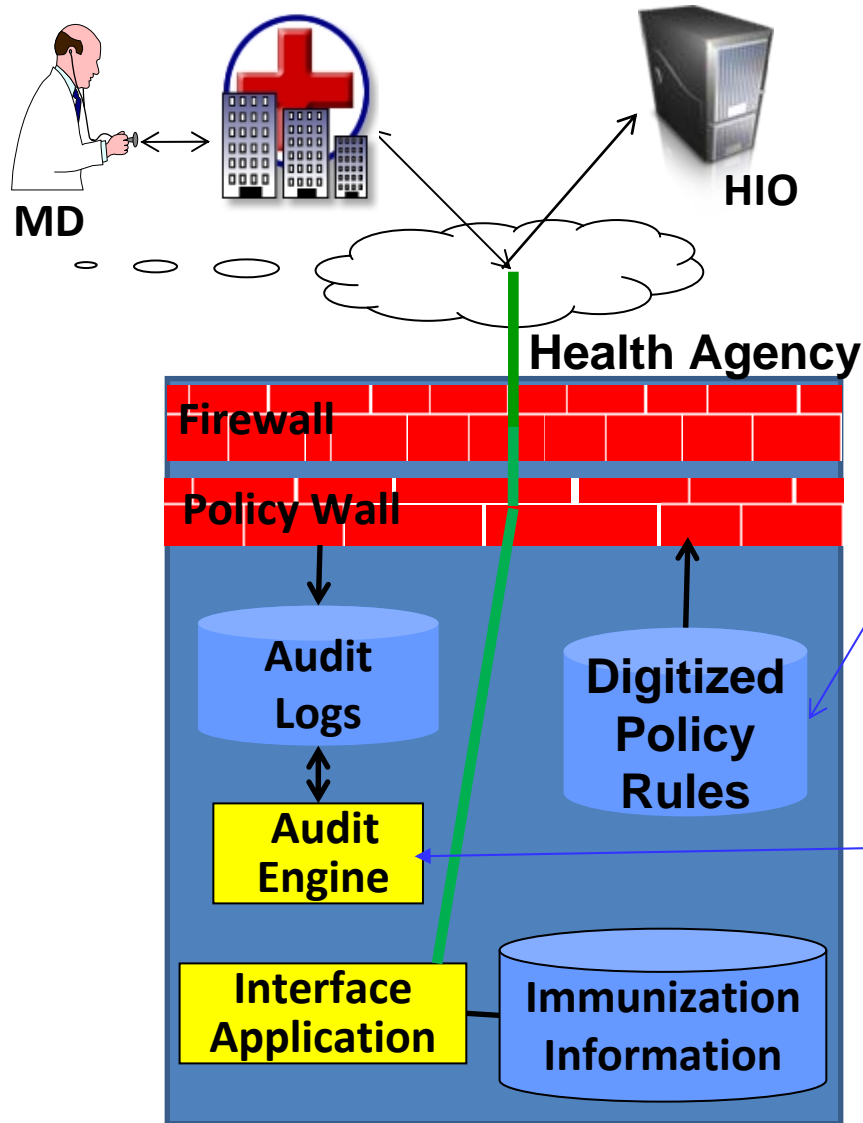- Research

Barrier: Need for Uniform Policies

- Physical Security
- Personnel
- Security and Privacy
- Document Sharing
- Content
- Audit
- Provider Identity Management
- Patient Identity Cross Referencing
- Exchange of Authorization Credentials
- Secondary Use
- Patient Identity Cross-Referencing
- Authorization to Access
- Digital Signature Requirements
- Data Sensitivity
- Consent Matrix

Interpretable Consent Policy Matrix

Functional Role / Sensitivity	HIV Status	Sexual Health Information	Mental Health Information	Developmental Disability Information	Alcohol/Drug Abuse Information	Treatment	Research
Emergency Treatment Provider	√	√	√	√	√	√	
Treatment Provider						√	
Direct Care Provider	√	√	√	√	√	√	√
Alcohol/Drug Abuse Provider					√	√	
Developmental Provider				√		√	
Mental Health Provider			√			√	
Sexual Health Provider		√				√	
Patient or Legal Representative	√	√	√	√	√	√	√
Payer						√	
Researcher							√

Digital Enforcement of Policies

MD

HIO

Health Agency

Firewall

Policy Wall

Audit Logs

Digitized Policy Rules

Audit Engine

Interface Application

Immunization Information

Basic Policies:

Authentication Policies
- Use Agreement
- Identity Registration
- Verifying Identity
- ….

Audit Policies
- Logging and Audit Controls
- Periodic Compliance Audits
- Information Access
- Authorization/ Consent
- Access
- ….

But First…Meaningful Use

The EHR must be <u>connected</u>

The provider must comply with <u>submission of reports on clinical quality measures</u>

The EHR must be a <u>certified product</u> and include ePrescribing

ONC Has Recommended, CMS Will Decide
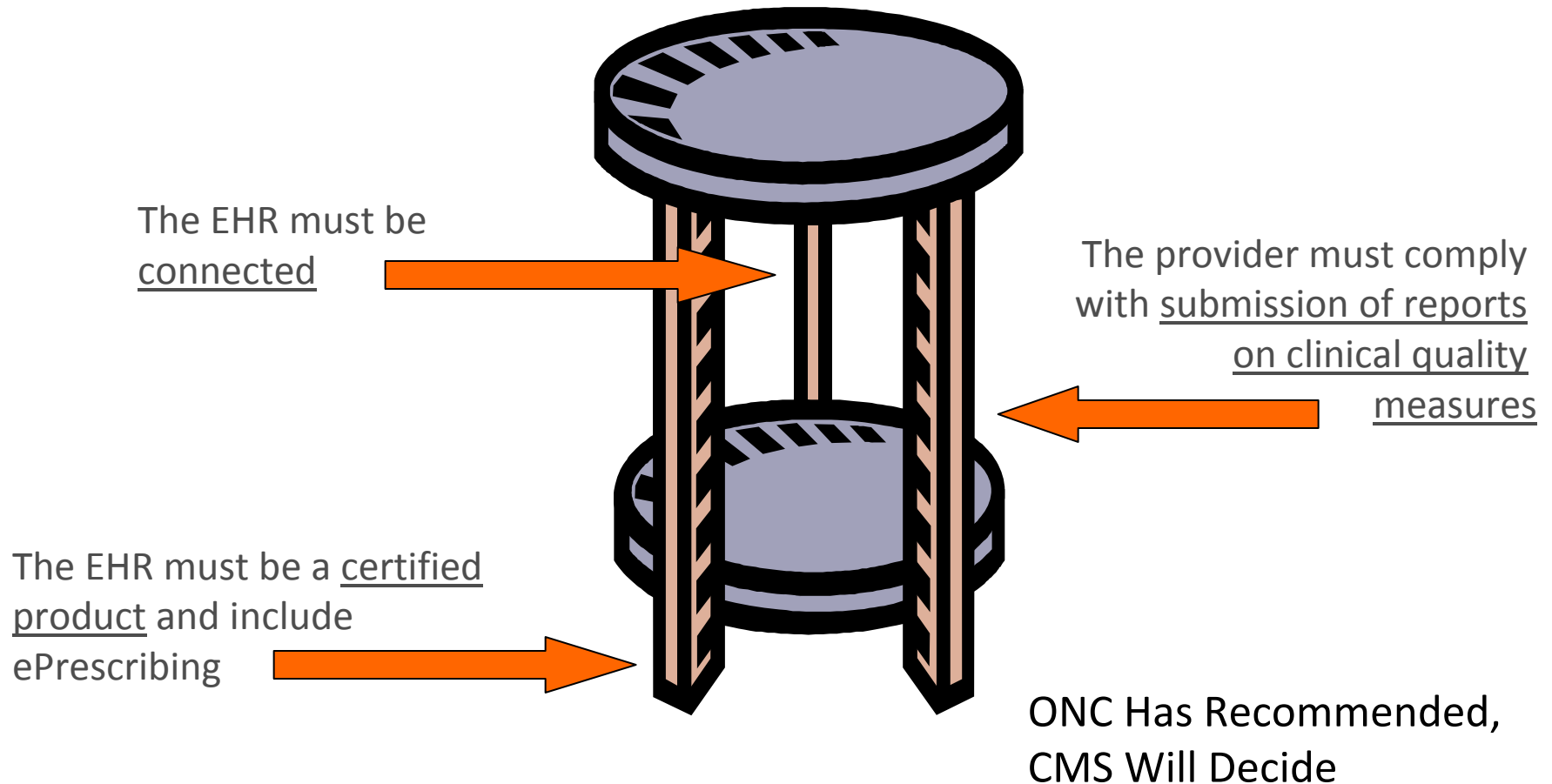
Meaningful Use Objectives requiring HIE

2011
- Lab results delivery
- Prescribing
- Claims and eligibility checking
- Quality & immunization reporting, if available
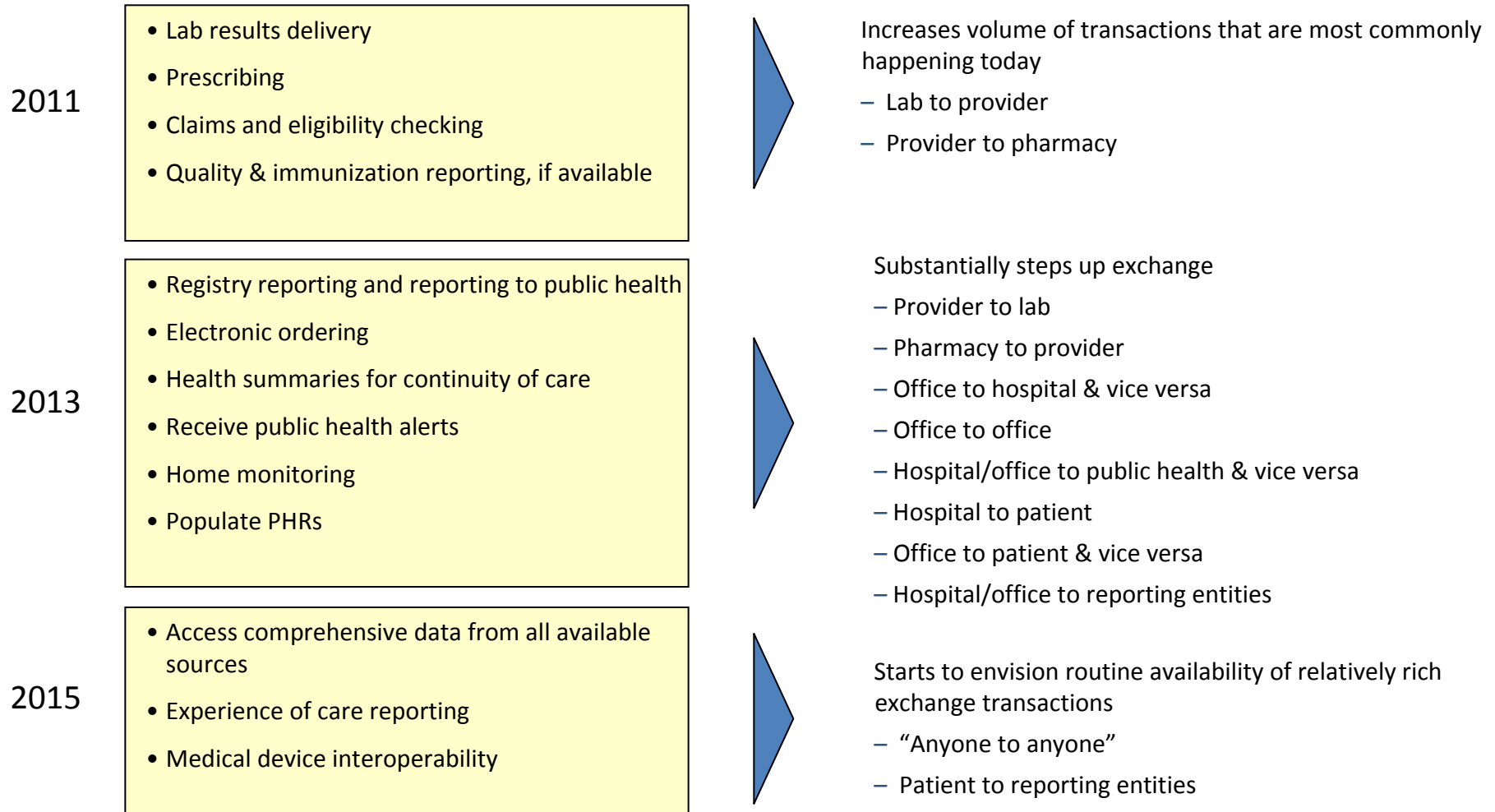
Increases volume of transactions that are most commonly happening today
– Lab to provider
– Provider to pharmacy

2013
- Registry reporting and reporting to public health
- Electronic ordering
- Health summaries for continuity of care
- Receive public health alerts
- Home monitoring
- Populate PHRs

Substantially steps up exchange
– Provider to lab
– Pharmacy to provider
– Office to hospital & vice versa
– Office to office
– Hospital/office to public health & vice versa
– Hospital to patient
– Office to patient & vice versa
– Hospital/office to reporting entities

2015
- Access comprehensive data from all available sources
- Experience of care reporting
- Medical device interoperability

Starts to envision routine availability of relatively rich exchange transactions
– "Anyone to anyone"
– Patient to reporting entities

Connecticut State Scorecard

Indicator	If CONNECTICUT's performance improved to the level of the best-performing state for this indicator, then:	
Insured Adults	84,070	more adults (ages 18–64) would be covered by health insurance (public or private), and therefore would be more likely to receive health care when needed.
Insured Children	23,160	more children (ages 0–17) would be covered by health insurance (public or private), and therefore would be more likely to receive health care when needed.
Adult Preventive Care	27,236	more adults (age 50 and older) would receive recommended preventive care, such as colon cancer screenings, mammograms, pap smears, and flu shots at appropriate ages.
Diabetes Care	36,728	more adults (age 18 and older) with diabetes would receive three recommended services (eye exam, foot exam, and hemoglobin A1c test) to help prevent or delay disease complications.
Childhood Vaccinations	4,734	more children (ages 19–35 months) would be up-to-date on all recommended doses of five key vaccines.
Adults with a Usual Source of Care	76,853	more adults (age 18 and older) would have a usual source of care to help ensure that care is coordinated and accessible when needed.
Children with a Medical Home	15,909	more children (ages 0–17) would have a medical home to help ensure that care is coordinated and accessible when needed.
Preventable Hospital Admissions	10,272	fewer hospitalizations for ambulatory care sensitive conditions would occur among Medicare beneficiaries (age 65 and older) and
	$64,820,000	dollars would be saved from the reduction in hospitalizations.
Hospital Readmissions	1,784	fewer hospital readmissions would occur among Medicare beneficiaries (age 65 and older) and
	$20,840,000	dollars would be saved from the reduction in readmissions.
Hospitalization of Nursing Home Residents	1,230	fewer long-stay nursing home residents would be hospitalized and
	$13,000,000	dollars would be saved from the reduction in hospitalizations.
Mortality Amenable to Health Care	551	fewer premature deaths (before age 75) might occur from causes that are potentially treatable or preventable with timely and appropriate health care.

Source: Commonwealth Fund State Scorecard on Health System Performance, 2007

Aggregation, Analysis, Reporting of Public Health and Community Outcomes
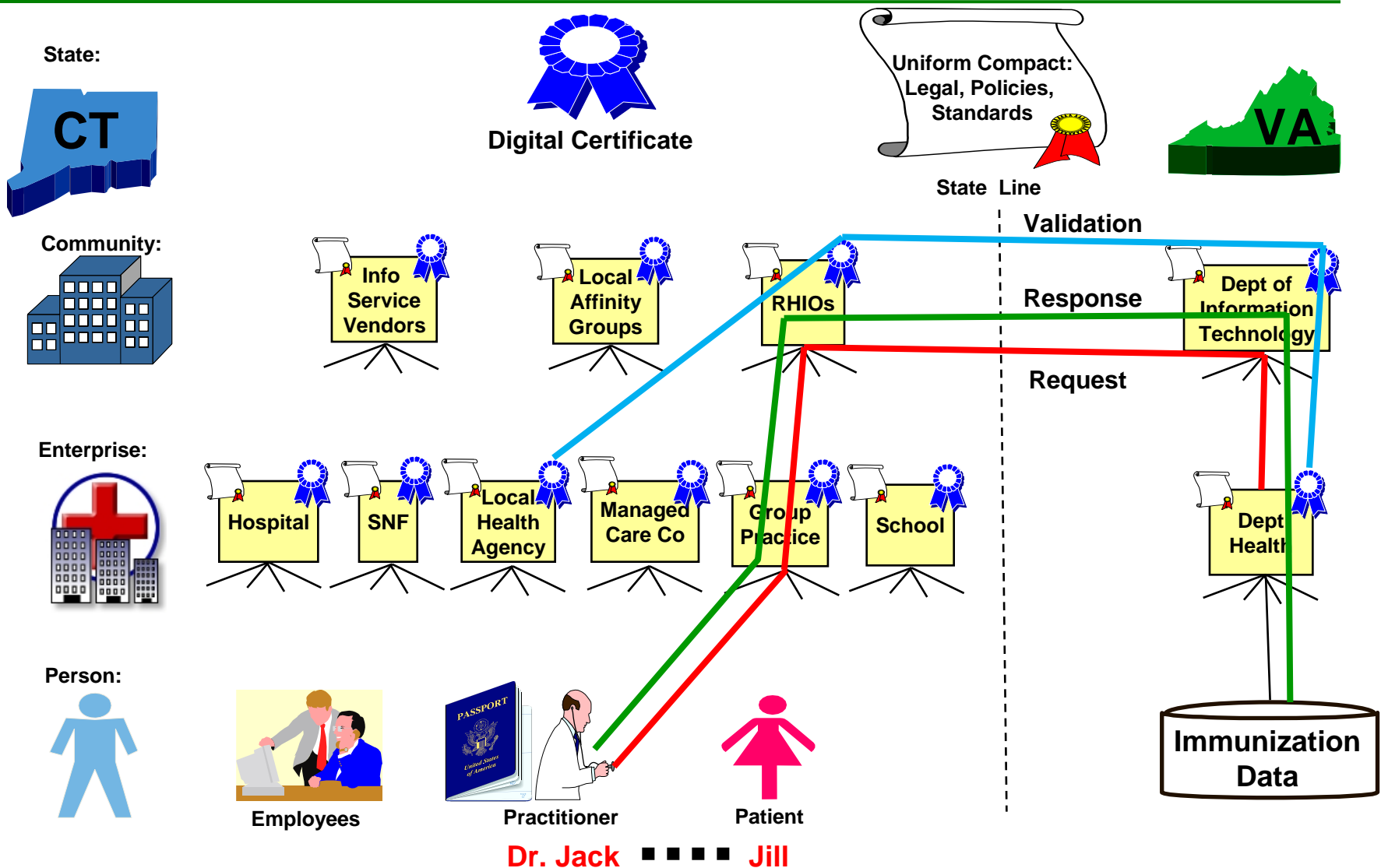
<u>Aggregation, analysis, and interpretation of information</u> regarding clinical and operational processes and outcomes from a system/community population point of view. Enhanced information reports (health informatics) will be formatted to the specific audience needs of patients, clinicians, administrators, payers, and public health officials. The population view of information will provide more sophisticated access to important and previously unavailable medical information that is critical to the ability to improve cost and quality, and reduce errors. Such outcome information will be used to close the loop and provide feedback to those involved in training processes and workflow improvements in clinical care. The informatics will support the longer-term shift to focus health care on prevention, wellness and early detection of chronic conditions, enabling informed decisions, enabled coordination, improved patient outcomes, and lower total cost of care.

Providers will be able to access de-identified patient data to assess various clinical programs and trials. This information can also be used to assess pay for performance programs and other local health care initiatives.

PHR/ Patient Engagement

We envision bidirectional linkages with the patient and their Personal Health Record (PHR) (i.e. Microsoft Health Vault, Google Health, Community specific) through a technology platform that will address health literacy and allow patients to be more knowledgeable about and directly involved in their care.

Chain of Trust Enabled by
Uniform Compact, Policy, Standards

State:

CT

Digital Certificate

Uniform Compact: Legal, Policies, Standards

State Line

VA

Community:

Info Service Vendors

Local Affinity Groups

RHIOs

Validation

Dept of Information Technology

Response

Request

Enterprise:

Hospital

SNF

Local Health Agency

Managed Care Co

Group Practice

School

Dept Health

Person:

Employees

Practitioner

Patient

Immunization Data

Dr. Jack ▪ ▪ ▪ ▪ **Jill**

Some Goals for "Authority"

- Engage Senior Industry Leadership
- Actively Market Concept to the Connecticut Provider Communities
- Develop Public Outreach Campaign
- Identify Potential Federal, State and Private Funding Sources
- Complete a Business Plan and <u>Sustainable</u> Economic Model
- Establish the Governance Structure and Startup Board
- Promulgate common definitions, policies, standards
- Develop Detailed Implementation Plans for each Component
- Develop Grant Proposals for Funding Sources for each Component
- Measure/Publish ROI

Recommendations

- Public/Private "Health Information Authority"
- Engagement of State Agencies
- Engagement of stakeholders
- Updating state laws to enable electronic exchange to replace paper
- Change policies i.e. Consent for sensitive data
- State issued Healthcare Digital Identities
- Coordination across opportunities/ maximize opportunities/funding/outcomes