DPAC Presents:
HIE and Public Health

November 30, 2009

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Introducing DPAC Presents

- Educational forum for Public Health Informatics and Data Policy Initiatives
- Open to all in CDPH, Local Health Departments and other State Departments
- Hosted by DPAC, the Data Policy Advisory Committee for CDPH

CDPH DPAC Representation

- Designated Representative and Alternate from each "Center"
- The Committee:
  - Develops and makes informatics policy recommendations to the CDPH Director
  - Provides policy level review of informatics and data policy initiatives
  - Requests and reviews work performed by topic-specific subgroups composed of subject matter experts

CDPH DPAC Actions

- Recommendations to the Director for Federated GIS Services and Resources
- Review of Common Ground Grant Activities *(Robert Wood Johnson Foundation, 2006-2009)*
- Representation with State and Federal Informatics Initiatives
- Policies for Information Systems that support Public Health Mission
- Provide Departmental input to Statewide Health Information Exchange Initiatives

DPAC Role in CDPH

- Provide shared forum for informatics policy and planning
- Serve as proxy Steering Committee to Director about:
  - Knowledge Management
    (Maximizing the value of data / information / knowledge)
  - Public Health Informatics: Data and Information
    - Policies
    - Standards
    - Services
    - Architecture
  - Interoperability of health information resources, including:
    - State, local and national public health information & surveillance systems
    - Public health and healthcare services data and information systems

Introducing
Health Information Exchange (HIE)
and
Health Information Technology (HIT)

Health Information Exchange (HIE)

- Background Terminology
- Federal Legislation and Programs
- California HIE Initiatives
- Public Health Response
- Public Health Program Example

Background Terminology

- Alphabet Soup: EHR, EMR, PHR, etc.
- More Alphabet Soup: HIT, HIE, NHII, NHIN
- Why does it matter to you?
- Why does it matter to public health?

Alphabet Soup

- EHR – Electronic Health Record
- EMR – Electronic Medical Record
- EPR – Electronic Patient Record
- PHR – Personal Health Record
- CCD –Continuity of Care Document
- CDS – Clinical Decision Support

Electronic Health Record (EHR)

- Electronic Health Records (EHR)
  Electronic Medical Records (EMR)
  Electronic Patient Records (EPR)
- Records are electronic, structured, secure and accessible
- Owned by providers/facilities
- Linked together by a patient identifier

Personal Health Record (PHR)

PHR should have the following characteristics:

(According to The Markle Foundation's Connecting Healthcare in the Information Age Project: The Personal Health Working Group)

1. Patient-controlled
2. Contains patient's lifetime health information
3. Contains information from all healthcare providers
4. Accessible anytime and anywhere
5. Private and secure
6. Transparent (traceable access and editing)
7. Interoperable

Continuity of Care Document (CCD)

- Continuity of Care Document (CCD) and its associated HL7 standard developed by the Health Information Technology Standards Panel (HITSP).
- Stores most relevant patient information
- Technology neutral – XML-based
- Completed by authorized healthcare personnel
- Collection of clinical information from different documents

Continuity of Care Document (CCD)

Includes:

- Current medical problems
- Procedures
- Family history
- Social history
- Payers
- Advance directives
- Alerts (allergies, adverse reactions)
- Medications
- Immunizations
- Medical equipment
- Vital signs
- Functional status
- Results
- Encounters
- Plan of care

Clinical Decision Support (CDS)

- Provides clinicians, staff, patients or other individuals with knowledge and person-specific information, intelligently filtered or presented at appropriate times, to enhance health and health care.
- Encompasses computerized alerts and reminders to care providers and patients, clinical guidelines, condition-focused order sets, patient data reports and summaries, documentation templates, and diagnostic support.

http://healthit.hhs.gov

More Alphabet Soup

- HIT – Health Information Technology
- HIE – Health Information Exchange
- NHII – National Health Information Infrastructure
- NHIN – National Health Information Network

Translating Soup

So …

Health Information Technology

is used for

Health Information Exchange

which moves through the

National Health Information Network

which sits on the

National Health Information Infrastructure.

Federal Legislation and Programs

Health Information Exchange (HIE) / Health Information Technology (HIT)

ARRA HITECH Bill

NHII for electronic use and exchange of health data to:

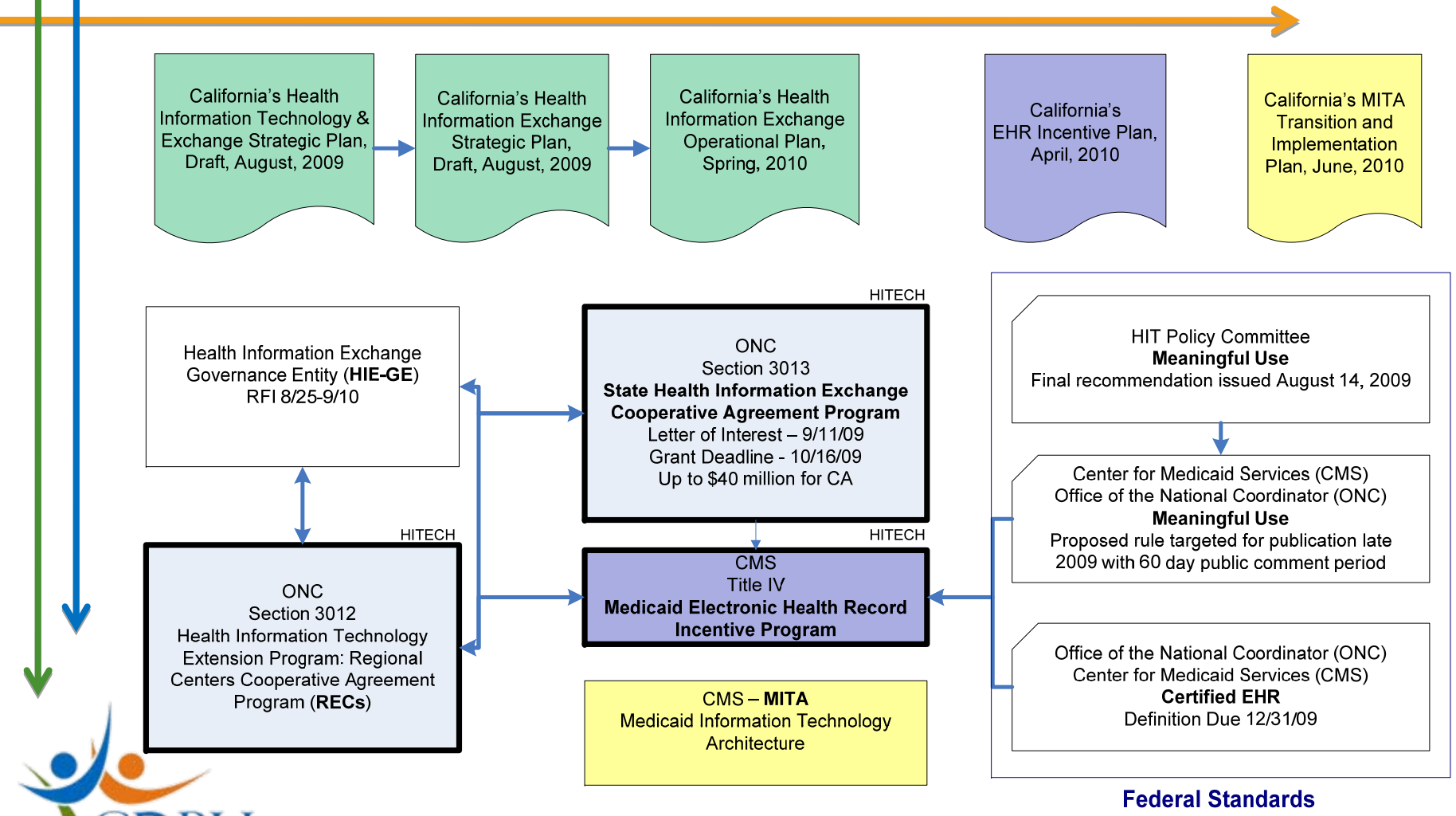
- Improve public health activities
- Improve efforts to reduce health disparities
- Improve health care quality and reduce medical errors
- Facilitate early and rapid response to public health threats and emergencies, including infectious disease outbreaks
- Promote early detection, prevention and management of chronic diseases

Implementing ARRA

- California Responds with Strategic Planning Efforts lead by Deputy Secretary for HIT, Jonah Frohlich
- Summer 2009 – Funding Opportunities are announced by:
  - Office of the National Coordinator (ONC) for HIT http://healthit.hhs.gov/
  - Centers for Medicare & Medicaid Services (CMS)

California Health Information Exchange Environment

Monday, October 19, 2009



Federal Standards

HIT Policy Committee
Meaningful Use
Final recommendation issued August 14, 2009

Center for Medicaid Services (CMS)
Office of the National Coordinator (ONC)
Meaningful Use
Proposed rule targeted for publication late 2009 with 60 day public comment period

Office of the National Coordinator (ONC)
Center for Medicaid Services (CMS)
Certified EHR
Definition Due 12/31/09

Federal Committees Impact Public Health

HIT Policy & Standards Committees Work

- Providing recommendations to ONC will help CMS develop initial criteria for meaningful use and assist in planning for any expansion of the criteria for the incentives programs in the future.
- Over 800 public comments were received on the HIT Policy Committee's initial recommendations.

Meaningful Use

- **Meaningful Use – HIT Policy Committee**
  - Final recommendation issues August 14, 2009
- **Proposed 2011 Measures - Examples**
  - % of patients with recorded BMI
  - % smokers offered smoking cessation
  - Stratify reports by gender, insurance type, primary language, race ethnicity
  - Report up-to-date status for childhood immunizations
  - % reportable lab results submitted electronically

Meaningful Use Cont.

Meaningful Use - Rule Development

- CMS with the ONC and other parts of HHS will develop regulations for initial year of incentives programs, including definition of meaningful use for 2011.
- Proposed rule, with 60-day period for public comment, is targeted for publication in late 2009.

Certified Electronic Health Record

- Certification Commission for Health Information Technology (CCHIT)
  - developed by hundreds of volunteers through an open, multi-stakeholder, consensus-based process
  - refined by testing and operational certification over the past 3 years

Certified EHR Cont.

- Office of the National Coordinator (ONC) responsible for issuance of Certified EHR Definition
- Center for Medicaid Services (CMS) will assist
- Certified EHR Definition **Due 12/31/09**

Certified EHR Cont.

The ARRA definition is:

- (13) QUALIFIED ELECTRONIC HEALTH RECORD.—The term 'qualified electronic health record' means an electronic record of health-related information on an individual that—

  (A) includes patient demographic and clinical health information, such as medical history and problem lists; and

  (B) has the capacity—

  (i) to provide clinical decision support;

  (ii) to support physician order entry;

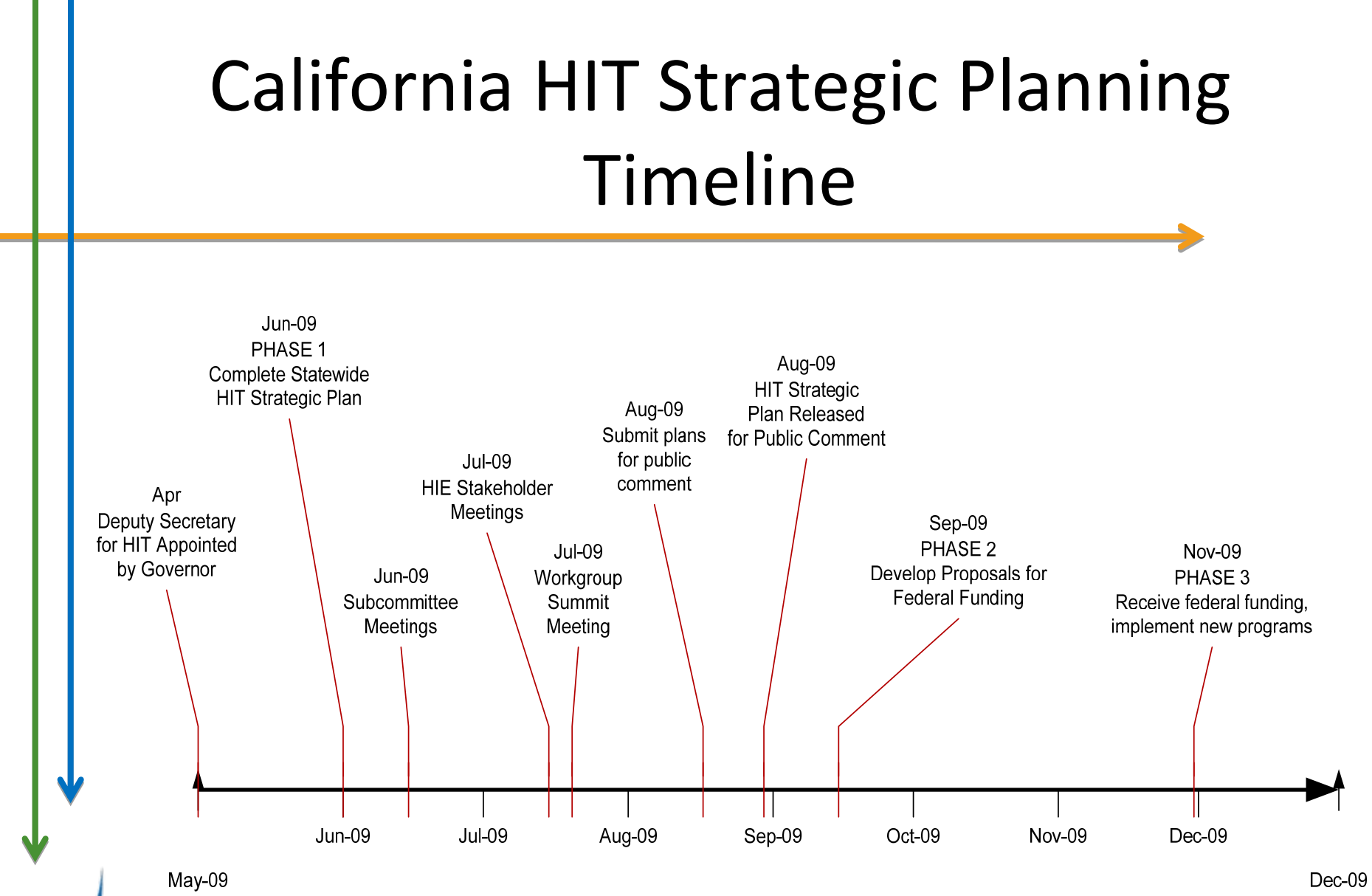
  (iii) to capture and query information relevant to health care quality; and

  (iv) to exchange electronic health information with, and integrate such information from other sources.

California HIE Initiatives

http://www.hie.ca.gov/

California HIT Strategic Planning Timeline



The Plan
California Health Information Exchange

California Health IT and Exchange Purpose

To dramatically improve safe and secure patient and provider access to personal health information and decision- making processes, benefiting the health and well being, safety, efficiency, and quality of care for all Californians.

California Health IT and Exchange Objectives

1) To ensure patients have safe, secure access to their personal health information and the ability to share that information with others involved in their care
2) To engage in an open, inclusive, collaborative, public-private process that supports widespread EHR adoption and a robust, sustainable statewide health information exchange
3) To improve health care outcomes and reduce costs
4) To maximize California stakeholders' access to critical ARRA stimulus funds
5) To integrate and synchronize the planning and implementation of HIE, HIT, telehealth and provider incentive program components of the federal stimulus act
6) To ensure accountability in the expenditure of public funds
7) **To improve public and population health through stronger public health program integration, bio-surveillance and emergency response capabilities**

CDPH California Department of PublicHealth

California Documentation

California's Health Information Technology & Exchange Strategic Plan, Draft, August, 2009

California's Health Information Exchange Strategic Plan, Draft, August, 2009

California's Health Information Exchange Operational Plan, Spring, 2010

California's EHR Incentive Plan, April, 2010

California's MITA Transition and Implementation Plan, June, 2010

Health Information Technology and Exchange Strategic Plan

- Health Information Exchange
- Regional Extension Centers
- EHR Capital Loan Fund
- Workforce Training & Development
- Research & New Technology
- Broadband & eHealth
- Medicaid EHR Meaningful Use Incentive Program
- Privacy & Security
- Public Health
- Additional Building Blocks

Public Health

Health IT and HIE can support public health goals by monitoring population health outcomes, increasing outreach for and identifying priority prevention services, and supporting bio-surveillance and emergency response services.

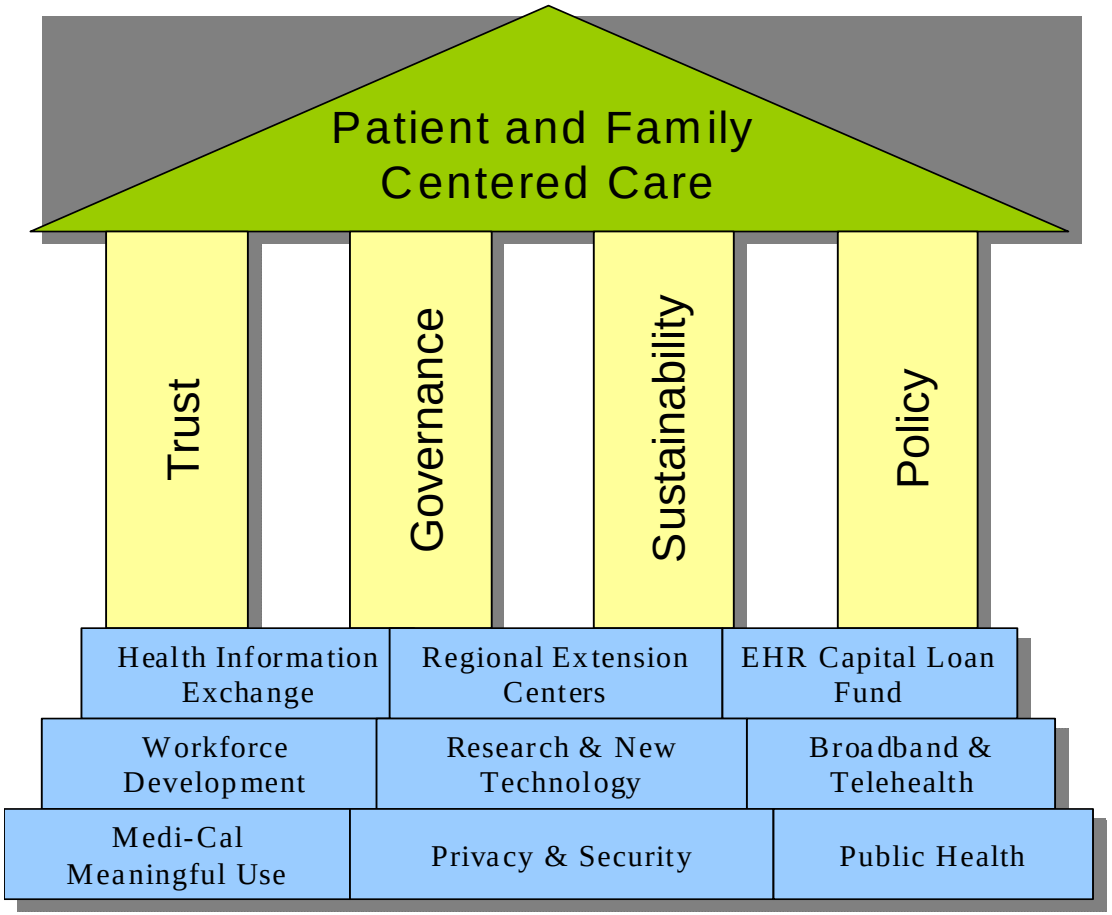
CDPH, local health departments and health officers should work closely with the HIE Governance Entity, Regional Extension Centers, workforce and broadband eHealth efforts to identify priority areas to support these goals.

Public Health

Public Health recommendations:

- Ensure state and regional registries are interoperable with each other
- Establish interoperability criteria and develop bi-directional interface capabilities with health information exchanges and electronic health record systems in practices, clinics, hospitals and long-term care facilities.
- Work with Medi-Cal to ensure public health priorities are incorporated into Medi-Cal meaningful use criteria.

Health IT infrastructure to support health care transformation in California is based upon nine fundamental interlocking building blocks:



Reference:
California's Health Information Technology & Exchange Strategic Plan, Draft, August, 2009

Health Information Exchange Strategic Plan

1. Develop statewide HIE, the goals of which are to address specified health outcomes that include individual and population health status elevation and that is governed by and implemented cooperatively by the public and private sectors.
2. Develop and enforce policy requiring all statewide HIE participants to comply with a common set of privacy and security guidelines and policies.
3. Develop and enforce vendor agnostic statewide technical guidance requiring all statewide HIE participants to comply with a common set of protocols and standards.
4. Develop an approach for sustainable financing that does not rely on federal, state, or private grant-based funds.
5. Coordinate an integrated approach with Medi-Cal and state public health programs to enable information exchange and support monitoring of provider participation in HIE as required for Medicaid meaningful use incentives.

(Source: California's HIE Strategic Plan_August, 2009 Draft, p. 6)

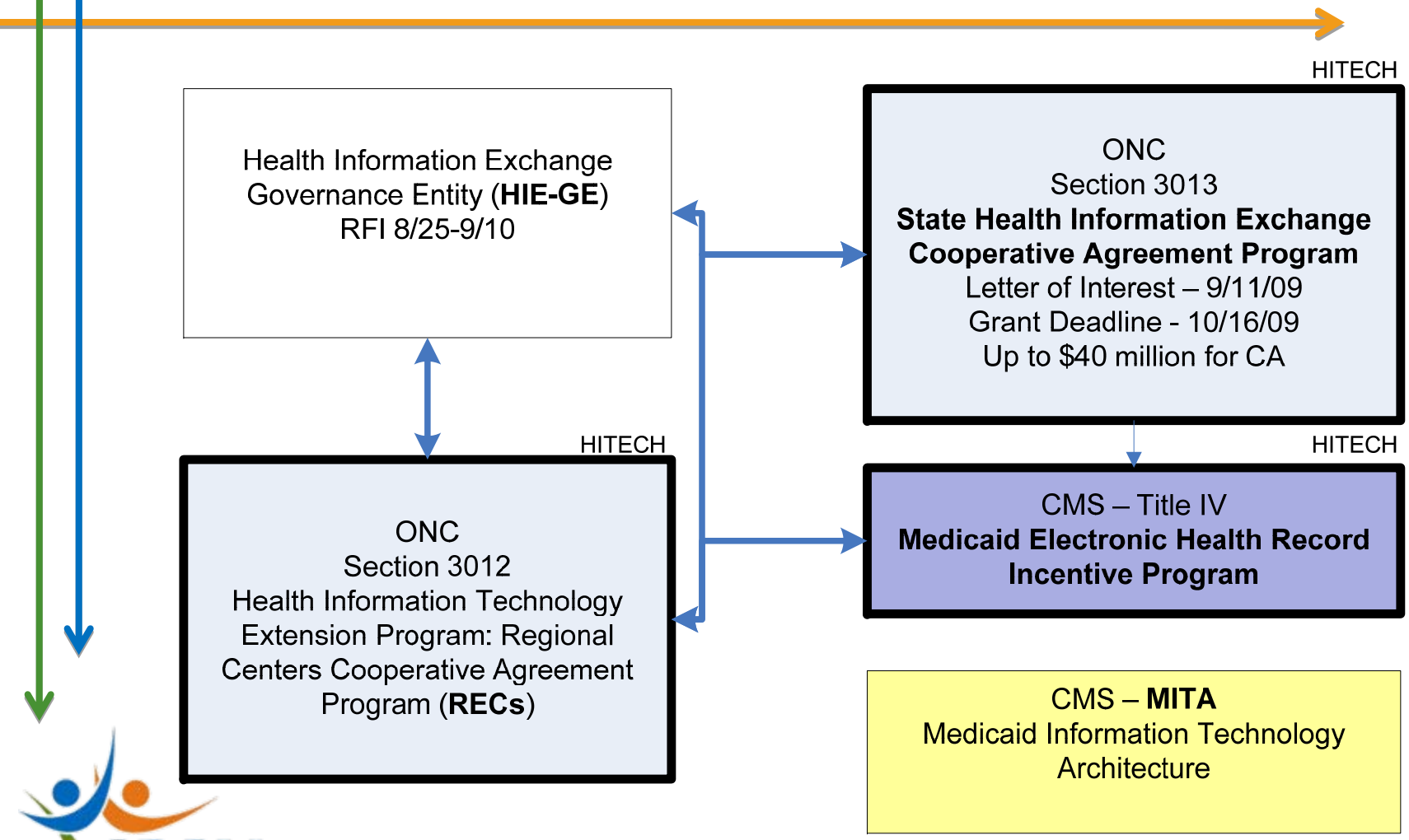
Fast Coming Tasks

- CHHSA Health Information Exchange Operational Plan, Spring, 2010
- DHCS EHR Incentive Plan, April, 2009
- MITA Transition & Implementation Plan, June, 2010

MITA Initiative and Framework

- IT initiative intended to stimulate an integrated business and IT transformation affecting the Medicaid enterprise in all States.
- Includes architecture framework, processes, and planning guidelines that allow State Medicaid enterprises to meet their Medicaid objectives within the MITA Framework while supporting unique local needs.
- What are the Components of the MITA Framework?
  - Business Architecture
  - Information Architecture
  - Technical Architecture

Funding Opportunities



CHHSA, Deputy Secretary HIT

State Health Information Exchange Cooperative Agreement Program

- Letter of Interest – 9/11/09
- Grant Submitted - 10/16/09
- Up to $40 million for CA

State Health Information Exchange Cooperative Agreement Program

Participating states will also be expected to use their authority and resources to:

- Develop and implement up-to-date privacy and security requirements for HIE; Develop directories and technical services to enable interoperability within and across states;
- Coordinate with Medicaid and **state public health programs** to enable information exchange and support monitoring of provider participation in HIE.
- Remove barriers that may hinder effective HIE, particularly those related to interoperability across laboratories, hospitals, clinician offices, health plans and other health information exchange partners;
- Ensure an effective model for HIE governance and accountability is in place; and
- Convene health care stakeholders to build trust in and support for a statewide approach to HIE.

http://healthit.hhs.gov/portal/server.pt?open=512&objID=1333&parentname=CommunityPage&parentid=47&mode=2&in_hi_userid=11113&cached=true#

State Health Information Exchange Cooperative Agreement Program

2. Specific Requirements for the First Two Years

Technical Infrastructure

Develop or facilitate the creation of a statewide technical infrastructure that supports statewide HIE. While states may prioritize among these HIE services according to its needs, HIE services to be developed include:

- Electronic eligibility and claims transactions
- Electronic prescribing and refill requests
- **Electronic clinical laboratory ordering and results delivery**
- **Electronic public health reporting (i.e., immunizations, notifiable laboratory results)**
- **Quality reporting**
- Prescription fill status and/or medication fill history
- Clinical summary exchange for care coordination and patient engagement

Meet Statutory Public Health Reporting Requirements

Required reporting of

- Infectious Disease Cases
- Healthcare-Associated Infections
- Cancer cases
- Elevated Blood Lead Levels
- Birth, Death and Fetal Death Events
- Etc.

Improve Coordination of Care

- Immunizations
- Case Management for Chronic Diseases
- Newborn Hearing Screening
- Cancer Screening and Treatment
- Women, Infants and Children Program
- Preventive Services
  (U.S. Preventive Services Task Force)
- Etc.

Ensuring Quality of Care

- Ambulatory Care Sensitive Conditions
- Healthcare Effectiveness Data and Information Set (HEDIS)
- Medication Utilization
- Healthcare-Associated Infections
- Etc.

Facilitating Provider Delivery of Care

- Reduce office workload related to statutory reporting
- Reduce time in making referrals and ordering procedures
- Improve accuracy of patient medication history to reduce risk for complications
- Create performance information to improve reimbursements

Health Information Exchange Governance Entity (HIE-GE)

- Oversee and manage the development and implementation of statewide health information exchange services to support improvements in health care delivery and meaningful use incentive payments for California providers.

- Request For Information 8/25-9/10
- Final Decision to be made by CHHSA

Regional Extension Centers (RECs)

Health Information Technology Extension Program:

- Technical assistance, guidance and information on best practices to support and accelerate health care providers' efforts to become meaningful users of EHRs
- Four-year cooperative agreements - $640 million
  - Cycle 1: Full Applications - November 3, 2009
  - Cycle 2: Preliminary Applications - December 22, 2009; Full Applications - January 29, 2010

Department of Health Care Services

- Medicaid Electronic Health Record Incentive Program
  - Fund provider adoption of EHRs
  - Transparency
  - Meaningful Use
- Medicaid Information Technology Architecture (MITA)
  - Shared architecture and interfaces

Public Health Response to ARRA from CDPH

Public Health HIE/HIT Concepts

1. Public Health Infrastructure Interface for NHIN
2. Public Health Data Integration
3. Health Information Delivery
   for policy makers, health care providers & public
4. Laboratory Data Exchange
5. Informatics Workforce Development
6. Infrastructure for Rural Health
   Information Exchange

1. Public Health Infrastructure Interface for NHIN

- Improve public health IT infrastructure to allow:
  - receipt of electronic health data
  - transformation of data into information
  - dissemination of information to policy makers, health care providers, and the public.
- Public health will need upgrades in capacity and service to meet the business needs that support engagement in the nationwide health information network (NHIN)

CDPH IT Infrastructure Needs

Data Integration / Movement:

- Transmit and integrate data across multiple internal and external data sources
- Transform this data into meaningful information in order to prepare for and respond to emergencies, diseases, outbreaks, epidemics, and emerging threats

Collaborative Communication:

- Comprehensive and integrated communications tools supported by the infrastructure to work collaboratively and in real time inside and outside the Department
- Share and disseminate information necessary to achieve timely public health interventions and response

CDPH Infrastructure Needs

Security:

- Guarantee secure, reliable, and rapid information access and communication capabilities
- Respond rapidly to public health emergencies within the evolving public health environment

Flexibility:

- Meet today's dynamic environment through an infrastructure with adequate capacity, scalability and adaptability
- Leverage new and emerging data sources, applications, technologies, partnerships and funding sources

2. Public Health Data Integration

- Perform planning for improved and expanded use of HIT by public health departments. Specifically, address interoperability of public health data sources and registries.
- Public health has many core data repositories (e.g., vital records, etc.) and registries (e.g., cancer, birth defects, etc). To improve use of public health data for prevention of diseases and improvements in quality of care, the integration, de-duplication, linkage, and de-identification for data analysis is critical to add value for policy and public health interventions.

3. Health Information Delivery

for policy makers, health care providers & public

- To realize the benefit of health information exchange, health data must be transformed to useful information that can be understood by all providers and the public
- Fully implement current technologies based on departmental standards in order to support:
  - Delivery of population information about the health of communities
  - Data dissemination

4. Laboratory Data Exchange

Establish infrastructure required for electronic exchange of laboratory data with health care providers, facilities and public health practitioners for the purpose of tracking diseases and conditions and improving health.

- Majority of laboratories have electronic data and are recognized as a potential win for health information exchange.
- Laboratory data are frequently a source of duplicated effort and have direct benefit for health care quality and cost.
- Laboratory data serves as the sentinel reporting mechanism for outbreak recognition, biosurveillance, and emerging threats.
- CDPH projects for electronic laboratory reporting include lead exposure reporting (RASSCLE), infectious disease reporting (ELR), genetic disease reporting (SIS), and electronic laboratory data management (LIMS for Richmond labs) among others.

5. Informatics Workforce Development

- Support graduate students and fellowships within public health departments in partnership with University of California to develop informatics capacity required for health information exchange.

- CDPH currently has strong partnerships with UC Davis Medical Informatics Graduate Program which can be leveraged more broadly within the UCs to develop the new workforce necessary for development and maintenance of health information exchange systems.

6. Infrastructure for Rural Health Information Exchange

- Focus on assessment and planning for necessary infrastructure to exchange health data for quality assessment and public health purposes.
- Work closely with sister departments in the CHHS to identify needs with respect to staff, hardware, software and capital investment which will allow data exchange and transformation within rural and Indian health networks.

CDPH Activities

- Participation in Statewide Strategic Planning Efforts
  - HIE Convenings
- DPAC providing leadership in response to requests for public health priorities in HIE
  - Operational Considerations

Public Health Participates in HIE Planning

- Statewide HIE/HIT Monthly Stakeholder Conference Calls
- Stakeholder Meetings – July 2009
- Strategic Planning Workgroups

HIE Stakeholder Work Groups

Work Groups

The Workgroups are public-private collaboratives and are developing plans to capitalize on HITECH stimulus opportunities

- **Regional Extension Centers**: The workgroup is developing a plan to initiate a regional extension center that meets Federal and State requirements and supports provider adoption of electronic health records (EHRs) and health information exchange
- **EHR Loan Program**: The workgroup is developing a plan to establish a California Health Information Technology Loan Fund
- **Workforce Training and Development**: The group is developing a strategic plan to establish Centers of Excellence for Health IT workforce training
- **Research and New Technologies**: The workgroup is developing a plan to create a California Center for Information Integration. The Center's objective will be to generate innovative approaches to healthcare information enterprise integration, support research into human-computer interface technologies, software interface technologies and other relevant research
- **CalPSAB**: CalPSAB is tasked with developing HIE privacy and security guidelines

Health Information Exchange Convenings

- CDC's Asst. Surgeon General Solomon, Deputy Secretary Frohlich, CDPH, CCLHO, & California Hospital Association HIT Committee
  - Half day meeting August 19 to discuss opportunities. The public health business case is accepted!
- CMS, Region 9, Deputy Secretary Frohlich, DHCS, DSS, CDPH, DMH, OSI, OHII, OCIO
  - Full day meeting October 13 to discuss opportunities.
- Deputy Secretary Frohlich calls meeting with all CHHS Agency Departments and Offices
  - Half day meeting October 26 to discuss opportunities.

Operational Considerations

CDPH Data Policy Advisory Committee (DPAC)

Highway

- The bandwidth is currently insufficient to exchange large volumes of data in a decentralized environment, and secure connections are not in place.

Information Standards

- Sufficient data to translate into information is critical, as well as establishing what standards to use for coding (race/ethnicity, geographic location/address and language used).

Master Patient Index

- Standards for linking different types of data, both administrative and clinical, are also necessary since no single data source has the whole picture. In order for data to have value, the lag time should be decreased to real-time. De-duplication of patients over time is necessary to allow trend and determinant analysis.

Technology Standards

- Logistical and practical issues as they pertain to technology standards should be addressed, including:
- *How:* Transmission to include connection, transfer and receipt of data
- *What:* Completeness to include demographics and results including data quality, technical support and training
- *Bias:* Opt in/Opt out populations may introduce bias

HIE Transformations

- Time to prepare for data flow is now!
- Must identify data in HIE that public health can add value to.
- If we were starting now with EHRs, would we have the same data systems? the same registries?
- Need for point in time and for longitudinal trend data to inform decision makers.

Public Health Interfaces with Health Information Exchange

Programmatic Example: Vital Records

EHRs and Vital Records

- EHRs will capture information that must be reported for Vital Record Events
- Meaningful Use requirements will drive availability of each data field
- Standards will be drivers for NHIN
- Vital records must be able to receive information through HIE and contribute to it

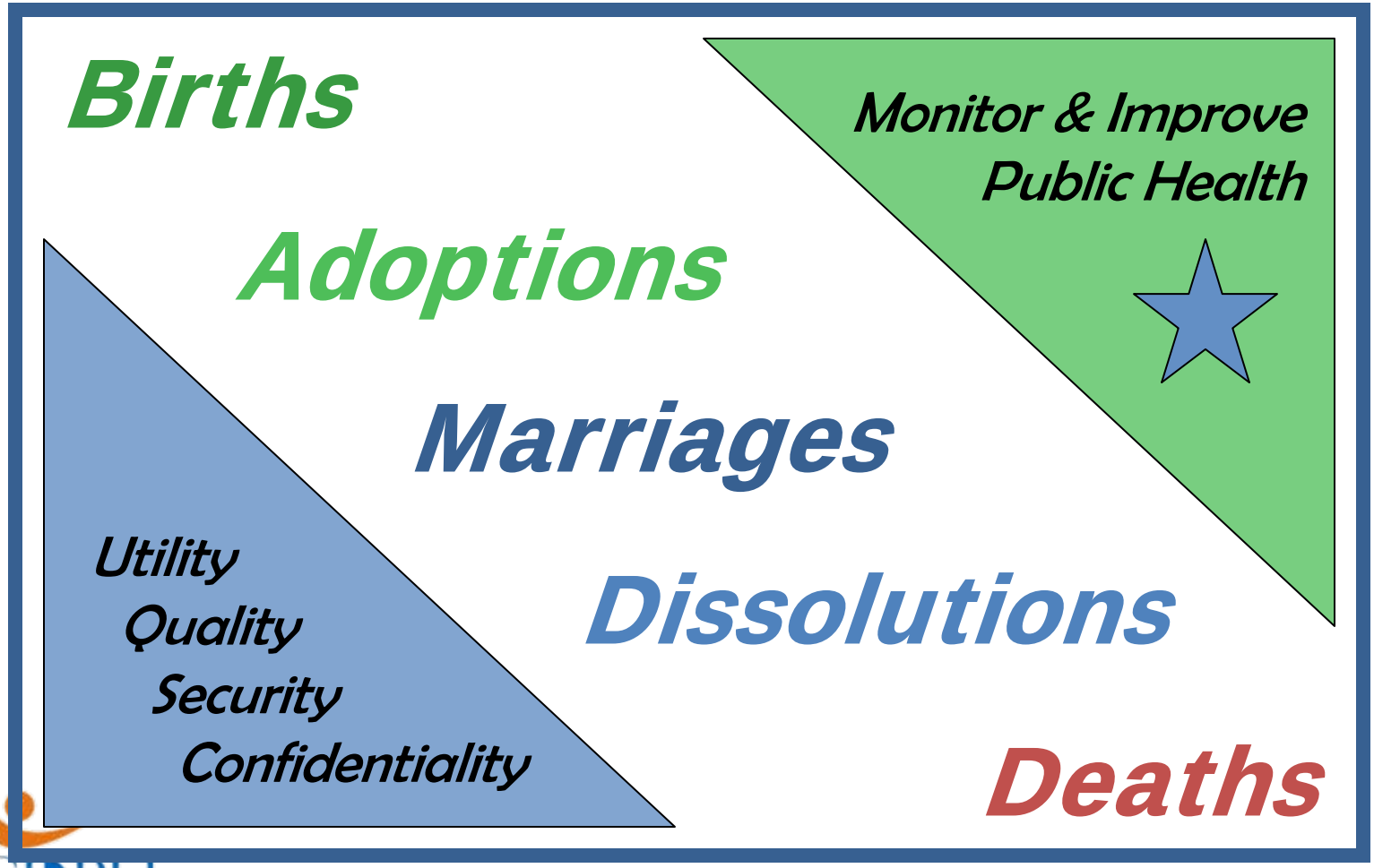
Vital Record Uses

- Issuance, Verification, Certification
  - Legal purposes for individual and for organizations
  - Foundation for revenue that supports the vital records system
- Data & Information Dissemination
  - Analysis and reporting by local, state and national health departments
  - Use of data by researchers and others

Vital Records Support Many Services

- Population Census
- Diseases & Conditions
- Identity
- Fraud Prevention
- Surveillance
- Age
- Market Analysis
- Quality Assurance

Vital Records



Why does HIE matter to vital records?

- The beginning and the end of life … and electronic health records
- Birth records as linkage points to facilitate the Master Patient Index
- Vital records has one … going on two … successful national health information exchanges: EVVE and STEVE

Electronic Verification of Vital Events (EVVE)

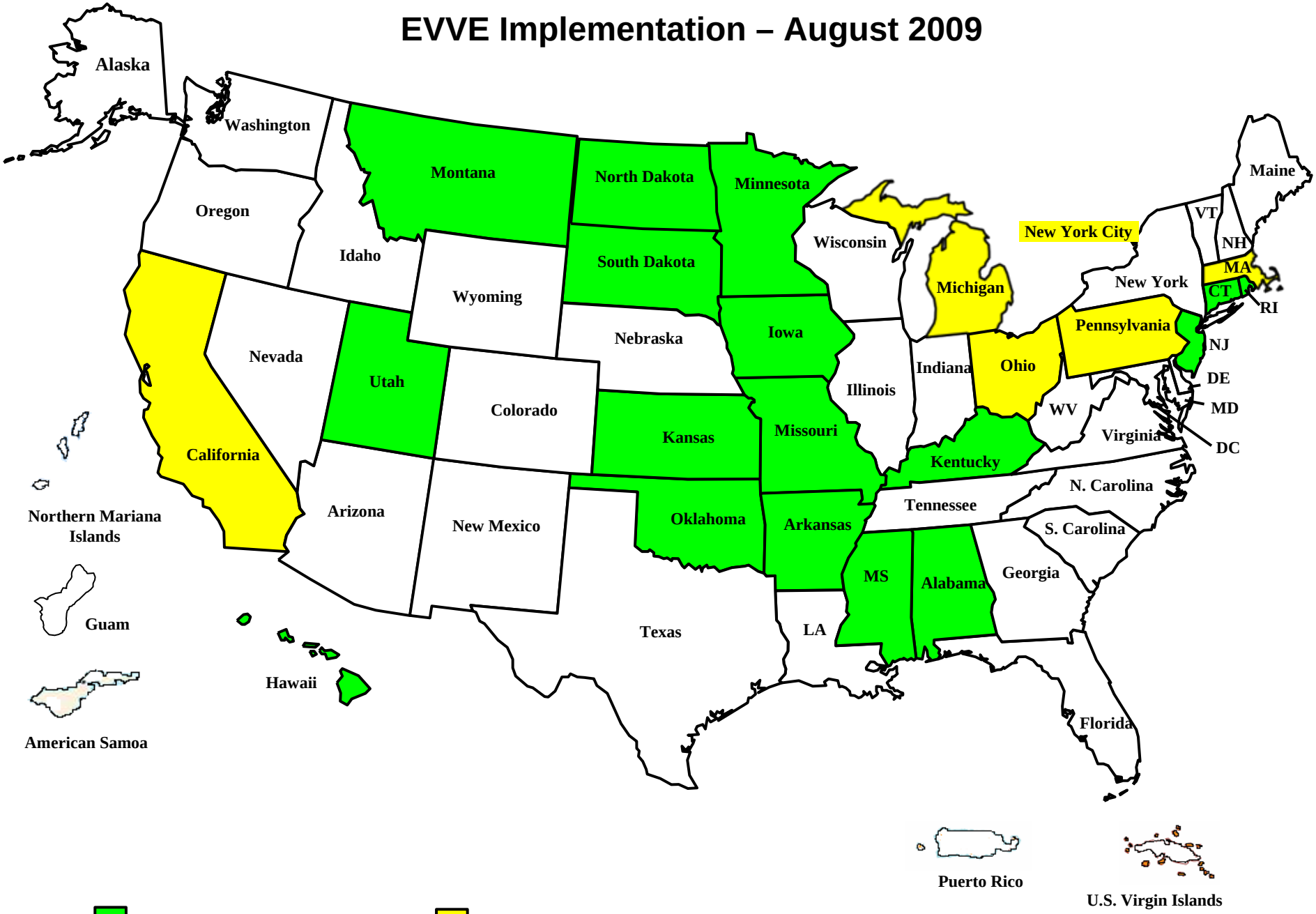
Federal and State agencies rely on birth certificates for:

- proof of age
- proof of citizenship
- identification for employment purposes
- to issue benefits or other documents (e.g. driver's licenses, Social Security cards, and passports)
- to assist in determining eligibility for public programs or benefits

EVVE is:

- Electronic system that allows immediate confirmation of information on a birth certificate presented by an applicant to a government office anywhere in the nation irrespective of the place or date of issuance
- Developed by the National Association for Public Health Statistics and Information Systems (NAPHSIS)
- Also capable of supporting the electronic verification and/or electronic certification of death records

EVVE Implementation – August 2009



State and Territorial Exchange of Vital Events (STEVE)

- Currently deployed in 9 jurisdictions, with up to 20 jurisdictions planned by early 2010
- California alone sends notification of 120,000+ deaths/year to birth jurisdictions (>300 reams of paper)
- STEVE allows exchange of information through messaging (electronic mailboxes)
- Receiving partners will only receive data elements they are legally allowed to use

Next Steps for Vital Records

Address Concerns:

- Burden of the interface
- Cost recovery for the service

Engage to shape the future:

- Maintain integrity of Vital Records for all uses
- Improve data quality through integration of systems and minimizing data entry errors

Thank you!