Public Health Reporting through the ILHIE

How data will be transmitted electronically to the Illinois Public Health Node

Presenters

- **Craig Conover, M.D.**, Acting Director, Illinois Department of Public Health
- **Mary Driscoll**, Division Chief – Patient Safety and Quality, Illinois Department of Public Health
- **Ivan Handler**, Chief Technology Officer, Illinois Office of Health Information Technology
- **Bala Hota**, **M.D., MPH**, Chief Medical Information Officer, Cook County Health and Hospital System
- **Laura Zaremba**, Director, Illinois Office of Health Information Technology

Agenda

- Impact of Public Health Needs on ILHIE Development
- Public Health Requirements for Meaningful Use
- Overview of the Public Health Node
- ILHIE and the Public Health Node

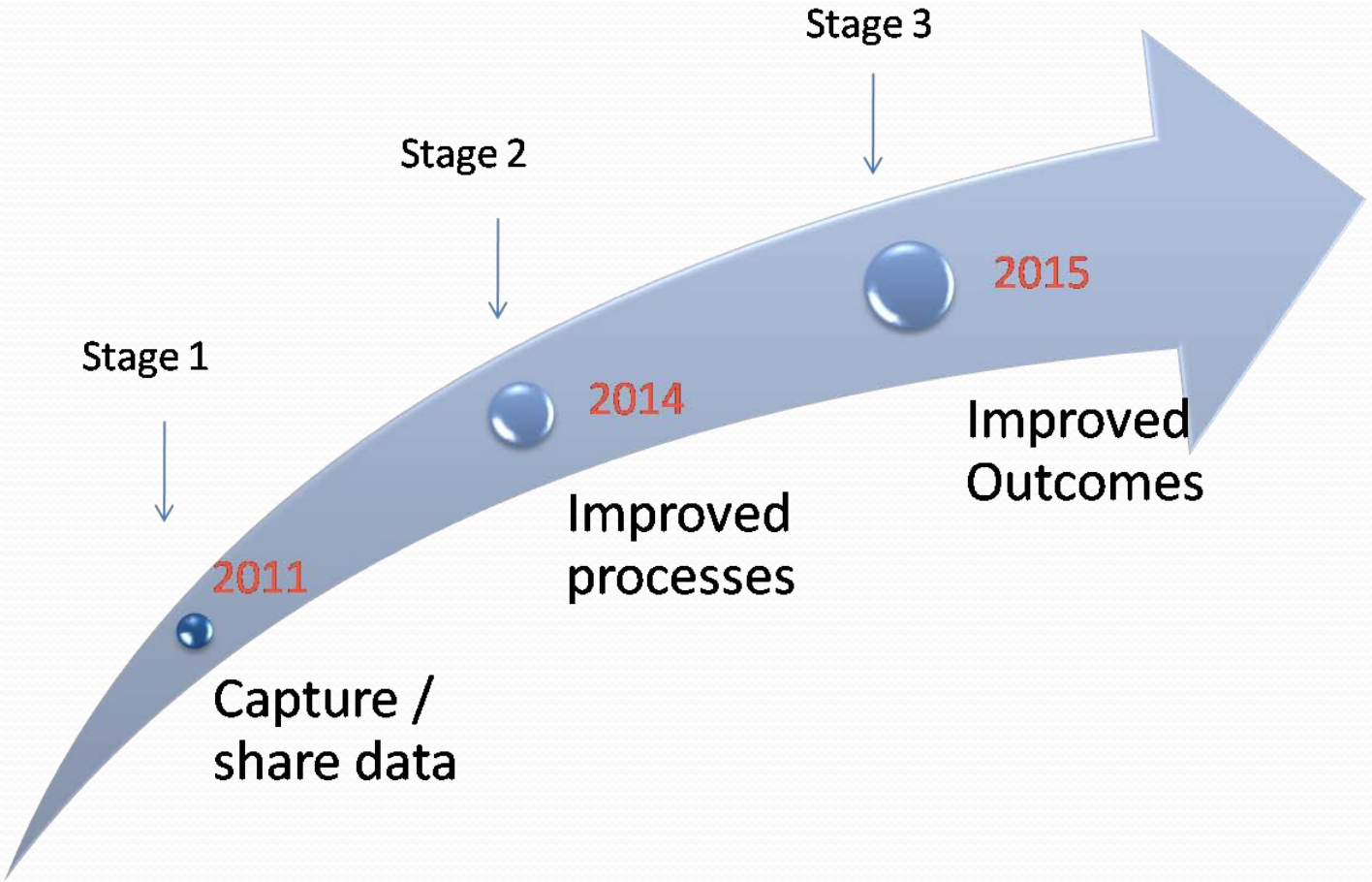
Goals of the Illinois Health Information Exchange

- Improved health outcomes
- Better care coordination among providers
- Reduced medical errors
- Reduced health disparities
- Controlled health care costs

Public Health Needs and ILHIE

- Legacy of the Illinois Electronic Health Records Task Force
- The ILHIE is a tool to facilitate achievement of state health goals
- Overlap in goals and alignment of Health Information Exchange Strategic and Operational Plans with State Health Improvement Plan

Public Health - Finding the Meaning in Meaningful Use



Meaningful Use and HIEs

Relevance to Public Health

- Stage 1
  - Submit electronic data to public health
    - Reportable laboratory results
    - Immunization data
    - Syndromic surveillance data

Public Health and Meaningful Use

- Electronic Lab Reporting – hospitals only
- Immunization Registry – Eligible Providers and hospitals

  http://www.idph.state.il.us/health/vaccine/icarefs.html
- Public Health Work Group
- Use cases – ILHIE and Public Health websites

  http://www2.illinois.gov/gov/HIE/Pages/usecase.aspx

  http://www.idph.state.il.us/patientsafety/index.htm#HIE_UseCases
- Public Health Node – vendor neutral solution to help providers meet meaningful use

Syndromic Surveillance

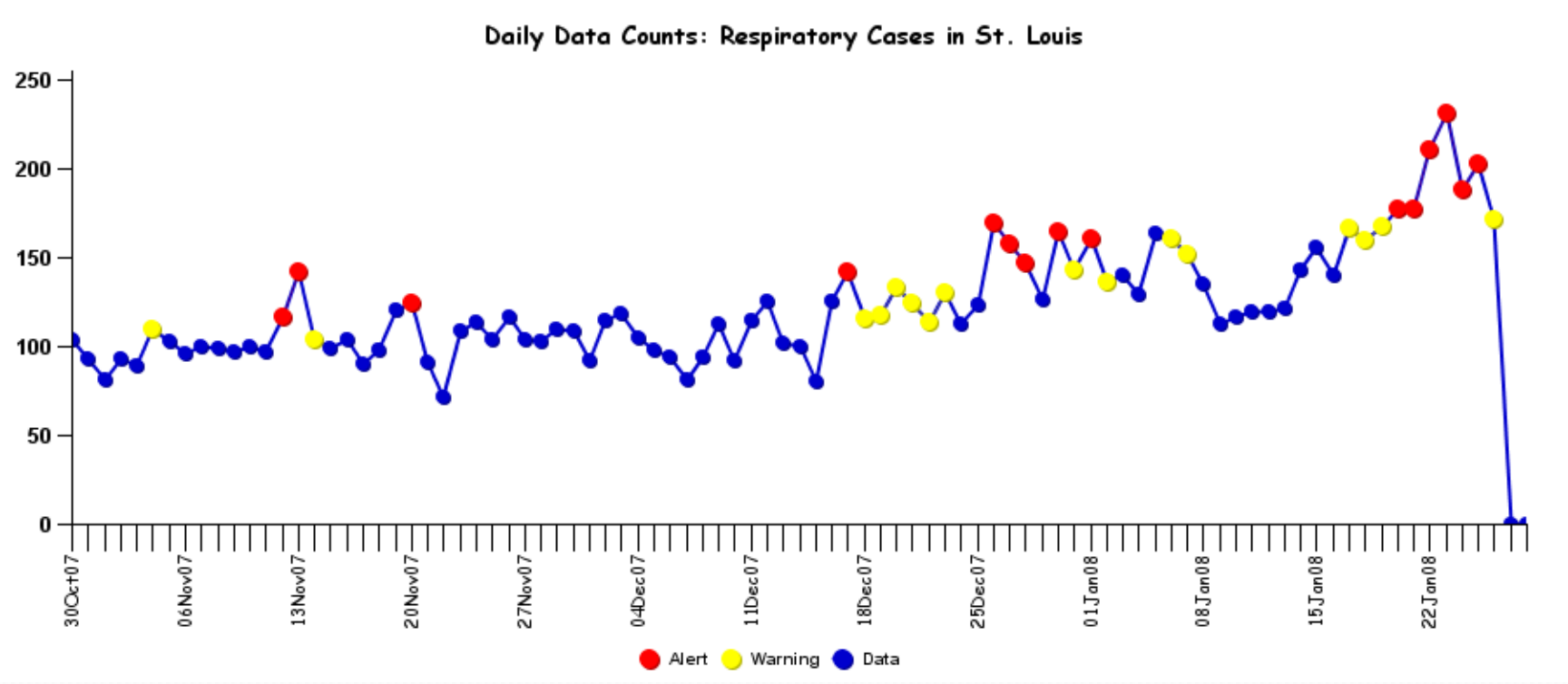
- CDC definition of syndromic surveillance (SS):

  Surveillance using health-related data that precede diagnosis and signal a sufficient probability of a case or an outbreak to warrant further public health response.

Syndromic Surveillance (continued)

- Utility
  - Not very useful for early detection of outbreaks
    - Many false positive and false negative signals
- More useful for
  - Situational awareness
  - Monitoring size and scope of large outbreaks(e.g. influenza)
  - Monitoring specific conditions, e.g. heat related illness, injuries after a flood, etc.
- Combining syndrome data with other data (e.g. laboratory data) will likely enhance its utility
- Potential applications related to chronic diseases and population health

Syndromic Surveillance: Respiratory Illness



Syndromic Surveillance and Meaningful Use

- Approach
  - Utilize Public Health Node for data collection from hospitals beginning April 2012
    - Accept messages that are not in HL7 v2.5.1 or v2.3.1 (e.g. flat files)
  - Public Health Node will send data to CDC's Biosense System for analysis and visualization
    - Cloud-based
    - Regional and national picture
    - Analytic tools: SAS, ESSENCE and RODS
    - Biosense hardware, software, maintenance, etc. all supported by CDC
  - Other systems may also be utilized for analysis and visualization

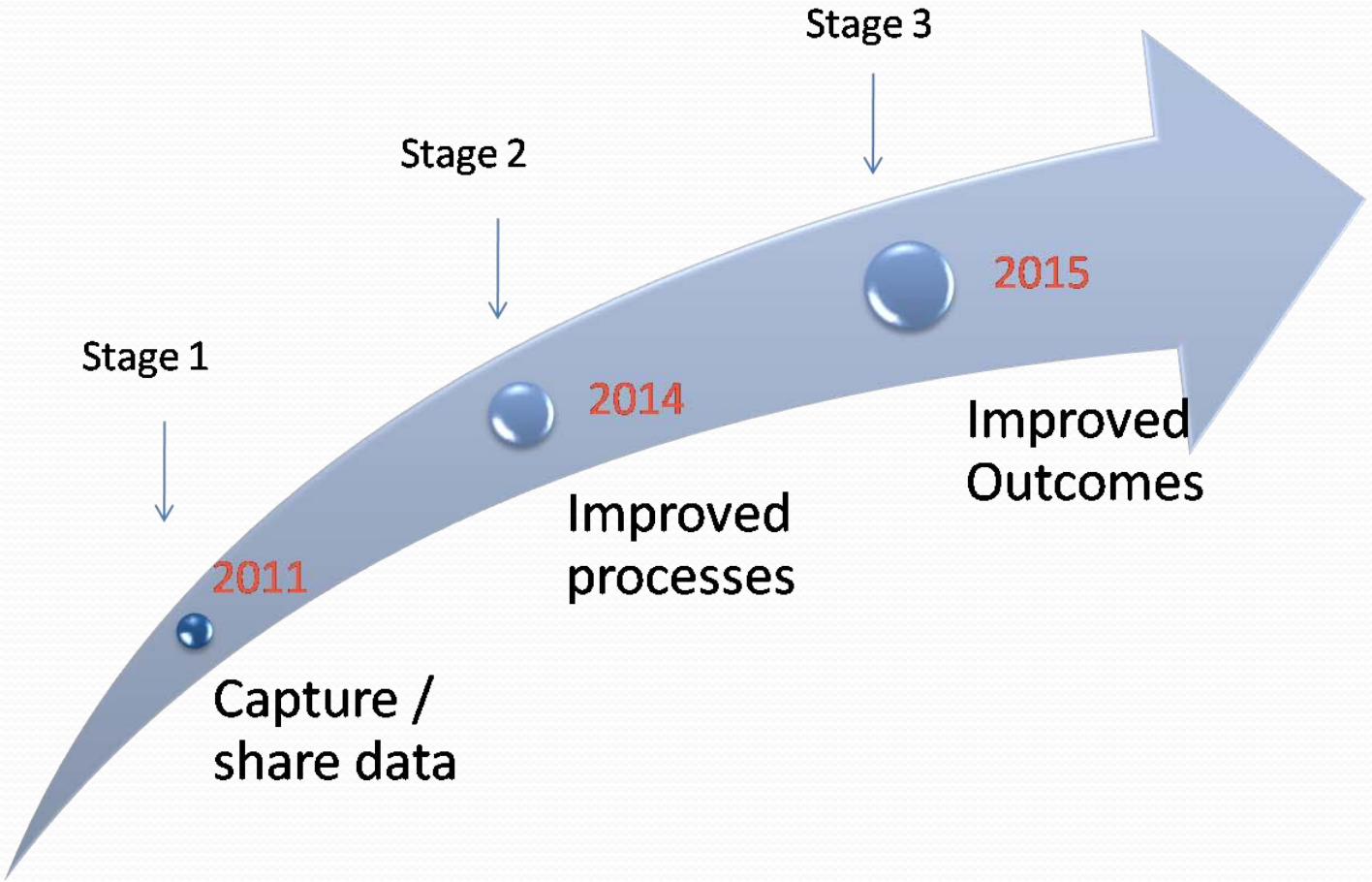
Meaningful Use and HIEs

Relevance to Public Health (continued)

- Population Health
  - <50% of people with ischemic heart disease take antiplatelet agent
  - <50% of hypertension is adequately controlled
  - Only 33% with hyperlipidemia have adequate treatment
  - <25% of smokers who try to quit get counseling or medications

More than half of American adults smoke or have uncontrolled high blood pressure or high cholesterol

Public Health - Finding the Meaning in Meaningful Use (continued)



OFFICE OF GOVERNOR PAT QUINN **NEWS**

FOR IMMEDIATE RELEASE: Thursday, September 29, 2011

CONTACT: Brie Callahan (o. 312-814-3158 c. 312-636-5989)
Melaney Arnold, IDPH (o. 217-558-0500 c. 217-836-6438)

Governor Quinn Announces $24 Million Federal Grant to Create Healthier Communities

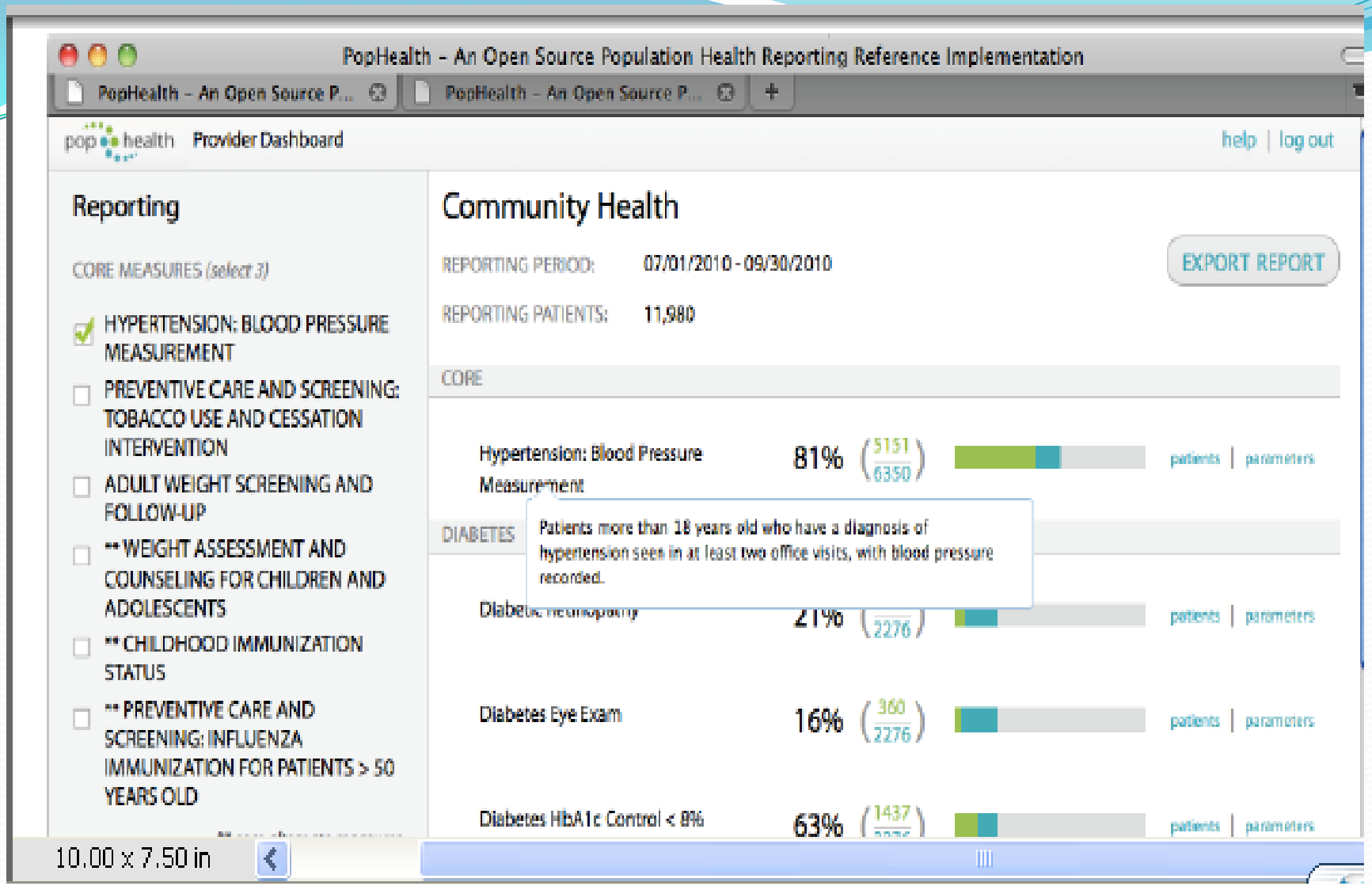
Affordable Care Act Funding Will Help Promote Healthy Living, Control Health Care Spending in Communities across Illinois

CHICAGO – September 29, 2011. Governor Pat Quinn today announced that the U.S. Department of Health and Human Services (HHS) has awarded Illinois a $24 million grant to support public health efforts to reduce chronic diseases, promote healthier lifestyles, reduce health disparities and control health care spending. The award, $4.8 million per year over five years, was made through a highly competitive national application process for Community Transformation Grants, an initiative of the Affordable Care Act.

Illinois' Community Transformation Grant

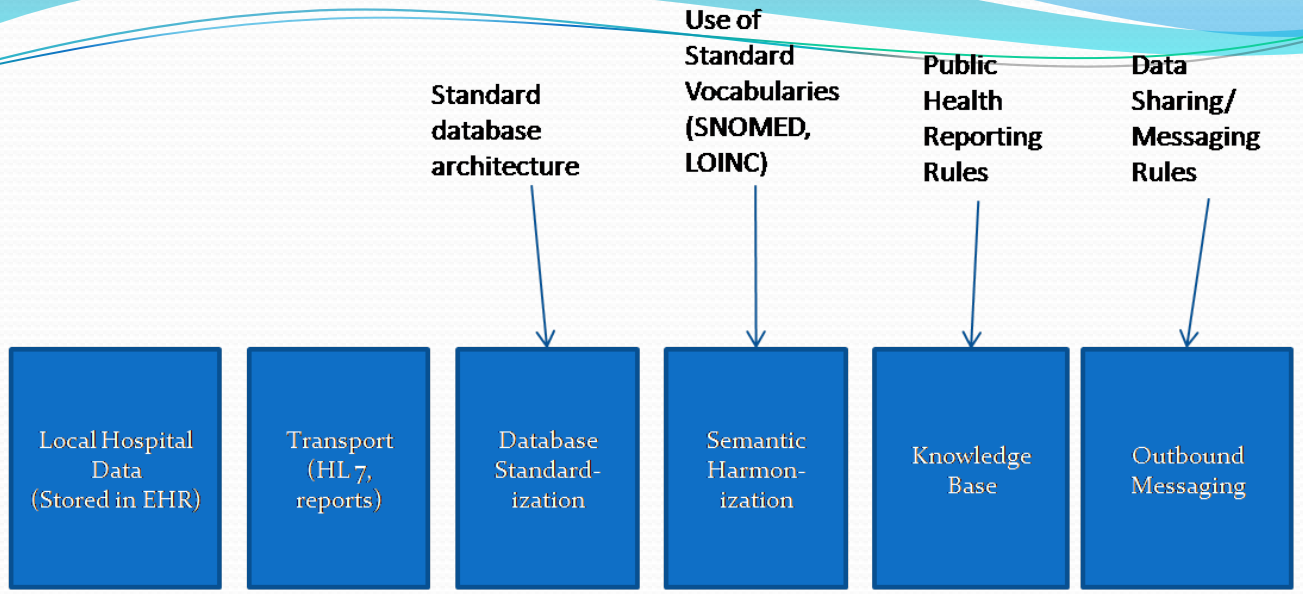
- Work will focus on expanding efforts in tobacco-free living, active living and healthy eating, social and emotional wellness, and healthy and safe physical environments, quality clinical and other preventive services
  - Tobacco cessation, hypertension control, lipid lowering therapy

www.projectpophealth.org


PopHealth – An Open Source Population Health Reporting Reference Implementation
PopHealth – An Open Source P...
PopHealth – An Open Source P...
pop health
Provider Dashboard
help | log out
Reporting
CORE MEASURES (select 3)
HYPERTENSION: BLOOD PRESSURE MEASUREMENT
PREVENTIVE CARE AND SCREENING: TOBACCO USE AND CESSATION INTERVENTION
ADULT WEIGHT SCREENING AND FOLLOW-UP
** WEIGHT ASSESSMENT AND COUNSELING FOR CHILDREN AND ADOLESCENTS
** CHILDHOOD IMMUNIZATION STATUS
** PREVENTIVE CARE AND SCREENING: INFLUENZA IMMUNIZATION FOR PATIENTS > 50 YEARS OLD
Community Health
REPORTING PERIOD: 07/01/2010 - 09/30/2010
REPORTING PATIENTS: 11,980
EXPORT REPORT
CORE
Hypertension: Blood Pressure Measurement
81%
5151
6350
patients | parameters
DIABETES
Patients more than 18 years old who have a diagnosis of hypertension seen in at least two office visits, with blood pressure recorded.
21%
2276
patients | parameters
Diabetes Eye Exam
16%
360
2276
patients | parameters
Diabetes HbA1c Control < 8%
63%
1437
patients | parameters
10.00 x 7.50 in

What is the Public Health Node?

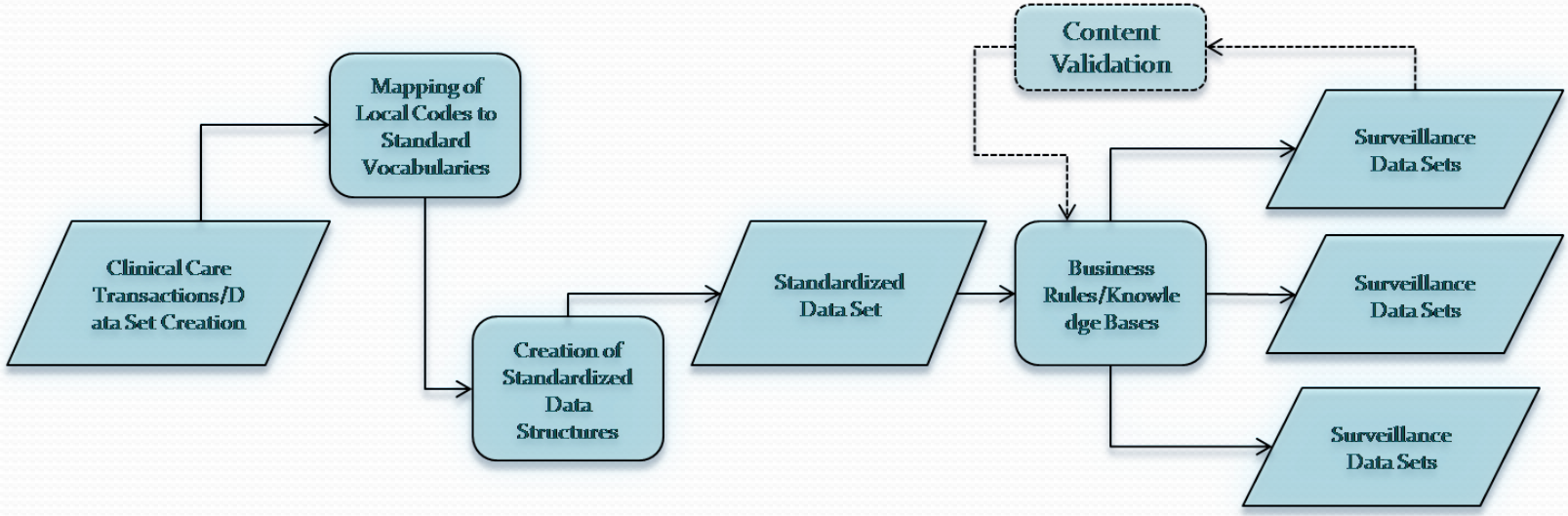
- A set of services that permits providers to submit data in a reliable way to public health for surveillance
- Framework for interaction with data aggregators (health information exchanges) and providers (individual electronic health record instances)
- Certified solution to meet meaningful use for public health menu items
- Setting for implementation of surveillance definitions created by public health agencies



Database Standardization : How databases are structured
Semantic Harmonization : How concepts are represented in the database (what are the names of tests and results)
Knowledge Base : How rules, case definitions, and surveillance requirements are defined and used to find conditions
Outbound Messaging : How data in the database are shared from one system to another

Automated Electronic Surveillance Data Flow

Data Flow and the Public Health Node



Hospital and Provider EHRs Capability

Health Information Exchange Capability

Public Health Node Capability

Services Provided by the Public Health Node

- Nomenclature mapping
  - SNOMED, LOINC, RxNORM, CVX Codes
- Knowledge base application/surveillance definitions
- New content and rules implementation
- Interface Engines for public health needs
  - Outbound CDA, HL7 v3, HL7 2.5.1, HL7 2.3.1
- Data transformation
  - Receive structured data, HL7 2.x, and HL7 v3, parse and store, and output relevant messages

Onboarding Process to Join the Public Health Node

- Define which Use Cases to be used by each provider/center that will utilize the public health node
- Establish necessary agreements to permit data sharing
- Share sample data file
- Test data submission to public health agency
- Implement ongoing data feed

Data requirements for Public Health Meaningful Use Menu Items

Data Element	Electronic Laboratory Reporting	Syndromic Surveillance	Immunization Messaging
Ordering Facility and Name	x	x	x
Patient Demographics	x	x	x
Visit/Encounter Information	x	x	x
Microbiology Order and Result Information	x		
Laboratory Order and Result Information	x		
Immunization Prescribing Information			x
Chief Complaint		x	

Data Requirements Detail

Hospital specific information	Electronic Laboratory Reporting	Syndromic Surveillance	Immunization Messaging	HL7 2.3.1. Message Field
Hospital Name	x	x	x	OBR 44 for ELR or mapped value
Hospital ID # (i.e., CLIA number)	x	x	x	Mapped from Lookup table
Hospital ID # system (i.e., "CLIA")	x	x	x	Mapped from Lookup table
Ordering Facility Name	x	x	x	MSH 4.1
Ordering Facility Address	x	x	x	OBR 45, 47, or mapped value
Ordering Facility Phone Number	x	x	x	ORC 14, OBR 46 or mapped value

Data Requirements Detail (ELR)

- Microbiology Data
- Placer & Filler Order Number
- Ordered Test Name
- Specimen Source Name
- Organism Name
- Antibiotic Name
- Antibiotic MIC value, Susceptibility Interpretation, and Units
- Order, Collect, Receive, Plate/Process, Result, and Final date
- Result Status
- Ordering Provider Name, ID#, and Phone Number
- Abnormal Flag

- Laboratory Data
- Placer & Filler Order Number
- Ordered Test Name
- Specimen Source Name
- Result, Units, and Ref Range
- Order, Collect, Receive, Process, Result, and Final date
- Result Status
- Ordering Provider Name, ID#, and Phone Number
- Abnormal Flag

Data Requirements Detail (Immunizations)

- Immunization Data
  - Sending Facility
  - Patient Identifier list
  - Patient name
  - Date/time of birth
  - Administrative Sex
  - Patient address
  - Date/time of administration
  - Administered code/Vaccine Name
  - Race
  - Mother's Maiden Name(may be missing)
  - Protection indicator & Immunization registry status(may be missing)
  - Lot Number
  - Manufacturer Name
  - Administering Provider

Public Health Node Syndromic Surveillance

- Anticipated that node will be certified for Meaningful Use by end of 2011
- Steps that node will use for submission of Syndromic Surveillance Data
  - Identification/Integration of feeds/data sets with relevant data (chief complaint)
  - Deidentification – application of linker id
  - Creation of applicable outbound message type
  - Transmission of data to Syndromic Surveillance system

Timelines For Key Milestones

- ELR and Immunization Certification
  - CCHIT Testing anticipated Early October 2011
- Syndromic Surveillance Certification
  - CCHIT Testing anticipated December 2011

How will ILHIE support the Node?

- ILHIE will be the input and output of the Node
  - ILHIE will route information to the Node
  - ILHIE will route outgoing information from the Node

- ILHIE will provide for the Node:
  - Privacy, security and consent services
  - Data repository services
  - Cloud-hosting services

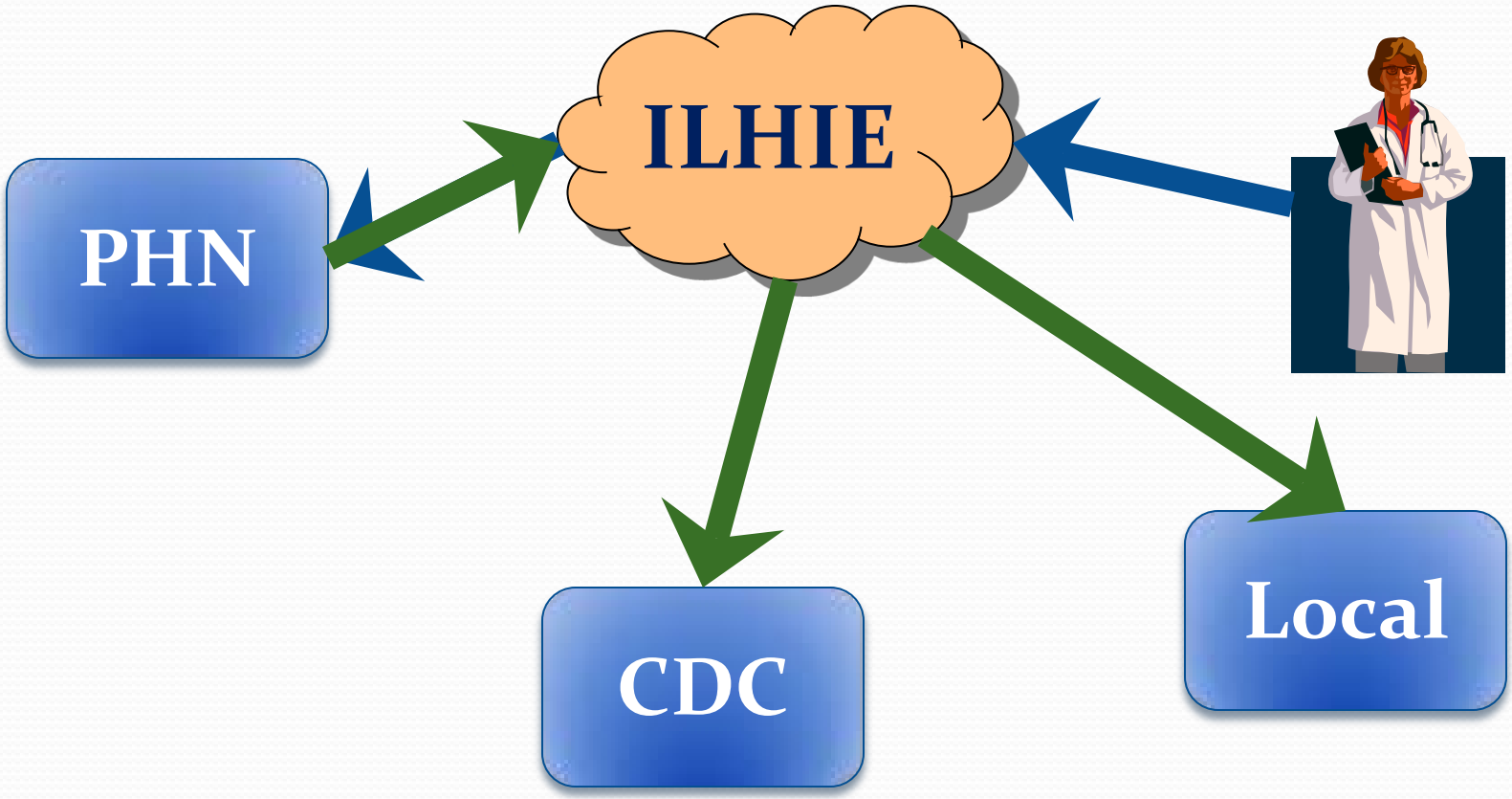
Public Health Entity Directory

- Information on Public Health Departments
  - (System) Addressing for participation in ILHIE
  - Connected to ILHIE to facilitate ongoing collection of:
    - Immunization data
    - Public health reportable data

Public Health Scenario

- Patient Presents to PCP
- Patient diagnosed with reportable condition
- Provider prepares report via EMR
- Report is forwarded to Public Health Node via ILHIE
- Public Health Node (PHN)
  - Sends report to CDC (if required)
  - Sends report to local public health agency
  - Sends report to any state or national monitoring project (subject to appropriate privacy and consent rules)

Public Health Reporting



ILHIE Implementation Schedule

- October 2011: Vendor Engagement
- December 2011: Initial HISP portal operational
  - For providers who need secure messaging solution
- April 2012: Initial Core Services Availability
  - Includes Access to Public Health Node
- November 2012: Full Core Services Availability
  - For further support of providers to meet Meaningful Use

Web address: hie.illinois.gov
Email address: hfs.hie@illinois.gov