



Interoperability and Public Health

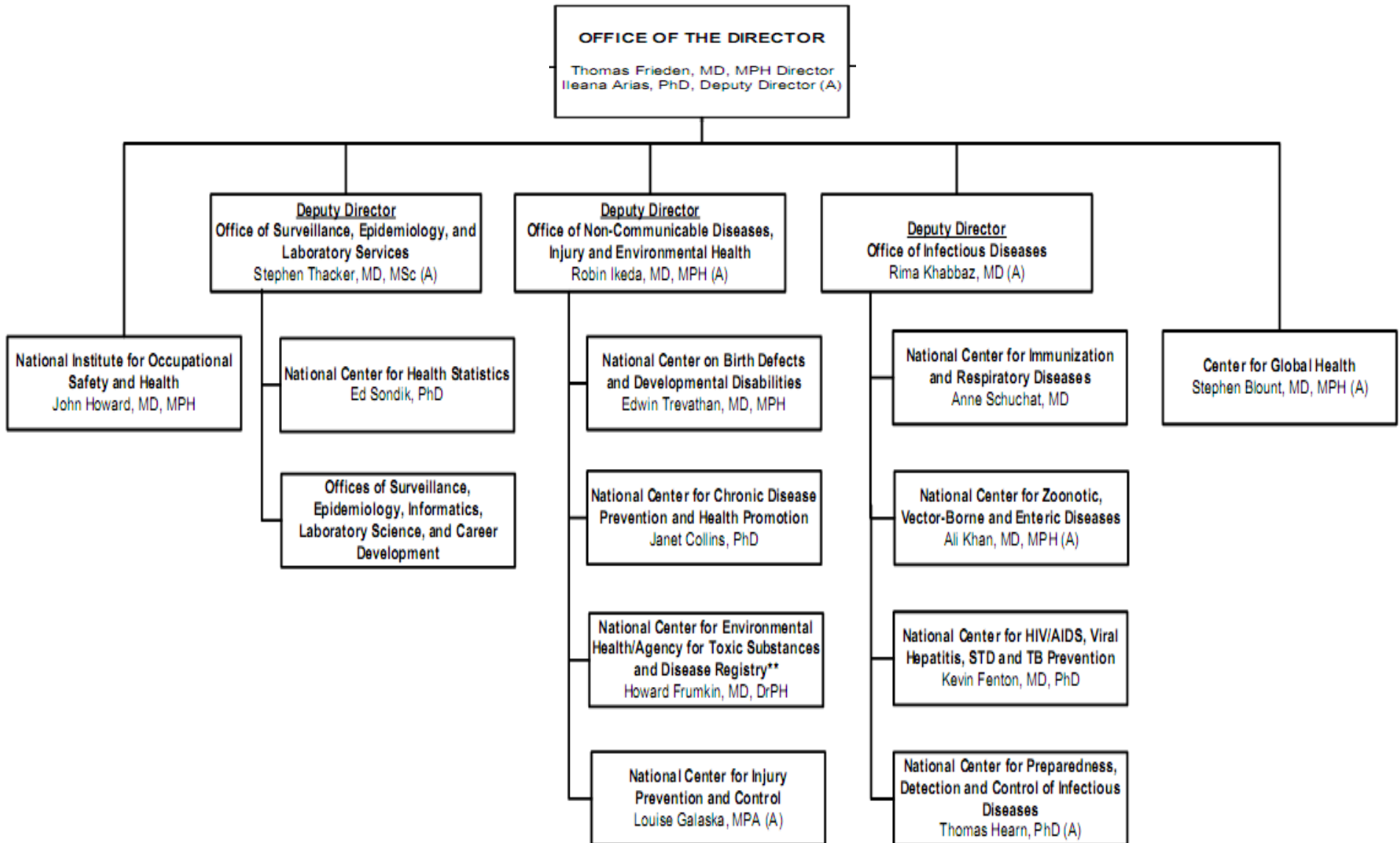
*CDC Making the Connection with
Electronic Health Records (EHR)*

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CHILD HEALTH • GLOBAL PARTNERSHIPS • MINORITY OUTREACH • MONITORING HEALTH • COMMUNITY PARTNERSHIPS
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LTH • PREVENTION RESEARCH • PRIVATE SECTOR PARTNERSHIPS • PUBLIC HEALTH WORKFORCE • WOMEN'S HEALTH



CDC Divisions and Programs Overview: Supporting Public Health Informatics



Examples of Public Health Domain Initiatives supported by Informatics Activities

- **Surveillance and Response**

- Surveillance Systems Monitoring : Infectious Diseases, Chronic Diseases, Injury and Violence, etc.

- **Health Status and Disease Management**

- National Health Interview Survey
- National Ambulatory Medical Care Survey
- Analysis of health disparities

- **Population-Based Research**

- Development of indicators to measure disparities in quality of care

- **Population-Based Health Care**

- Identifying populations with barriers to health and related services (i.e., elderly)
- Development of interventions that address barriers of care (i.e. children with special needs, low income population etc.)

- **Health Education/ Communication**

- Guidelines for preventive services (e.g., flu, diabetes, obesity, asthma, etc.)
- Vaccination schedules
- Case definitions, syndrome definitions, diagnostic guidelines and criteria

Examples of Public Health Informatics Activities

- Case Reporting
- Case Notification (H1N1)
- BioSurveillance / Health Information Exchanges (NHIN, PHIN)
- Public Health Alerting
- Electronic Lab Reporting (ELR)
- Emergency Response & Preparedness
- Outbreak Management System (OMS)
- Registries
 - Cancer, Immunization, Vital Statistics
- Personal Health Records
 - Nutritional Health Assessment and Nutritional Survey (NHANES)

Public Health Participation in Health IT Efforts

- ARRA: Meaningful Use of Health IT
- Integrating the Healthcare Enterprise (IHE)
 - Quality, Research and Public Health
 - Patient Care Coordination
 - Anatomic Pathology
 - IT Infrastructure
- Healthcare Information Technology Standards Panel (HITSP)
 - Population Health
 - Tiger Teams
- World Health Organization (WHO)

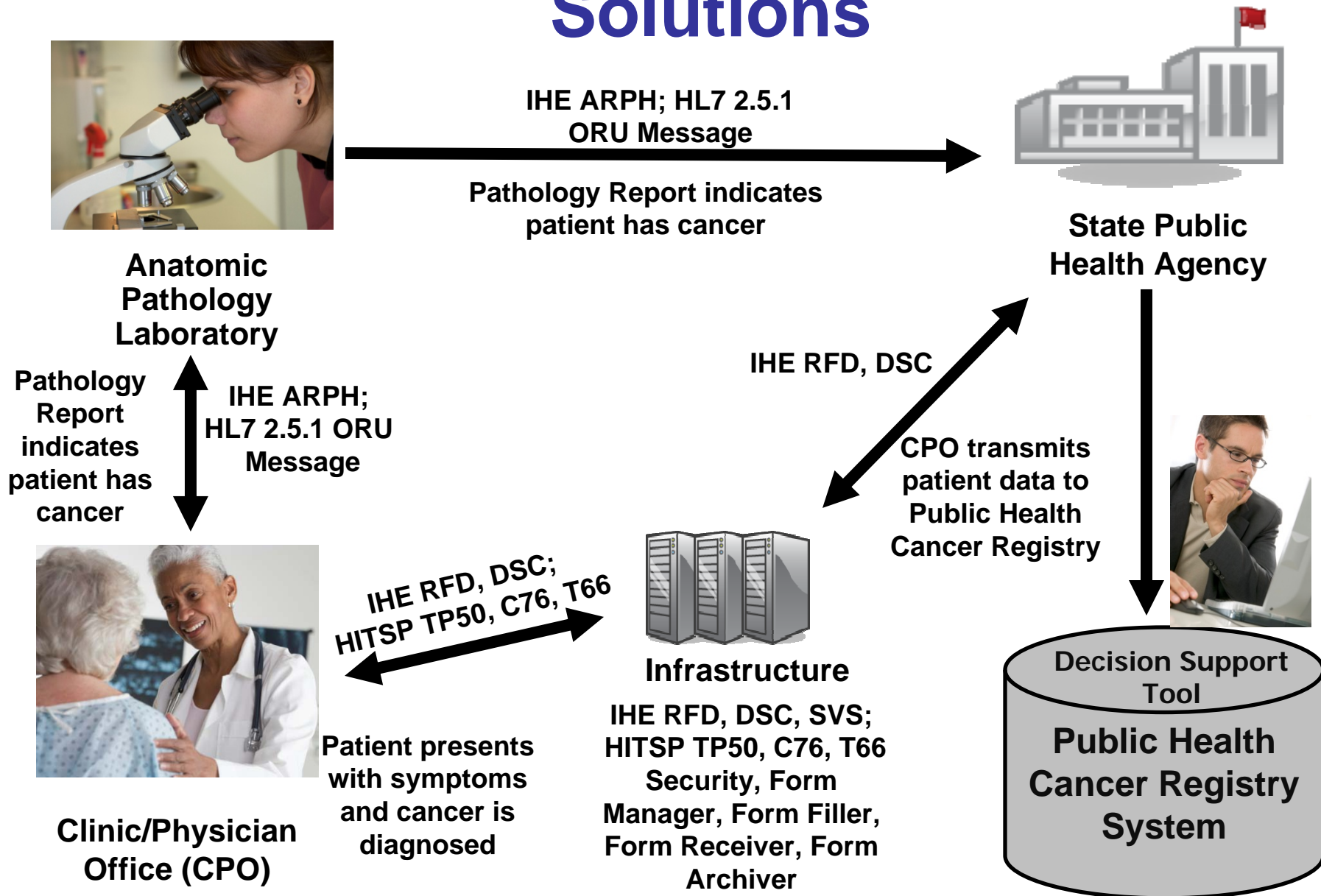
Examples of Standards Activities

- HITSP Constructs
 - C80 Messaging and Vocabulary Standards
 - T81 Context-Sensitive Information Retrieval
- IHE Constructs
 - Retrieve Form for Data Capture (RFD)
 - Clinical Research Data Capture (CRD)
- Health Level 7 (HL7)
 - HL7 2.x, HL7 3.0, CDA
- International Classification of Diseases (ICD)
- LOINC
- SNOMED
- RxNorm (Drugs)

IHE Profiles for Cancer Reporting from EHRs to Public Health

- Anatomic Pathology Reporting to Public Health (ARPH)
 - Demonstrate standardized collection and transmission
 - Demonstrate methods to electronically receive and process reports
 - Facilitate adoption of uniform methods
- Clinician Reporting to a Public Health Repository (CRPH)
 - Demonstrate mechanism to identify cancer cases
 - Identify data elements to be reported from the EMR
 - Demonstrate use of standards vocabulary from PHINVADS (IHE SVS)
 - Use existing terminology, data elements, and secure data exchange standards

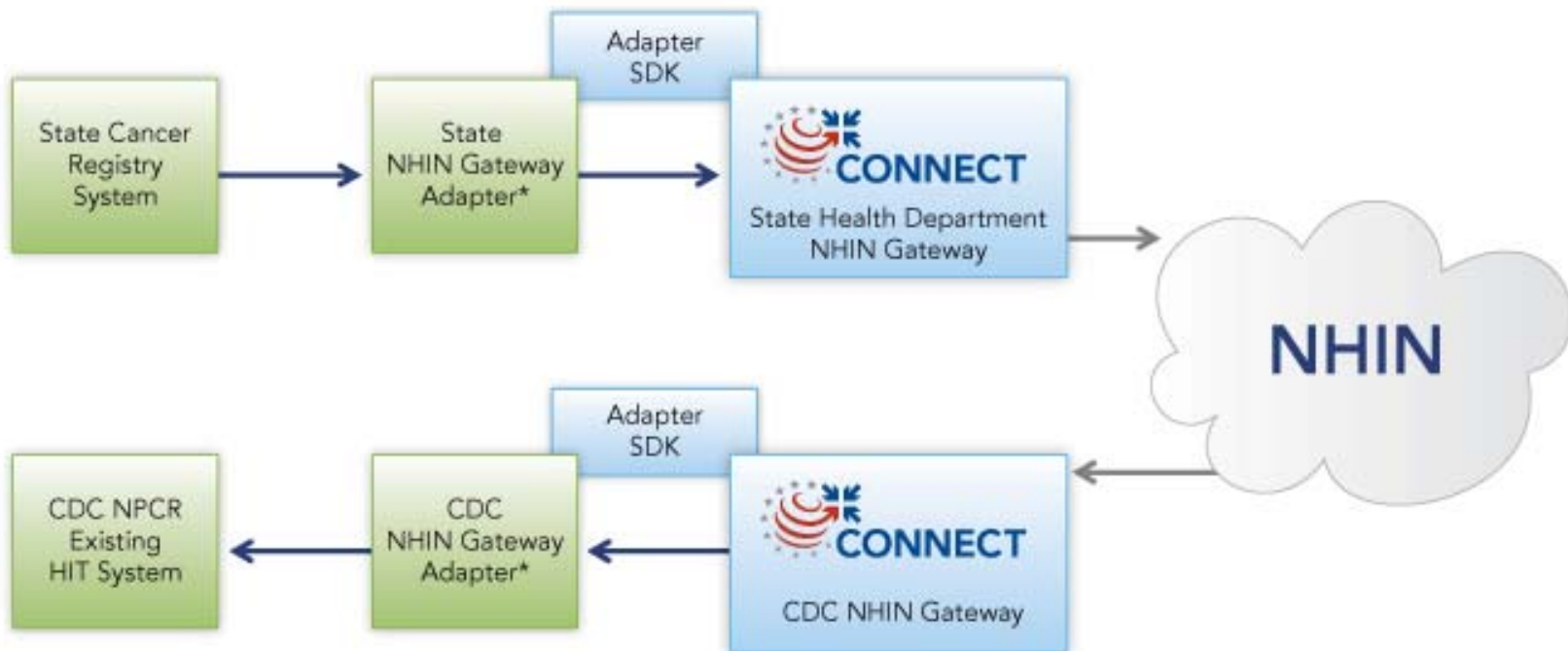
Public Health Cancer Reporting Solutions





Improving Public Health Cancer Registry Reporting

Centers for Disease Control and Prevention



Public Health Alerting in EHRs

Objectives

- To demonstrate the ability of a public health agency to generate an 'actionable' public health alert that can be consumed by an electronic medical record system.
- To determine if public health alerting systems can be leveraged to identify specific patients with risk factors related to the health condition identified in the alert.
- To demonstrate the transmission & integration of public health information into the clinical workflow.
- To evaluate the impact using qualitative approaches on clinicians' behaviors.

EMR Alerting Solution



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**HITSP T81
Communication
Standard**

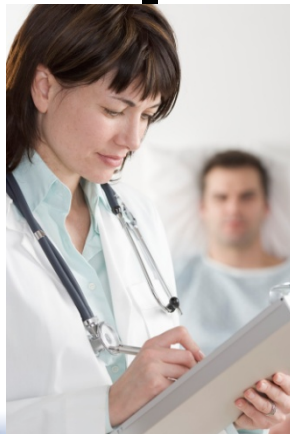


**Public Health
Alert
Repository**



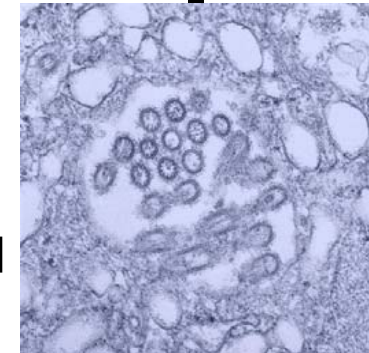
**State
Public
Health**

**Local
Public
Health**



**Patient presents
to clinic
exhibiting
headache, fever,
cough & fatigue**

**States/CDC
monitoring
public health
identify a H1N1
outbreak**



National Center for Health Statistics (NCHS)

- Laying the foundation for standardizing vital records information (birth, death, and fetal death)
 - HL7 Vital Records Domain Analysis Model
 - HL7 EHR-S Vital Records Functional Profile
 - HITSP C170 Vital Records Pre-populate
- National Health and Nutrition Examination Survey Feasibility Study
 - Format clinically relevant participant findings as a Continuity of Care Record (CCR) with LOINC and SNOMED-CT coding
 - Assess issues in populating a Microsoft HealthVault PHR with the CCR



Thank you



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The findings and conclusions in this presentation are those of the author(s) and do not necessarily represent the views of the Centers for Disease Control and Prevention