

# Public Health Data Standards

## Primer



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# Public Health Data Standards

Standards that support the electronic exchange and interoperability of information required to support the core public health disciplines



# Public Health Data Sources

- ∞ **Medical Data** – information collected on individuals in clinical setting during patient encounter
- ∞ **Environmental data** – details gathered through monitoring systems or as part of special investigations
- ∞ **Survey data** – conducted through various methods such as direct clinical examination, phone and household interviews and data abstraction from medical records



Lumpkin, J. R., & Richards, M. S. (2002). Transforming The Public Health Information Infrastructure. *Health Affairs*, 21(6), 45.

# Public Health Information Infrastructure

## ☞ Automation

- Began with the 1890 census
- Long history with automated systems in vital statistics systems
- States began to adopt computer technology in 1960s and currently manage multiple systems to support various PH programs

## ☞ National Databases

- Network of local and state PH agencies working in collaboration with federal agencies to establish the form and content of data submission for PH programs
- Information submitted in electronic and paper forms today

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# Public Health Information Infrastructure

## ∞ Data Integration

- States may have separate systems related to different aspects of one program. For example:
  - HIV Registry
  - AIDS Registry
  - Ryan White Program
  - AIDS Drug Assistance Program
- Mesh of “in house” developed and “turnkey” systems
- Lack of interoperability among the various systems
- Lack of consistency in data coding and data definitions across systems

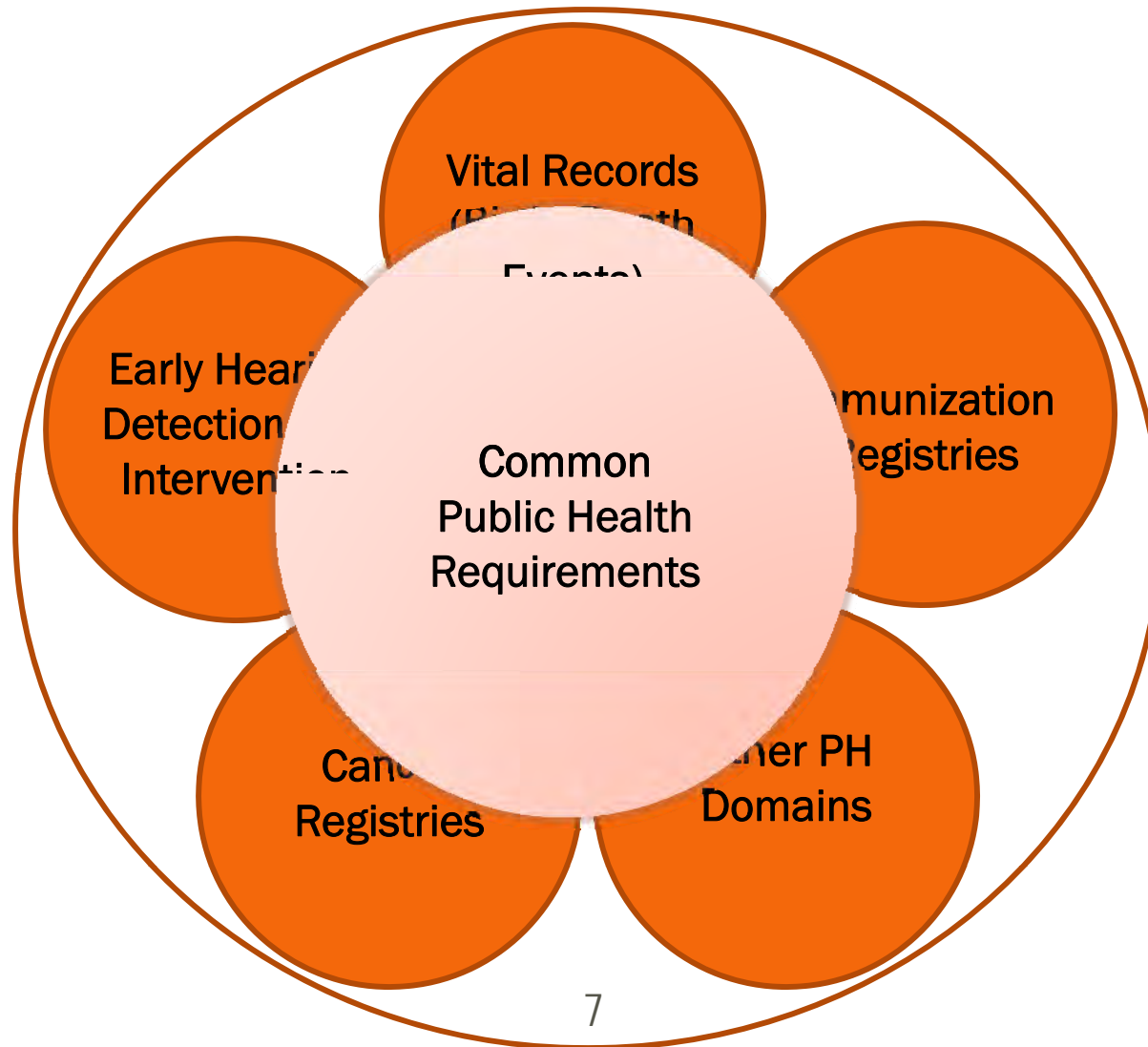
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# Challenges for PH Data Interoperability

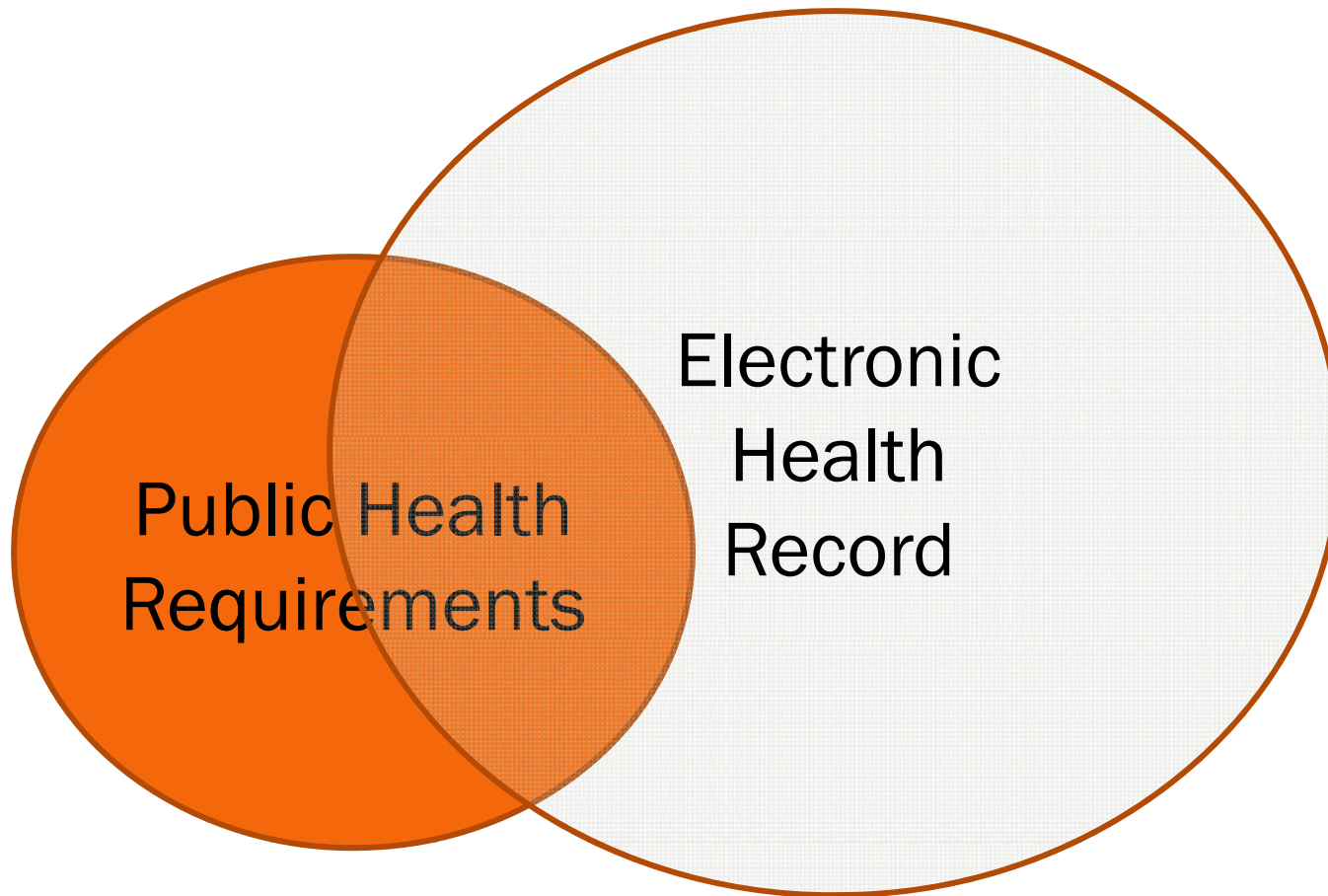
- ☞ “A serious shortcoming of these systems is that they are not integrated horizontally. Data cannot be exchanged, linked, or merged easily by different programs or used to evaluate problems by person over time and geographic areas.”\*

\*Chute, G.C., & Koo, D. (2002). Public Health, Data Standards, and Vocabulary: Crucial Infrastructure for Reliable Public Health Surveillance. *J Public Health Management Practice*, 8(3), 11-17

# Public Health Information Systems



# EHR Systems Supporting PH Requirements





# Implications of Improved PH Data Collection

## ☞ Benefits of automated reporting

- Improve the completeness, timeliness and quality of data reported

## ☞ Efficient use of hospital discharge data to:

- Monitor health status
- Evaluate the performance of health care systems

## ☞ Rapid investigation of disease outbreaks

- Increased ability for epidemiologists to “interview” more people in shorter time
- Increase automation for notifications and acknowledgements

# Public Health Data Standards Development

- ✎ Electronic standards defining the message structure, format, content, coding, vocabulary/terminology, transport, security, and other elements
- ✎ Applied to various health information message exchange needs between public health and external entities (i.e., providers, payers, others)
- ✎ Example areas include:
  - Vital statistics
  - Immunization data
  - Bio-surveillance reporting
  - Disease registry
  - Public Health Laboratory reporting
- ✎ International – not just a national/US domain

# Public Health Standards Developers

## Standards Development Organizations



Supports PH reporting requirements and APCD



Public Health and Emergency Response Work Group  
(PHER WG)



Quality, Research and Public Health (QRPH)



Public Health Task Force

# Public Health Standards Developers

## ∞ Federal & State Standards Related Activities



- Public Health Information Network Vocabulary Access and Distribution System (PHIN VADS)
- CDC BioSense



- Public Health Reporting Initiative
- Structured Data Capture – Public Health Tiger Team Initiative



- Syndromic Surveillance

# PH Partner Organizations

✧ AIRA	American Immunization Registry Association
✧ AMIA	American Medical Informatics Association
✧ APHL	Association of Public Health Laboratories
✧ ASTHO	Association of State and Territorial Health Officials
✧ CSTE	Council of State and Territorial Epidemiologists
✧ JPHIT	Joint Public Health Informatics Taskforce
✧ NACCHO	National Association of County & City Health Officials
✧ NAHDO	National Association of Health Data Organizations
✧ NAPHSIS	National Association for Public Health Statistics and Information Systems
✧ PHDSC	Public Health Data Standards Consortium
✧ PHII	Public Health Informatics Institute

# Challenges for PH Data Standards Adoption

- ⌘ Need standards-based data collection and reporting from clinical systems to PH systems
- ⌘ Minimal local/state/federal participation in standards development activities
- ⌘ Funding limitations to test standards that have been developed and to support EHR initiatives that include PH requirements
- ⌘ Not recognized in “meaningful use” often translates to minimal or no vendor engagement to support EHR development to support PH programs
- ⌘ Not all the data needed by public health comes from a single data source or resides in an EHR
- ⌘ Not all the data is in electronic format (whether in an un-structured or structured/codified state)
- ⌘ Requires long term commitment – not a quick fix

# Thank You



*"We have lots of information technology. We just don't have any information."*