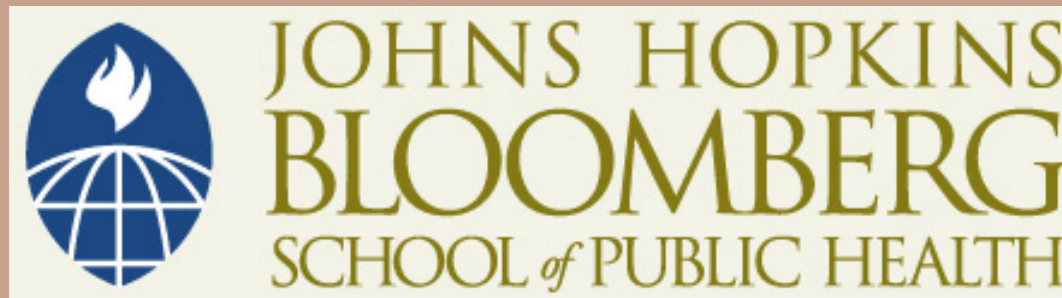


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Health Information Systems Interoperability

Noam H. Arzt, PhD, FHIMSS

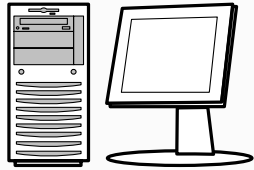
HLN Consulting, LLC

Instructor, University of California San Diego Extension
School

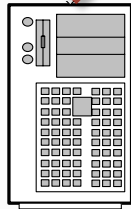
Section A

Evolution of Public Health Systems

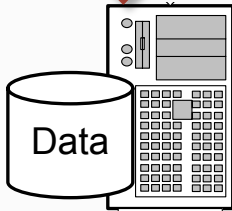
Public Health Systems



Stovepipe systems



Specialized systems



Integrated systems

- Began as program-specific, stovepipe systems, often PC-or mainframe-based
- Evolved into more robust specialized systems
- In some cases became integrated systems, either patient-centric or case-centric
- Eventually some applications aimed outside of the agency

Sample CDC Applications

CASA	Clinic Assessment Software Application (1992)
LIMS	Laboratory Information Management System (1995)
PHLIS	Public Health Laboratory Information Systems (1989)
VACMAN	Vaccine Management System (1994)

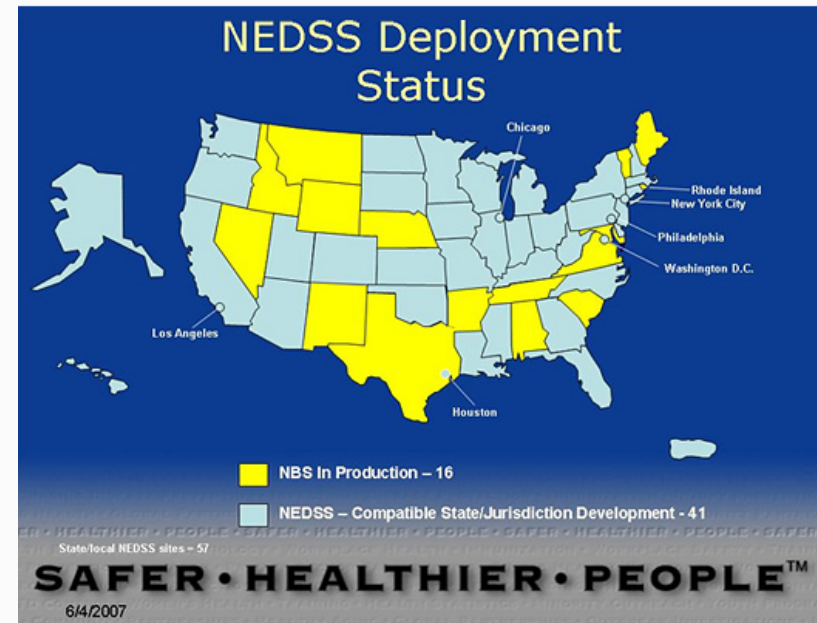


Public Health Information Network

- National initiative to improve the capacity of public health to use and exchange information electronically by promoting the use of standards and defining functional and technical requirements
- Involves CDC and partner state/municipal/territorial agencies
- Covers a variety of areas, including:
 - Biosurveillance and syndromic surveillance
 - Alerting and directory services
 - Laboratory systems
 - Notifiable disease surveillance
 - Outbreak management
- Provides standards, architectures, strategies, education, applications

National Electronic Disease Surveillance System

- NEDSS
- “System of interoperable subsystems” including modules developed by CDC, by state/ local public health agencies, commercial vendors
- Standards-based: coding, transmission, functionality
- Key functions:
 - Required reporting
 - Case investigation
 - Lab and morbidity



- Immunizations
- Treatment
- Reports
- Workflow
- Notifications

Countermeasure and Response Administration System

- CRA
- Plan and execute interventions as countermeasures for large-scale events, including:
 - Vaccinations
 - Prophylaxes
 - Treatments
 - Quarantine
 - Adverse events

The screenshot displays the 'Record Entry' interface of the CRA system. At the top, there is a 'Main Menu' link and a 'Record Entry' header. Below this, a campaign information bar shows 'Campaign: Anthrax Campaign July 2007 | SPA: 1 | POD #: Provider ID: POD 1.1 | Authorizing Officer: Health Officer' and a 'Change Defaults' button. The form is divided into several sections:

- Patient Demographics and Encounter Information:** Fields include Encounter Date (07/10/2007), Patient's First Name (John), Patient's Last Name (Smith), Patient's Middle Name, Patient's DOB (06/15/1970, Age: 38y 2m 4d), Patient's Gender (Male), Patient Category (First Responder), Street Address, City (Los Angeles), State (of Residence) (CA - California), Zip (90012), Telephone Number, Occupation (Infectious Disease Specialist), and Triage (Standard Dispensing).
- Patient Vaccination(s):** A section for '> ANTHRAX' with fields for Vaccine (ANTHRAX), Lot Number (ANTHR LOT 1), and Admin By (Lawrence, Kimberly).
- Patient Medication(s):** A section for '> AMOXICILLIN' and '> CIPROFLOXACIN'. The Ciprofloxacin section includes fields for Medication (CIPROFLOXACIN), Lot Number (CIPRO 100), Dose (mg) (500), and Dispenser (Lawrence, Kimberly).
- Patient Notes:** A text area for entering patient notes.
- Medication Dispensed to someone other than the Patient:** A checkbox and fields for First Name and Last Name.

At the bottom, there is a note '(*) indicates required fields' and buttons for 'Copy From Last Record', 'Add Patient', and 'Cancel'.