

Public Health Systems Integration in Support of Emergency Preparedness

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Topics

- Introduction to PHIN
- PHIN Component Systems
- System to System Interfaces
- Integration Agents
- Questions

Introduction to PHIN

“A crosscutting and unifying framework ... to better monitor ... data streams for early detection of public health issues and emergencies.”

CDC PHIN Website

<http://www.cdc.gov/phin/>

Introduction to PHIN *(continued)*

1. The Automated Exchange of Data between Public Health Partners

To securely and automatically exchange information, as appropriate, between two computer systems to achieve a “live” network for data exchange between partners in public health.

2. The Use of Electronic Clinical Data for Event Detection

To receive, manage and process electronic data from care systems at clinical care sites, laboratories, or their proxies.

3. Manual Data Entry for Event Detection and Management

To receive, manage and process electronic data from care systems at clinical care sites, laboratories, or their proxies.

4. Specimen and Lab Result Information Management and Exchange

For laboratories involved in public health testing, to receive laboratory requests, accept specimen and sample data, manage these data and immediately report electronic results to public health partners.

5. Management of Possible Case, Contacts and Threat Data

To electronically manage, link and process the different types of data (possible cases from detection, possible contacts, facility, lab results, prophylaxis and/or vaccination, adverse events monitoring and follow-up).

Introduction to PHIN *(continued)*

6. Analysis and Visualization

To analyze, display, report and map accumulated data and share data and technologies for analysis and visualization with other public health partners.

7. Directories of Public Health and Clinical Personnel

To participate in and maintain directories of public health participants (including primary clinical personnel), including participant roles and contact information.

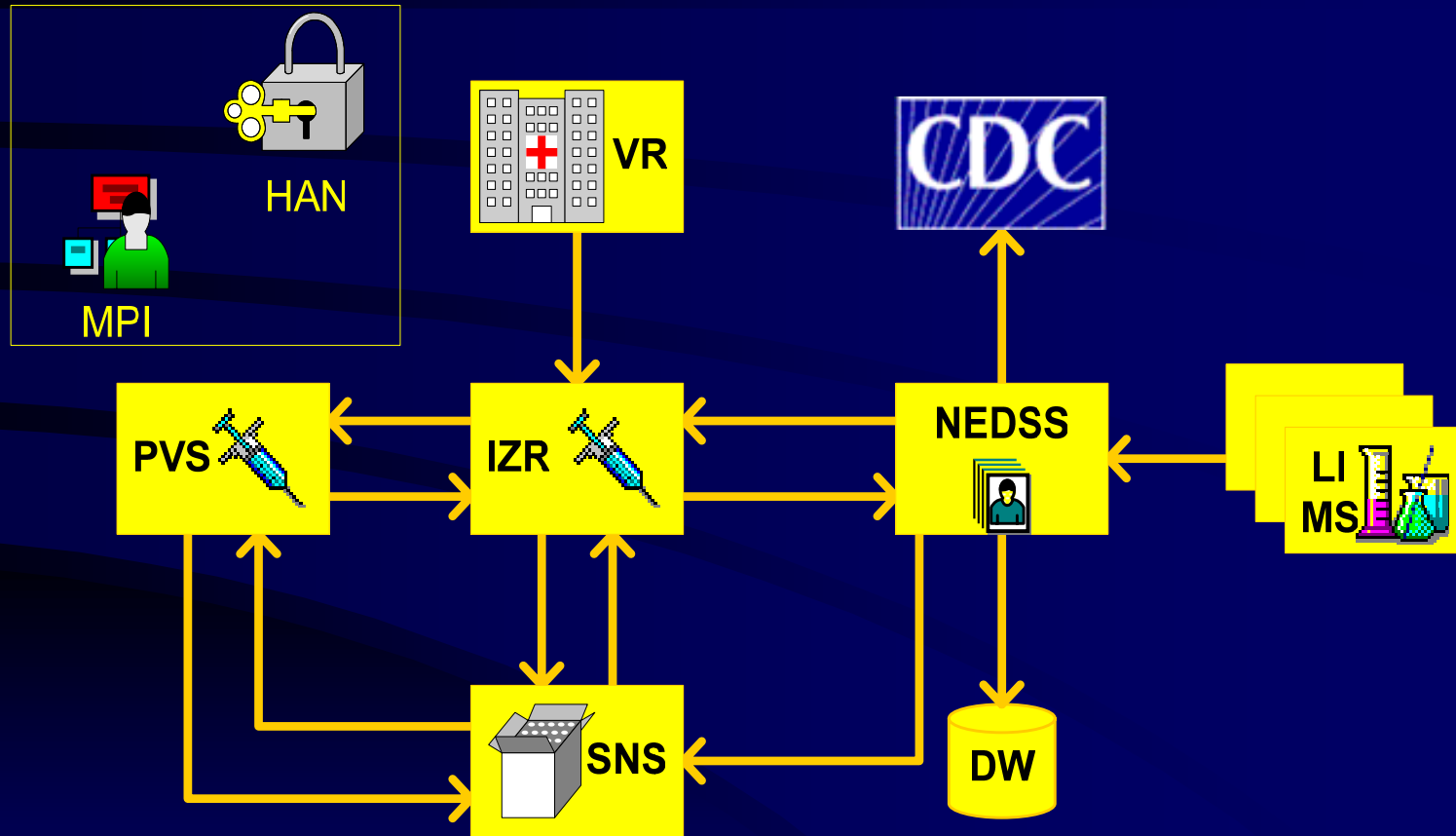
8. Public Health Information Dissemination and Alerting

To receive, manage and disseminate alerts, protocols, procedures and other information for public health workers, primary care providers, and public health partners in emergency response.

9. IT Security and Critical Infrastructure Protection

To ensure that sensitive or critical electronic information and systems are not lost, destroyed, misappropriated or corrupted.

PHIN Component Systems



PHIN Component Systems *(continued)*

- **Smallpox Pre-event System (PVS)**



- CDC's PVS or local system
- Demographics, IZ history, SPX IZ with take response
- Commercial products available

- **National Electronic Disease Surveillance System (NEDSS)**



- Disease surveillance and reporting
- PAMs for vaccine-preventable diseases
- Could be positioned for use in the case of an outbreak
- Commercial products available

PHIN Component Systems *(continued)*

- **Laboratory Information Management System (LIMS)**





- Used to receive, store, manage, and report lab tests
- Cornerstone of disease surveillance
- Public health labs, hospital labs, private labs
- Commercial products available

- **Data Warehouse (DW)**



- Management and analytical purposes
- May or may not contain personally-identifiable records

PHIN Component Systems *(continued)*

- **Immunization Registry (IZR)** 
 - Childhood (or lifelong) immunization records
 - Public/private provider access
 - Commercial products available
- **Vital Records System (VR)** 
 - Authoritative demographic info on births
 - Data sharing laws vary
- **Master Person Index (MPI)** 
 - Provides common identifier across systems

PHIN Component Systems *(continued)*

- **Strategic National Stockpile (SNS)**



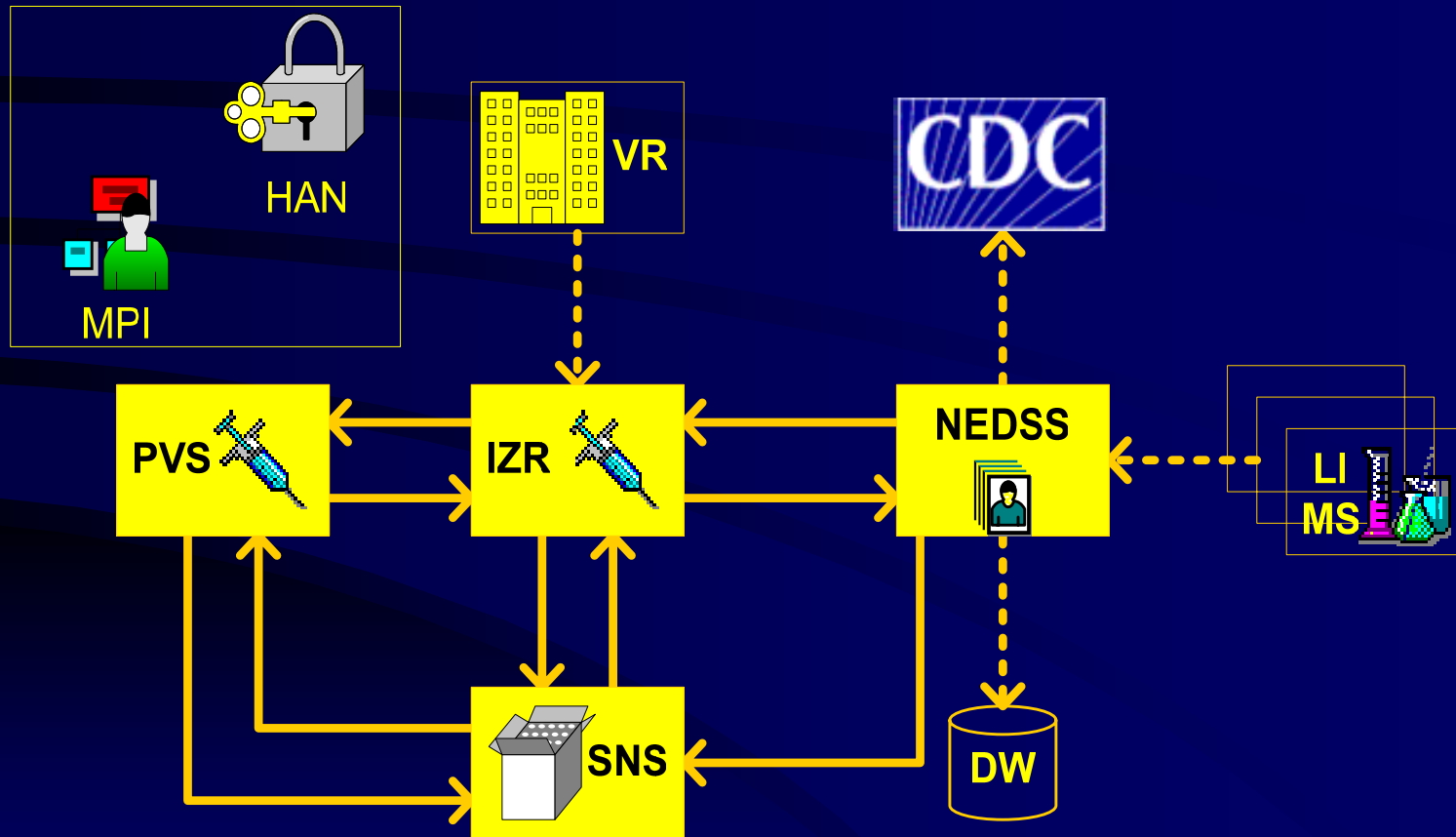
- Manages receipt and processing of materiel, administration of vaccines or medicines, and administrative data
- Manages local cache/chempaks routinely

- **Health Alert Network (HAN)**

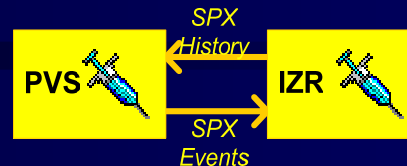


- Provides directory services to various systems, including authentication/authorization
- Provides alert services

System to System Interfaces: Core Components



System to System Interfaces *(continued)*



- PVS and Immunization Registry
 - **Smallpox History** from IZR to PVS [record matching issues, data disclosure/re-disclosure rules]
 - **Smallpox Events** from PVS to IZR [record matching issues, appropriateness of sharing with private providers]

System to System Interfaces *(continued)*



- NEDSS and Immunization Registry
 - **Immunization History** from IZR to NEDSS
 - **Immunization Events** from NEDSS to IZR
 - **Disease History** from NEDSS to IZR [if supported by registry]

System to System Interfaces *(continued)*

- SNS to Other Systems

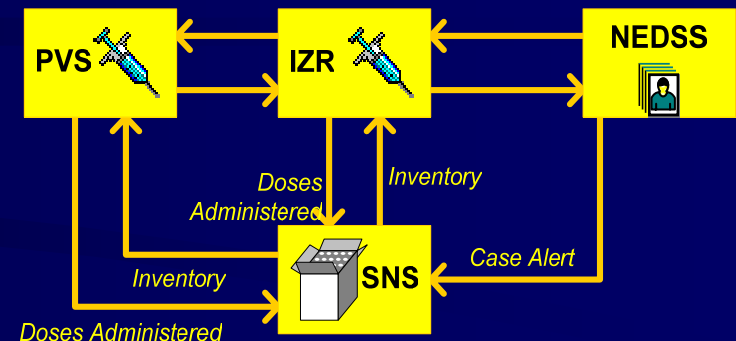
- Case information or alerts

from NEDSS to SNS

- Vaccine administration or medicine distribution

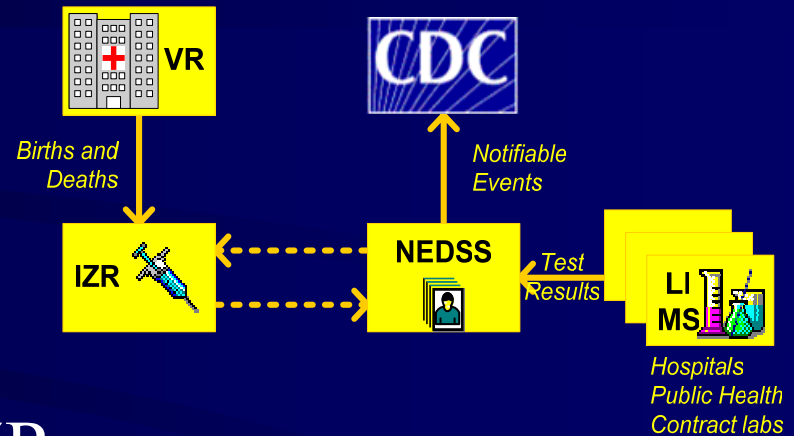
from IZR or PVS to SNS

- Inventory information from SNS to IZR or PVS

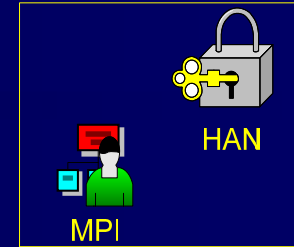


System to System Interfaces *(continued)*

- Non-core Systems
 - Vital records data to IZR
 - Lab test results to NEDSS
 - Notifiable events to CDC



Integration Agents



- HAN and MPI provide the capability for systems integration to take place
- Gartner Group prefers to focus on *interoperability* rather than *integration*
- EHR and NHII are struggling with how to bring this about on a national/international scale

Questions?

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