

# Data Transfer and Transformation

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# "Messaging" – Exchange of Data Between Information Systems

Use data that were captured for other purposes

? Minimizes manual reporting burden

? clinical care data, laboratory information systems data, pharmacy data, 911 calls, etc.

? Improves reporting compliance, completeness and timeliness over manual reporting

- System to system data exchange facilitates dual use

? Separate data acquisition components (manual or electronic) from data storage (multi-system) and from detection algorithms

? Not soup to nuts "systems" -> share information technology infrastructure, functions and approaches

# "Live" Exchange of Data

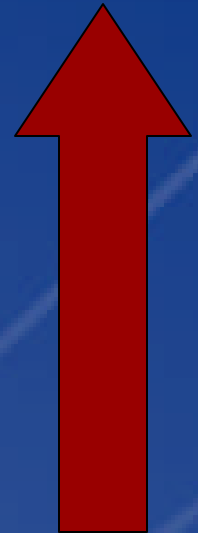
Specific Data Content – Vocabulary Terms  
HL7, LOINC, SNOMED

Data Structure – Data Models – PHLDM / HL7

Transport / "Handshake Between Information Systems" - ebXML

Encryption / Security – PKI

Connectivity – Continuous Internet Connectivity



# “Messaging” – Exchange of Data Between Information Systems

## Implementation issues

- ? Clinical lesson -> minimize proprietary interfaces
- ? 5 source organizations x 5 data sources at each = unmanageable
- ? What happens next? – follow-up, confirmation, contact tracing, vaccination, prophylaxis
- ? IT implications -> patient matching, lab results, progression tracking, accelerated vaccination... more data exchange (both directions) with many of the same data trading partners

## Using standards

- ? Best approach is “code on capture”
- ? Otherwise transform, code, aggregate, (and filter)
- ? Implementation guides and national standards

# Public Health Message Implementation Guides

## Routine Public Health and Investigation of BT Detection

- Lab result
- Microbiology results
- Chief complaint
- Orders
- Nationally Notifiable Diseases
- Hepatitis
- Meningitis
- Electronic Lab Reporting

## Draft Response

- Lab test request
- Lab result
- Case report
- Test result available notification
- Specimen container shipment
- Specimen context
- Intervention request
- Intervention result report
- Contact list report
- LDIF directory exchange
- Alerts and public health information dissemination

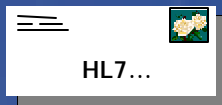
# Model #1

Well formed  
messages with  
standard vocabulary

Need for consistent  
messages across  
clinical sites

**Clinical Care**

**Health Department**



Activities:

- "Code on capture"
- At times aggregate report generation

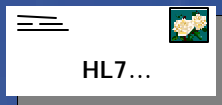
# Model #2

Poorly formed messages with "local" vocabulary

Need for consistent messages across clinical sites

**Clinical Care**

**Health Department**



## Activities:

- Data aggregation
- Message selection
- Message transformation
- Vocabulary Mapping

## Issues:

- Attention of clinical IT staff

# Model #3

Poorly formed messages with "local" vocabulary

Need for consistent messages across clinical sites

## Clinical Care



## Health Department



### Activities:

1. Message selection

### Activities:

- Message transformation
- Vocabulary Mapping
- Data aggregation

### Issues:

- Dependence on PH IT infrastructure

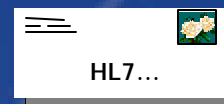
# Model #4

Poorly formed messages with "local" vocabulary

Need for consistent messages across clinical sites

Clinical Care

Health Department



Activities:

1. Message selection

Clearinghouse / Academic Medical Center

Activities:

- Data aggregation
- Message transformation
- Vocabulary Mapping

Issues:

- Cost
- Access to all clinical data

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