

## Interoperability Scenarios

**Care Theme: Public Health**

**Act 14- Biosurveillance – Monitoring and Detection – ILI**

**Scenario Primary Goal:** To demonstrate public health biosurveillance monitoring.

**Key Points:** This scenario demonstrates the following key characteristics/feature/benefits:

- Use of IHE profiles and HITSP constructs to demonstrate monitoring of population and public health reporting, investigation, and statistics
- How clinical data, including laboratory results, are exchanged and analyzed by public health agencies to support population health monitoring. Below describes the clinical scenario that will be demonstrated.
  - Provider submits clinical data to an HIE for analysis and potential reporting to PH; public health lab performs analysis and reporting back to the HIE
  - HIE is key component of connecting providers to public health agencies
  - The NHIN has capabilities to support biosurveillance through the exchange of data between state PH departments and the CDC

### Meaningful Use Relevance

#### MU Objective 4: Improving Population and Public Health

- Capability to provide anonymized electronic syndromic surveillance data to public health agencies [2011 Objectives]

### Clinical Workflow:

A 20 year old female visits a primary care provider. She describes body aches that began 2 days ago and were followed this morning by fever, coughing, shortness of breath, and fatigue. The PCP determines she has Influenza A and, as a sentinel physician, sends a swab to the state lab for H1N1 identification. The State Labs only are confirming influenza samples submitted from sentinel physicians or from flu-related deaths. Local and state public health epidemiologists review clinical data submitted to a regional HIE and observe a dramatic increase in the number of positive Influenza-A labs, indicating the flu season has begun. Data from the State Public Health Department is aggregated into a summary file and transmitted to the CDC where the data are visualized and used to support national surveillance efforts.

Care Scenario Steps:	Care Setting From	Care Setting To	IHE Profiles*	Title	HITSP Constructs	Title
<b>14-1</b> Submit clinical data of influenza like illness (ILI) symptoms to HIE. Submit nasal swab sample to Public Health Lab (physical, not system interaction)	Provider's Office and State Lab	HIE / LHD	XDS-MS (PCC) XD-Lab (LAB)	Medical Summary Sharing Laboratory Results	HITSP/CAP119 HITSP/C32  HITSP/CAP127 HITSP/C37	Communicate Structured Document Encounter Document Using IHE Medical Summary Communicate Lab Results Laboratory Report Document
<b>14-2</b> Multi-patient Query for ILI Data for Analysis by Public Health Officials / Epidemiologists	HIE and Local Public Health	HIE	MS (PCC)  XD*Lab (LAB)	Medical Summary (Encounter Summary) Sharing Laboratory Results	HITSP/CAP119 HITSP/C48  HITSP/CAP127 HITSP/C37	Communicate Structured Document Encounter Document - IHE Medical Summary (XDS-MS) Communicate Lab Results Laboratory Report Document
<b>14-3</b> Aggregate ILI Data, submit to CDC using NHIN	State Public Health Agency	NHIN/CDC	DSUB (ITI)	Document Subscription	NHIN HIEM	Health Information Event Messaging
<b>14-4</b> CDC Analysis of Aggregate ILI Data	CDC		DSUB (ITI)	Document Subscription	NHIN HIEM	Health Information Event Messaging

Health Information Exchange (HIE) Core Services			
IHE Profiles		HITSP Service Collaborations / Constructs	
XDS/MPQ/	Cross-enterprise Document Sharing Multi-Patient Query	SC112 / TP13	Manage Transfer of Documents TP
PIX	Patient Identity Cross-reference	SC112 / TP22	Patient ID Cross-Referencing TP
PDQ	Patient Demographics Query	SC112 / T23	Patient Demographics Query T
ATNA	Audit Trail and Node Authentication	SC112 / T15, T17	Collect and Communicate Security Audit Trail T, Secured Communication Channel T
CT	Consistent Time	SC112 / T16	Consistent Time
DSUB	Document Subscription	SC112 / TP13 NHIN/HIEM	Manage Transfer of Documents TP Health Information Event Messaging