

# Public Health Practice Track

**Speaker Joel Gaydos, MD, MPH**  
**Walter Reed Army Institute for Research**

Investigation of 1976 Swine Flu Outbreak

## *Learning objectives*

- A. Understand epidemiology of the 1976 swine flu outbreak, Fort Dix, New Jersey
- B. Understand the chronological events, social/jurisdictional environment, and resulting decision-making related to the outbreak

**Speaker Don Olson, PhD**  
**New York City Department of Health**

## *Learning Objectives*

- A. State the key goals of influenza surveillance
- B. List current components of US influenza surveillance
- C. Describe strengths and limitations of a syndromic surveillance approach to flu surveillance
- D. Explain why age is a particularly important factor in influenza surveillance
- E. Understand and be able to apply a Serfling model to influenza morbidity data

**Speaker Judith Brillman, MD**  
**University of New Mexico**

## *Learning Objectives*

- A. Understand clinical factors of influenza incidence and diagnosis that can direct the development and affect the value of advance disease surveillance
- B. Differentiate the likely epidemiology of pandemic influenza from that of endemic strains

## The Nuts and Bolts of Syndromic Data Generation

**Speaker Richard Rothman, MD, PhD**  
**Johns Hopkins Hospital**

## *Learning Objectives*

- A. Understand methods of chief complaint coding
- B. Understand Hopkins protocols for classifying presentations of febrile respiratory disease
- C. Understand decision-making aspects of ordering and interpreting laboratory tests

**Speaker Kathy Brinsfield, MD, MPH, FACEP**  
Boston Emergency Medical Services

***Learning Objectives***

- A. Understand 911 call classification protocols
- B. Understand Boston EMS protocols for classifying presentations of febrile respiratory illness (safety pad)
- C. Understanding data collection systems during an MCI (DMATS and patient tracking).

**Speaker Victoria Edge, MSc, PhD**

***Learning Objectives***

- A. Understand how OTC data are collected and categorized - the necessity of researching historical data.
- B. Understand the difference between using spatio-temporal patterns of OTC sales as an early warning alert system and for routine surveillance.
- C. Understand the role of both local public health representatives and pharmacists in an OTC-based syndromic surveillance system.

**Speaker Kim Bushnell, RN MSN**  
Greater Baltimore Medical Center

***Learning Objectives***

- A. Understand the triage process inclusive of quick look and full triage.
- B. Discuss the five levels of the Emergency Severity Index.
- C. Identify the disparity between chief complaint and discharge diagnosis.

## **Biosurveillance Protocols and Outbreak Investigations**

### **Knowing Your Data: Protocols and Investigation**

#### **Speakers**

**Jacqueline Coberly, PhD, JHU Applied Physics Laboratory**

*Syndromic Surveillance Protocols*

**Marc Paladini, MPH, New York City Department of Health**

*Getting the Most Out of a Limited Data Set*

**Dan Drociuk, South Carolina Department of Health and Env. Control**

*Case Study*

**Karl Soetebier, Georgia Department of Health**

*Visualizing Spatial Data*

**Lana Deyneka, MD, MPH, North Carolina Department of Health**

*Reaching Back into Hospital Systems*

**Speaker, Los Angeles Department of Health Services?**

### *Learning Objectives*

- A. To identify the key components of a syndromic surveillance response protocol and how it can be informed by the data.
- B. To further evaluate basic, emergency department syndromic surveillance data by day of week, age, sub syndrome, geography and additional clinical information
- C. To incorporate response protocols and extra data analysis in routine signal investigations.

## **Table Top Outbreak Investigation Exercise**

### **Analytics/Informatics Track**

**Speaker William Lober, MD, MS**  
University of Washington

### *Learning Objectives*

- A. Understand standards for data transmission and security of public health data, including standard protocols
  - a. background/motivation on why security standards are important
  - b. examples of bad ideas
  - c. routine methods (scp, sftp)
  - d. webservices methods (eg. PHINMS)
- B. Understand the potential impact of RHIOs/NHINs on accessing data for public health surveillance
  - a. traditional models of hospital - PH data transmission
  - b. challenges in doing that
  - c. hospital motivations to participate
  - d. what RHIOs are, how that changes hospital motivations
  - e. new models for participation
- C. Understand specific architectures that have been used in demonstration projects for RHIO interaction with public health
  - a. Indiana PHESS system
  - b. UW work defining the value of RHIO for PH
  - c. IHE framework & demonstration syndromic surveillance

**Speaker Wendy Chapman, PhD**  
Department of Biomedical Informatics University of Pittsburgh

### *Learning Objectives*

- A. Understand the types of electronic data generated from an ED visit, along with their timeliness and information value
  - a. Chief complaints

- b. ICD codes
- c. Textual reports
- B. Understand how automated syndromic surveillance systems use electronic ED data
  - a. Classifying ICD codes into syndromes
  - b. Classifying chief complaints into syndromes

**Speaker** Matt Samore, MD  
University of Utah

## **Electronic Medical Record Syndromic Surveillance (EMR-SS) and Real time-clinical Electronic Notifiable Disease Reporting (RT-CEND): Computer rule-based Approaches to Public Health Surveillance**

### *Learning Objectives*

- A. Understand use of the electronic medical record to support detection and investigation of events of public health interest
- B. Learn about natural language processing methods that can be applied to text notes, using the VA electronic medical record as an example
- C. Discuss strategies to support information exchange between public health practitioners, infection control practitioners, and clinicians.

**Speaker** Howard Burkom, PhD  
Johns Hopkins University Applied Physics Laboratory

## Choosing and Tuning Data-appropriate Alerting Algorithms

### *Learning Objectives*

- A. Learn to classify time series for appropriate algorithm selection
- B. Apply spreadsheet-based tools to select and tune alerting methods appropriate to data aggregation by syndrome, time, and geography

**Speaker** David Banks, PhD  
Duke University

## **The Use of Bayesian Reasoning in Daily Health Surveillance**

- A. Understand Bayesian statistical principles relative to traditional frequentist methods in the context of public health decision-making
- B. Get an introduction to Bayesian tools and how a statistician can use them to standardize and extend the procedures of an experienced health monitor
- C. Learn effective approaches for including medical and epidemiological expert knowledge in Bayesian statistics

**Speaker Weng-Keen Wong, PhD**  
Oregon State University

*Learning Objectives*

- A. Understand basic probability principles underlying Bayes Nets
- B. How Bayes Nets can be applied for health surveillance
- C. How to use automated decision-support for routine monitoring

**Speaker Martin Kulldorf, PhD**  
Harvard Medical School

*Learning Objectives*

- A. Learn the basic underlying concepts of the space-time scan statistic.
- B. Learn the difference between the Poisson space-time and the space-time permutation scan statistics.
- C. Learn to recognize and address data issues like missing data, multiple encounters per person and how to adjust for natural geographical and temporal variation such as day-of-week effects.
- D. See results from the application of space-time scan statistics for syndromic surveillance data from California, Colorado, Massachusetts, Minnesota, New York and Texas.
- E. Do a trial run of the space-time scan statistic using their own laptop and the SaTScan software.

**Attendees are requested to bring their own laptops to class and pre-load the SaTScan software, which can be downloaded for free from the [www.satscan.org](http://www.satscan.org) web site.**