

Influenza Outbreak Investigation Kit – Overview and Teacher Background

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This section contains general information about the kit including:

- synopsis of the kit
- information about how the kit curriculum is organized
- learning objectives
- patient data summary/key
- other resources

A. Kit Synopsis and Organization

The *Influenza Outbreak Investigation* curriculum scenario is an outbreak of influenza among a group of people who have all been on the same airline flight. The curriculum includes 32 Patient Cards that contain information regarding: age, date of last influenza vaccine, height, weight, blood pressure, symptoms, etc. These cards have a numbered patient ID on them to protect the privacy of each individual.

The curriculum is designed for students to work in 8 groups of 4, with each group conducting tests and analysis (ELISA, PCR, bioinformatics) on 4 patients.

Background information is provided regarding: the immune system, influenza vaccine formulations, the ELISA test, ELISA test applications, the pros and cons of the ELISA test vs the PCR test, other viruses that cause flu-like symptoms (so teachers can use this curriculum to look at outbreaks of other viruses), and epidemiological statistics (sensitivity, specificity, positive predictive values and negative predictive values of molecular diagnostic tests).

Kit Synopsis and Schedule

Background information for Influenza Outbreak Investigation Unit

Patient Information Cards

Patient Information Cards BLANK

Influenza and Rhinovirus Cards

Immunology Concept Map Icebreaker Activity

B. Learning Objectives and Standards Alignment

Influenza kit standards alignment.docx

Learning Objectives

Influenza kit_ELISA_Learning Objectives.docx

Influenza kit_PCR_Learning Objectives.docx

Influenza Kit_Neuraminidase BLAST_Learning Objectives.docx

C. Patient Diagnosis Key

Influenza Outbreak Patient KEY - ELISA and PCR

D. ELISA and PCR Background Information

ELISA vs PCR Worksheet

ELISA vs PCR Worksheet Key

ELISA Readings and Resources

ELISA Applications Information

E. Other Resources

Historical reformulations of the influenza vaccine