

## Influenza Sentinel Surveillance System (ISSS)



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<b>State Web Site:</b>	<a href="https://chfs.ky.gov/agencies/dph/dehp/idb/Pages/influenza.aspx">https://chfs.ky.gov/agencies/dph/dehp/idb/Pages/influenza.aspx</a>
<b>National Web Site:</b>	<a href="http://cdc.gov/flu/weekly/fluactivitysurv.htm">http://cdc.gov/flu/weekly/fluactivitysurv.htm</a> National Influenza Activity

### **Sources of Information for the Database**

Influenza Like Illness (ILI) is reported by sentinel Local Health Department (LHD) sites. All sites survey absenteeism in a school district, or schools representative of grades K-12, for one day each week. Every site is requested to also survey a nursing home for ILI. LHD sites also survey healthcare providers and hospitals.

Sentinel Health Care Provider (HCP) sites report ILI to the Centers for Disease Control and Prevention (CDC), and obtain specimens for laboratory culture confirmation.

Mandatory reporting of culture confirmed cases within one week is required of laboratories to LHDs. The data obtained are subsequently entered into a database by each LHD.

Long-term care facilities are required by law (KAR 902 KAR 2:065) to report outbreaks of two or more ILIs that occur within a one-week period of time to the LHD immediately. Nationally, the CDC requires notification of all pediatric deaths. Kentucky's Reportable Disease Surveillance law (902 KAR 2:020) requires all influenza-associated deaths be reported, both pediatric and adult. The influenza surveillance system is funded by the federal immunization grant.

### **Description of the Data Collected**

Beginning in October and continuing through May, LHD sentinel sites fax, phone or email weekly reports of ILI counts received from medical practices, nursing homes and hospitals; absenteeism for schools is collected on Tuesdays. The numbers and types of influenza virus isolates from the state public health laboratory are maintained in a

database and reported to CDC. HCP sentinel sites send information about ILI by age group to CDC through an automated online system, or by fax. The state influenza coordinator has access to the computer data. Laboratory confirmed cases, ILI reports from sentinel LHD sites and HCP sentinel sites are considered in determining the state's activity code for each week. This code is reported to the CDC. The information is also compared to previous weeks of the current season and to previous influenza seasons.

In the fall, information on ILIs and absentees for a six week period are used to determine outbreak baseline numbers for LHD sentinel site participants. The baseline for HCPs and hospitals is three ILI occurrences during the six-week period. The nursing home outbreak baseline number is two occurrences during the six-week period. School absentees for six weeks are added together, divided by six and multiplied by two to obtain an outbreak baseline number for each participating school district. Outbreak baseline numbers are used to compare the levels of ILI. The state influenza coordinator uses all the information to make a subjective determination regarding the influenza activity rating for the State Epidemiologist's report each week. Activity levels and definitions are:

- No Activity - No laboratory-confirmed cases of influenza and no reported increase in the number of cases of ILI.
- Sporadic Small - Numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase of cases of ILI.
- Local Outbreak - Outbreaks of influenza or increases in ILI and recent laboratory-confirmed influenza in a single region of the state.
- Regional - Outbreaks of influenza or increases in ILI and recent laboratory-confirmed influenza in at least two but less than half the regions of the state with recent laboratory evidence of influenza in those regions.
- Widespread - Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.
  1. Lab confirmed case is a case confirmed by culture, or PCR. (At the beginning of the season, the State Epidemiologist may report No Activity until there is evidence of culture-confirmed cases in the state, regardless of rapid antigen reports.)
  2. Institutions include: nursing homes, hospitals, correctional facilities, schools, etc. ILI activity can be assessed using a variety of data sources including sentinel providers, school/workplace absenteeism, and other surveillance systems that monitor influenza-like illness.
  3. Region-Geographical subdivision of a state defined by the department of health (DOH). 15 Area Development Districts and 2 Geographical subdivisions are used. The identity of specific isolates from Kentucky and nearby states, information on the age of the person tested and collection date are used to interpret whether outbreaks of ILI's in the state actually represent influenza, and if so, what type and whether the strain is thought to be a close match to the content of the currently available vaccine.

**Strengths of the Data**

The current system has done an excellent job of profiling the influenza activity at the end of each season, comparing its severity and pattern to other seasons, and in identifying the virus or viruses responsible for most of the activity for each particular season. This system complements those of other states and provides valuable input to the process of selecting strains for the following year's vaccine, and to the strategy for annual vaccination campaigns.

**Data Limitations**

One of the limitations of the ISSS is that the system relies on the accuracy and promptness of reporting by the sentinel sites.

**Specific Use of Information**

The activity information can be used to promote influenza immunization, let clinicians know whether the circulating strain is a match for the current vaccine, and whether it is one which will respond to antiviral chemoprophylaxis and therapy. In addition, laboratory information can be used to prepare for the possibility of responding to an influenza pandemic. The public can be informed about which influenza strain is circulating, how influenza activity compares with other years, and what populations are affected. The state influenza coordinator sends a weekly activity report to the Cabinet's Communications Office and the infection control list serve for release to the media.

**System Evaluation**

The system is informally evaluated at the end of each influenza season. Summary information is evaluated by the State Influenza Coordinator, and the coordinator determines how well the system provided answers to the frequently asked questions during the season. The system has not been formally evaluated.

**Data Set Availability**

Only lab-confirmed cases are entered into the system. Lab-confirmed cases are only a fraction of the influenza cases in the general population. The data submission is not mandatory. Kentucky requests information on all influenza-associated pediatric and adult deaths, influenza in pregnant women and individuals with risk factors. Sentinel surveillance depends on each provider or LHD to report weekly. Cost of the data set includes the labor necessary to obtain the information.

**Data Release Policy**

This database is a restricted access system.

**Data Publications**

Reports are published weekly in the FLU VIEW on the CDC website.

**Suggested Data Citation**

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