

CDC INFLUENZA SURVEILLANCE REPORT  
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SPECIAL NOTE

Information contained in this report is a summary of data reported to CDC by State Health Departments, Epidemic Intelligence Service Officers, the influenza diagnostic laboratories collaborating with the International Influenza Center for the Americas, the National Office of Vital Statistics, and other pertinent sources. Much of it is preliminary in nature and is intended primarily for those involved in influenza control activities. Anyone desiring to quote this information is urged to contact the person or persons primarily responsible for the items reported in order that the exact interpretation of the report and the current status of the investigation be obtained. State Health Officers, of course, will judge the advisability of releasing any information from their own States.

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## I. Summary of Information

In the ten-day interval since the publication of the CDC Influenza Surveillance Report #50, reports of outbreaks of respiratory disease have been received with increasing frequency. Texas and the southern half of California, in particular, report widespread waves of febrile respiratory disease. Major urban epidemics are current in Los Angeles, California, several cities in Texas, Detroit, Michigan, and declining in Columbus, Ohio. Other states reporting localized outbreaks are Iowa, Kentucky, Ohio, Tennessee, Nevada, Utah, and Hawaii.

The outbreaks in Detroit, Michigan and Columbus, Ohio are confirmed as being due to A<sub>2</sub> influenza virus. This strain has also been isolated in California, Iowa, and Texas. One isolation of A<sub>1</sub> influenza virus is reported from Texas.

The current analysis of influenza and pneumonia mortality reveals that excess mortality is being reported for the first time since last spring. Most of this excess is found in the East North Central and East South Central areas of the country. No significant departure from the expected seasonal levels are yet seen in the Western and Pacific Coast areas.

## II. Current Status of Influenza in the United States

### A. Reports from States

1. California: Dr. Philip Condit, Epidemiologist, California State Department of Health, reports that the entire southern half of California and the southern part of the Sacramento Valley are currently experiencing widespread outbreaks of clinical influenza.

The Los Angeles metropolitan area, in particular, is reporting a sharp outbreak of febrile respiratory disease, with onset on about January 4th. There have been unofficial reports in the press of up to 500,000 persons being involved, although the actual number is unknown. It should be noted that these reports are of estimated numbers of cases, rather than reported cases only. School and industrial absenteeism have been reported to be about 15%. Clinically, the disease is said to be typical of influenza; and laboratory identification of the etiologic agent is currently in progress, and agents have been isolated but not typed to this date.

Fresno, Merced, and Santa Barbara Counties all have reported marked increases in influenza-like disease, since January 1st. Merced County reported over 4,000 cases. Absenteeism is reported to be about 15%; few schools have been closed, however. Reports from hospitals reveal an increase of from three to four times the usual patient load, with about half of these patients showing influenzal symptoms. There have been two isolations of A<sub>2</sub> influenza virus from individuals in Fresno County. Other specimens from individuals in these counties are currently being processed.

On January 14th, influenza-like disease was reported in increasing frequency in Sacramento, the northern most extension of this outbreak.

Throughout the Southern California area, the clinical impression of practicing physicians has been that the disease is more severe than in 1957, and that an increased incidence of pneumonia is present.

2. Iowa: Dr. Albert P. McKee, State University of Iowa, reported through Dr. Roslyn Q. Robinson, International Influenza Center for the Americas, the isolation of A<sub>2</sub> influenza virus from two patients who had the onset of their illness on January 4th, and presumably lived in or near Johnson County.

Dr. Ralph H. Heeren, Director, Division of Preventable Diseases, Iowa State Department of Health, stated that there had been no reports of outbreaks of influenza-like disease until January 14th, when Davenport reported a sudden increase in respiratory disease. The disease is said to be of approximately the same severity as in 1957. Further laboratory studies are under way with specimens from the Davenport outbreak.

3. Kentucky: A communication from the Kentucky State Health Department reports 6,600 influenza cases in Wayne County (1950 population - 17,000), and 500 influenza cases in Clinton County. Both these outbreaks are now said to be decreasing, and laboratory studies are in progress. No viral agents have as yet been identified.

4. Michigan: Dr. F. S. Leeder, Director, Division of Disease Control, Michigan Department of Health, reported that there has been a sharp outbreak of febrile respiratory illness in Detroit, with onset during the second week of January. School and industrial absenteeism is said to approach 30%. Early increases in influenzal illnesses have also been noted in Flint and Saginaw.

There have been three isolations of A<sub>2</sub> influenza virus from individuals in the Detroit outbreak, and six isolations of the same strain from University of Michigan students in Ann Arbor. An outbreak is said to be in progress among these university students.

5. Mississippi: Dr. Durward Blakey, Director, Division of Preventable Disease Control, Mississippi State Board of Health, reports that there has been a mild increase in respiratory diseases in several counties, but there have been no sharp outbreaks as have occurred in other states.

6. Ohio: Dr. Winslow Bashe, Chief, Division of Communicable Diseases, Ohio Department of Health, reports that the epidemic in Columbus, Ohio, described in the previous CDC Influenza Surveillance Report, is waning. One additional isolation of A<sub>2</sub> influenza virus is reported from an individual in the community, this providing further confirmation of this outbreak as being due to Asian strain influenza. Previous isolation had been reported from inmates of a penitentiary.

Rural outbreaks have been reported in Butler and Auglaize Counties, located in the southwestern and northwestern parts of the State, respectively.

7. Tennessee: Dr. C. B. Tucker, Director, Division of Preventable Diseases, Tennessee Department of Public Health, reports that the outbreak of influenza-like disease in Perry County is subsiding. No viral agents have, as yet, been isolated from this outbreak. In the rest of the State, a moderate generalized increase in respiratory illness has been reported, but no other localized outbreaks.

8. Texas: According to Dr. Howard Smith, Director, Division of Communicable Disease Control, Texas State Department of Health, although extensive outbreaks of influenza-like disease have been reported in San Antonio, Brownsville, Corpus Christi, Austin, and Houston, the epidemic seems to be occurring generally over the State. School absenteeism is reported to approach 35% in many areas throughout Texas, although as yet few schools have been closed.

In Texas, as in California, it is the clinical impression of many physicians that the disease is somewhat more severe than had been noted in 1957 and an unusual incidence of associated pneumonia is observed.

A single isolation of A<sub>1</sub> influenza virus, specifically A<sub>1</sub>/Denver/1/57, was reported from an individual in Fort Worth. Specimens from many areas of Texas are currently being processed for isolation of viral agents.

9. Washington: According to Dr. W. R. Geidt, Chief, Division of Epidemiology, Washington State Department of Health, there have as yet been no reported community outbreaks in that state.

An interesting epidemiological note was received from Dr. R. T. Ravenholt, Epidemiologist, Seattle-King County Health Department. On Friday, January 8th, 15 students at the University of Washington Infirmary were reported to have an influenza-like illness. All had typical influenza, with fever up to 104<sup>o</sup>, chills, marked malaise, myalgias, arthralgias, and all had the onset of their disease from January 4th to 6th. Fourteen of the fifteen students had been in the Los Angeles area during the previous week to attend the Rose Bowl game. Cases are continuing to occur in the student population at the University of Washington.

An elementary school teacher in Seattle similarly had been in the Los Angeles area on January 1st, and became ill on January 4th, the day schools opened in Seattle, but remained in school during that day to teach her classes. One week later, on January 11, nine of her 26 pupils were ill with typical influenza.

As yet there has been no generalized community wave of influenza in Seattle.

## B. Other Reports

According to the National Office of Vital Statistics, there have been sporadic reports of outbreaks of influenza-like disease in Clark County, Nevada, and in Ogden and Kern, Utah. In addition, there was a small outbreak on the Island of Hawaii during the last half of December, with A<sub>2</sub> influenza virus isolated from one specimen. A small rural outbreak was also reported on the Island of Oahu, Hawaii, again with one isolation of A<sub>2</sub> influenza virus.

The present pattern of reported influenza in the United States appears to consist of predominately localized outbreaks, several of which are in major urban centers, with wide involvement of only a few states. Thus far, reported influenza outbreaks have been limited to the West and Midwest.

### III. Current Analysis of Pneumonia and Influenza Mortality

During the week ending January 6, the number of deaths in 108 cities attributed to influenza and pneumonia exceeded the "epidemic threshold" (see figure 1) for the first time since last spring. The geographic divisions east of the Mississippi, especially the East North and East South Central States account for most of this increase; influenza and pneumonia deaths in the Western and Pacific areas of the United States have not shown any marked departure from the expected seasonal level. Details of reports by division for the last six weeks are given in Table 1.

Departures from the seasonal expectancy in the East North Central and West South Central are in part due to an increase in the number of influenza and pneumonia deaths in the cities listed in the table below, which shows the number reported for the past six weeks.

#### Mortality Analysis in East North Central and West South Central Areas

	Week Ending					
	12/5	12/12	12/19	12/26/59	1/2	1/9/60
East North Central						
Chicago	55	27	40	33	63	63
Detroit	9	7	13	9	16	27
West South Central						
Little Rock	5	5	5	5	(--)	12
San Antonio	6	3	8	1	7	18

(--) No Report

As has been noted, influenza outbreaks have occurred in Detroit and San Antonio; no outbreaks have been reported to the Surveillance Section, CDC to this date from either Chicago or Little Rock.

Along the Atlantic seaboard (NE, MA and SA states), the moderate rise from the expected level may be accounted for by small increases among all reporting cities, but no marked rise in any locality.

### Preparation of the Current Chart

The chart (figure 1) showing expected levels of pneumonia and influenza mortality was constructed as in 1958-59 (see CDC Influenza Surveillance Report No. 42, January 9, 1959) by projection of a line consisting of a linear secular trend plus Fourier terms to represent seasonal variation.

In the 1958-9 series two Fourier terms were used but preliminary study this year suggested that a single Fourier term might be adequate and the simpler model was used. The equation for the United States total of 108 cities is

$$y = 300.5 + 2.135 t + 97.56 \cos \left( \frac{2\pi t}{13} - 2.6744 \right)$$

in which  $t$  is measured in units of four weeks with  $t=0$  at the mid-point of the four-week period ending September 24, 1955.

In previous years the projected trend line has been estimated from data for the years 1954-55 through 1956-57. Since a year of post-epidemic data is now available the current charts were estimated from deaths for the year 1955-6, 1956-7 and 1958-9, omitting the epidemic year 1957-8.

Deaths for these years are shown in Table 2 for the United States and for the 108 cities from the United States. It may be observed that an increase in death rates as well as total deaths has occurred. It will also be noted that the increase has been relatively greater over period 1955-6 through 1958-9 than over the period 1954-5 through 1956-7.

The result has been an elevation of the trend-line above its 1953-9 level. If comparison is made with the 1958-9 charts this elevation of the trend-line will account for the fact that minor epidemics in 1958-9 appear to exceed the epidemic threshold by a greater amount than in the 1959-60 charts.

The standard deviation for this year's calculation was somewhat larger than in the 1958-9 series and hence the epidemic threshold (1.65 standard deviation above the trend-line) is relatively higher than on last year's charts.

Table 1. Current Influenza and Pneumonia Deaths  
in 108 United States Cities

Division	Number of Cities in Study Reporting this week		Deaths (including estimates*) during weeks ending:			
	12-5-59 (108 cities)	12-12-59 (108 cities)	12-19-59 (108 cities)	12-26-59 (104 cities)	1-2-60 (99 cities)	1-9-60 (108 cities)
All Divisions	108	487	430	445	389	505
New England	14	41	25	33	22	45
Mid. Atlantic	17	127	123	138	118	138
E. North Central	18	111	74	89	75	129
W. North Central	9	34	30	36	25	18
S. Atlantic	9	44	32	30	29	42
E. South Central	8	38	34	29	28	23
W. South Central	13	35	45	31	45	45
Mountain	8	15	21	15	14	13
Pacific	12	42	46	44	33	52

\* The number of deaths given includes estimates for cities not reporting in a given week. The table is corrected for preceding weeks after receipt of late reports.



Table 2. Pneumonia and Influenza Deaths, United States, 1954-59

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Disease Year <sup>1</sup>	United States <sup>2</sup>		
	Total Deaths	Rate per 100,000 <sup>3</sup>	108 Cities
1954-5	43,658	26.8	15,641
1955-6	46,603	28.1	16,668
1956-7	47,638	28.2	17,276
1957-8	68,840	40.1	25,586
1958-9	55,120	31.5	21,182

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1 September through August

2 Final Figures, 1954-57, 10 percent sample, 1958-9

3 Rates are based on U. S. Bureau of the Census estimates.

#### IV. International Notes

##### A. The Americas

According to a report from the Epidemiology Division, Canadian Department of National Health and Welfare, an outbreak of influenza-like illness was observed in Youngstown, Alberta. About 16 persons were affected, most of them children from 9 - 15 months of age. Several cases were complicated by bronchopneumonia.

Reports received from the Division of Foreign Quarantine, United States Public Health Service, indicate that the island of Jamaica experienced a mild, localized outbreak of febrile respiratory disease in December, and that sporadic cases are continuing to occur.

Columbia reported epidemic influenza in December, with a sharp outbreak in Bogota.

##### B. Europe

An outbreak of influenza-like disease was reported to be spreading through Spain during November and December.

No laboratory confirmations have been received from any of the reported outbreaks of influenza-like disease outside the United States during the past two months.

# FIG. 1 WEEKLY PNEUMONIA AND INFLUENZA DEATHS



----- EPIDEMIC THRESHOLD  
 \_\_\_\_\_ NORMAL INCIDENCE

