

CDC INFLUENZA SURVEILLANCE REPORT

No. 37

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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, collaborating influenza diagnostic laboratories, and other pertinent sources. Much of it is preliminary in nature and is intended 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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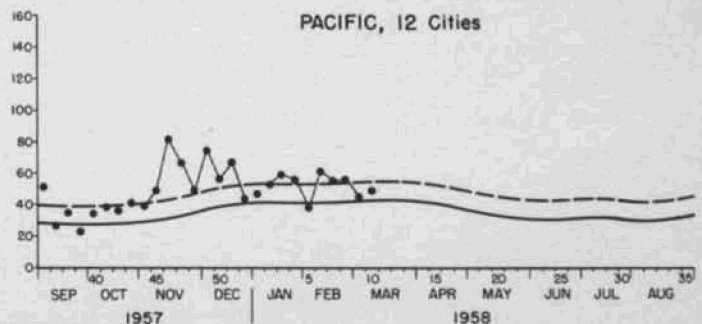
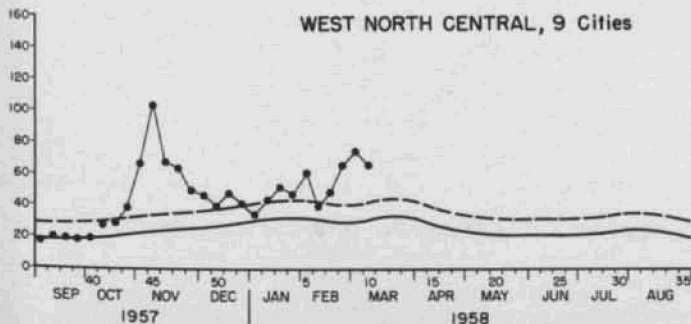
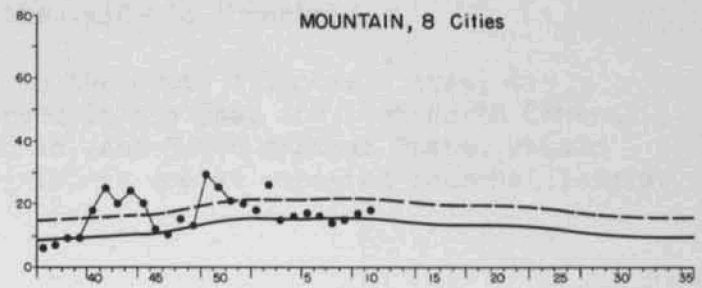
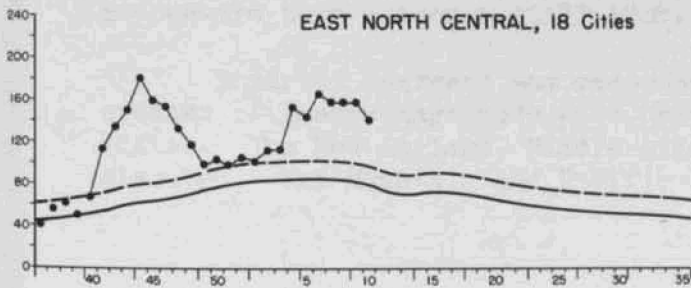
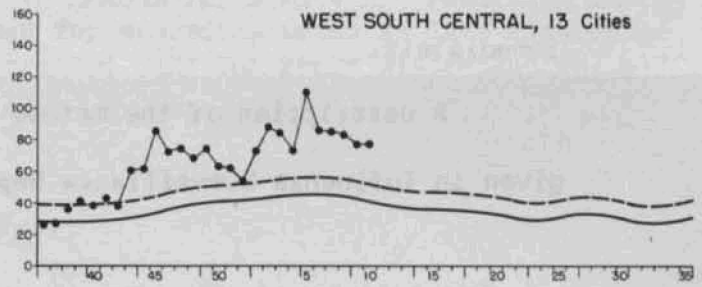
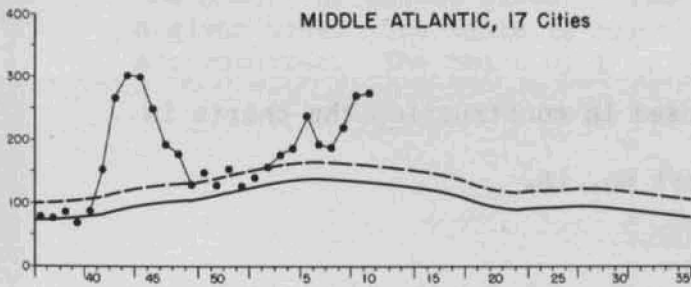
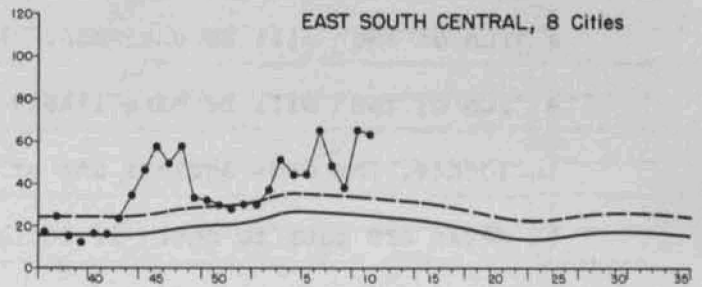
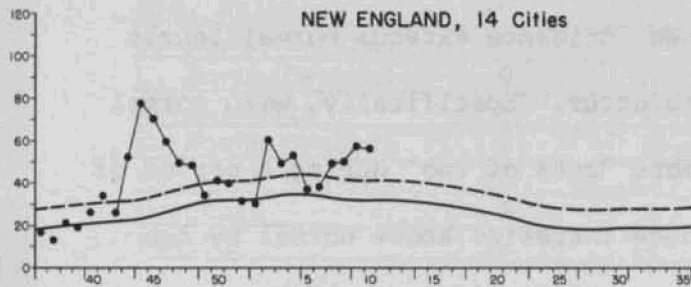
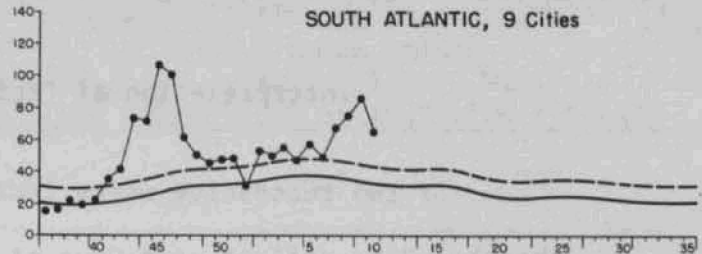
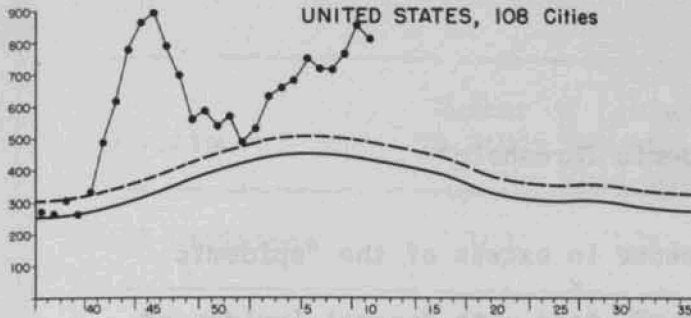
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I. Summary

Deaths due to influenza and pneumonia for the 108 reporting cities of the United States showed a decrease 839 from the figure of 847 for last week. With the single exception of the Florida report of a community-wide epidemic of influenza-like disease (see Influenza Surveillance Report No. 36), which has not been confirmed as due to the Asian strain, we have no reports of epidemic influenza occurring on a large scale during the past two months. There is, however, increasing evidence that the Asian strain is still prevalent in many parts of the country. A number of confirmations from small outbreaks have been reported to this Unit recently. These are summarized in the current report. In addition, several dozen deaths following complications of confirmed Asian strain influenza have been reported to us since early February. It is apparent that school-age and young adult populations are not being significantly affected by influenza at this time. A review of industrial absenteeism in this report suggests that the susceptible industrial populations were exhausted in the fall. The same is true for the children of school-age. On the other hand, the susceptibles of the older population, relatively isolated from contact with the highly affected population groups of the fall, were apparently not exhausted by January. Deaths from influenza and pneumonia since January 1 have occurred predominantly among the oldest segments of the population.

WEEKLY PNEUMONIA AND INFLUENZA DEATHS

----- "EPIDEMIC THRESHOLD"
 _____ "NORMAL INCIDENCE"
 (SEE EXPLANATION ON BACK OF SHEET)



NUMBER OF DEATHS

Interpretation of "Epidemic Threshold"

If two successive weeks incidence in excess of the "epidemic threshold" is defined as a "run of two", then with "normal incidence" a "run of two" will be uncommon. When incidence exceeds normal levels a "run of two" will be more likely to occur. Specifically, with normal incidence, the odds against one or more "runs of two" during a period of 52 weeks are four to one. If incidence increases above normal by two standard deviations the odds are even that a "run of two" will follow immediately.

A description of the method used in constructing the charts is given in Influenza Surveillance Report No. 16.

II. Current Analysis of Influenza and Pneumonia Mortality*

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

Division	Number of Cities		Deaths (including estimates**) during weeks ending		
	In Study	Reporting this week	Feb. 22 (108 cities)	Mar. 1 (108 cities)	Mar. 8 (106 cities)
All Divisions	108	106	764	847	808
New England	14	13	51	57	56
Mid. Atlantic	17	17	222	270	273
E. North Central	18	18	157	158	141
W. North Central	9	9	66	75	66
S. Atlantic	9	8	75	86	65
E. South Central	8	8	38	62	63
W. South Central	13	13	84	77	77
Mountain	8	8	15	17	18
Pacific	12	12	56	45	49

**The number of deaths given includes estimates for cities not reporting in a given week. The table is corrected for preceding weeks as late figures are received. The chart will be corrected only for gross discrepancies.

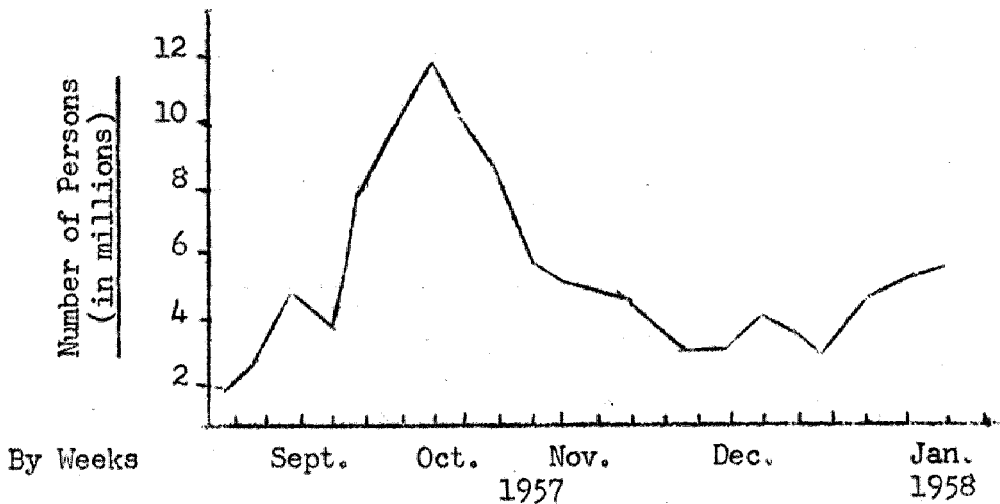
Comment

Nationally, the number of pneumonia and influenza deaths showed a downward turn although still above the epidemic threshold.

A marked decrease was recorded in the South Atlantic States; decreases of lesser magnitude were observed in the East and West North Central States. The New England, Middle Atlantic, and South Central States remain elevated. The Mountain and Pacific Divisions are at expected seasonal levels.

III. Data from National Health Survey (Under the direction of Dr. F. Linder)

New Cases



ACUTE UPPER RESPIRATORY DISEASES*
Estimates for continental United States

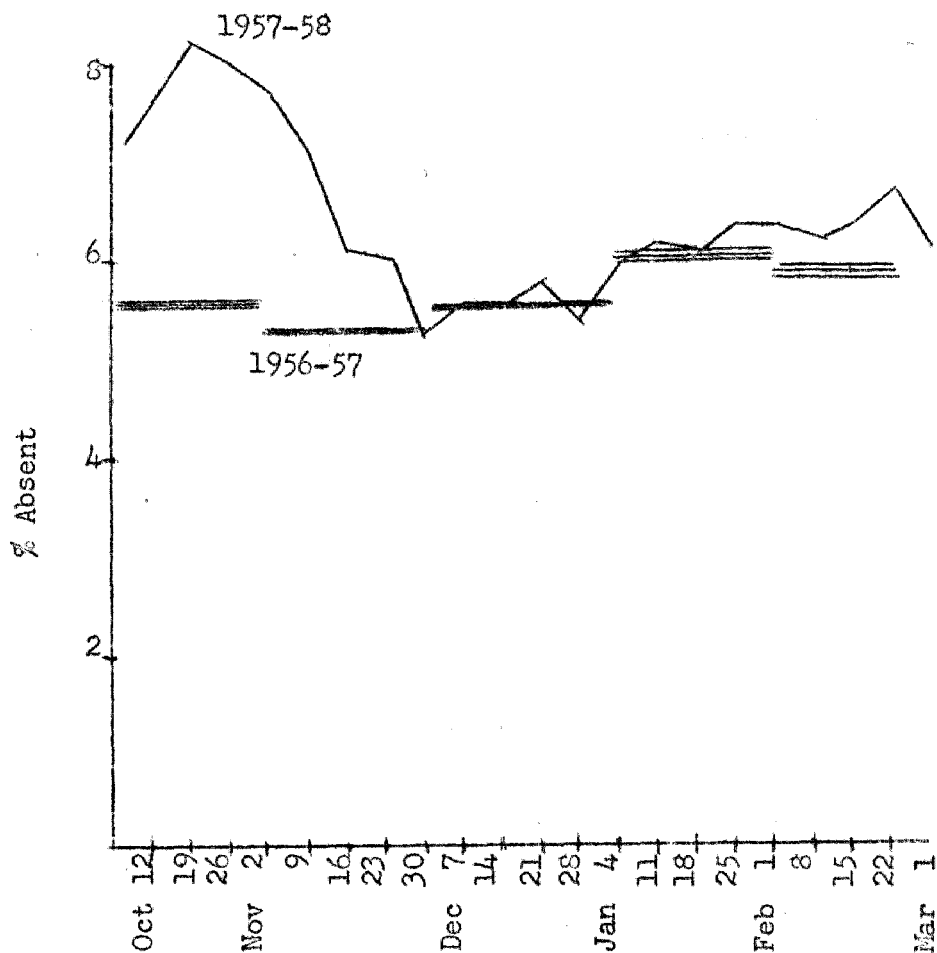
Week	New Cases Involving One or More Days of Bed Disability
Oct 27 - Nov 2	9,808,000
Nov 3 - 9	8,297,000
Nov 10 - 16	5,648,000
Nov 17 - 23	5,305,000
Nov 24 - 30	3,339,000
Dec 1 - 7	4,271,000
Dec 8 - 14	3,667,000
Dec 15 - 21	3,241,000
Dec 22 - 28	3,430,000
Dec 29 - Jan 4	4,092,000
Jan 5 - 11	3,680,000
Jan 12 - 18	3,200,000
Jan 19 - 25	4,386,000
Jan 26 - Feb 1	4,723,000
Feb 2 - 8	**5,299,000

*Including influenza, pneumonia, and other similar conditions.

**Provisional.

The above data are compiled from the household interview survey which is a part of the program of the U. S. National Health Survey. The household survey is conducted by trained and supervised lay interviewers. The weekly samples consist of interviews for about 700 households or 2,200 persons. Since data are collected for the two prior weeks, each week's interviewing gives information on 4,400 person-weeks of health experience. Approximate sampling errors are in the range of 15%. The estimates of sampling error do not include allowance for error of response and non-reporting.

IV. Review of Industrial Absenteeism



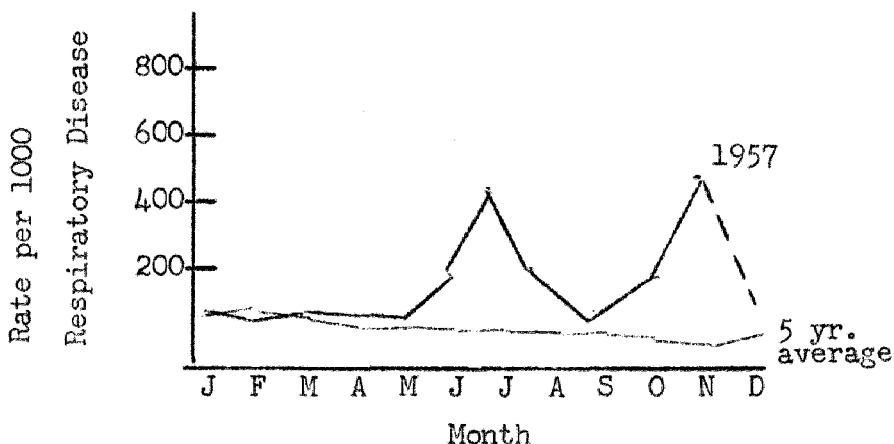
Industrial absentee data from 36 U.S. cities is summarized above. Rates for 1957-58 are determined by dividing the total scheduled working days per week by the total days absent. The monthly averages for 1956-57 represent the mean of the weighted averages of the 36 cities. There is good agreement between the National Health Survey and industrial data regarding the peak week of October 19. During December and January absenteeism was remarkably in line with the previous years monthly average. Part of the February elevation may be due to bad weather, particularly February 22, the week of the snowstorm in the East. It is quite clear that the current excess death rate rose prior to industrial absenteeism, and that the present rate of absenteeism is not consistent with epidemic influenza.

V. Recent Communications

Outbreaks - Outbreaks of influenza are still occurring all over the country, although the numbers of persons involved are relatively small. Some of these localized epidemics are listed below to illustrate:

<u>Location</u>	<u>Date</u>	<u>No. Cases</u>	<u>Virology</u>
Wilmington, Vermont	Feb 24	9+	in process
Atlanta Vets Hospital	Mar 1	10+	Positive Asian
Atlanta Penitentiary	Mar 1	20+	in process
Charleston, Navy	Feb 25	6+	Positive Asian
Ohio, Nursing Home	March	60	in process
New Jersey, School	Feb 12	21	Not done
University Alabama	Feb 25	5+	Positive Asian
St. Louis School, Nursing	Feb 1	12	Positive Asian
West Virginia (3 counties)	Feb 22	200	Not available
New Orleans, Hospital	Feb 14	8	Positive Asian

Second Wave - There has been no clear cut "second wave" of influenza cases in this country, although a definite "second wave" of influenza-pneumonia deaths has occurred. The November 1957 issue of Health of the Army demonstrates a very distinct second epidemic among American troops in Japan and Korea as measured by respiratory disease admissions. The first peak occurred in mid July and a second peak in early November. The two epidemics were of approximately the same size. Mortality was extremely low in both epidemics among troops.



VI. Investigations of Deaths

1. St. Louis, Missouri - Data supplied by Miss Grace Donovan, PHS Nurse, Kansas City Field Station, and Dr. Earl Smith, City Health Officer, St. Louis, Mo.

St. Louis is one of the large cities which has had a recent sharp increase in mortality. For the first five weeks of 1958 the number of total deaths was 1418 compared with 1212 the previous year. Influenza-pneumonia deaths were 110 as compared with 41 in the previous year. The 110 influenza-pneumonia deaths were investigated to determine age distribution and other related factors which might explain their cause.

It is interesting to note the place of occurrence of the deaths. Eighty one died in hospitals or nursing homes, twenty-five at home, and three were dead on arrival. A total of 51 autopsies were performed, but results have not yet been tabulated.

The age distribution of deaths is listed below:

<u>Age</u>	<u>Number of deaths</u>
0-9	8
10-19	0
20-29	1
30-39	4
40-49	8
50-59	20
60-69	22
70+	<u>47</u>
	110

Fifty-five percent of the influenza-pneumonia deaths were males.

Only two of the 110 deaths were diagnosed as being influenza-related. The remaining 108 were due to pneumonia alone (48%) or to pneumonia in association with chronic illness. The most prominent associated cause was cardiovascular disease, although carcinoma and chronic lung disease were common. None of the deaths was associated with pregnancy.

These data tend to confirm our belief that the pneumonia deaths are not occurring in influenza epidemics. Although influenza may be the underlying cause, the clinical and epidemiologic picture was observed in only 2 of the 110 deaths, which is in marked contrast with the fall epidemic when 25-50% of influenza-pneumonia deaths were clearly associated with influenza. If attempts at virus isolation were made in every pneumonia death, the diagnosis might be made more often. This is discussed on the next page of this report.

2. Pennsylvania - Reported by Florence S. Lief, Ph.D., University of Pennsylvania, Reference Laboratory for Pennsylvania Department of Health.

Twenty-four fatal cases of respiratory disease have come to the attention of the laboratory since January 1, 1958. The available bacteriological, pathological, and virological findings are listed below. It should be noted that of 21 cases in which virological diagnosis has been completed, Asian influenza was isolated in three. In three others a significant antibody titer to Asian strain was found in post mortem blood. Dr. Lief points out that where virus was obtained, the specimens had been delivered promptly to the laboratory, and past experience has shown that a lower rate of isolation occurs when specimens are sent from long distances. Thus, the failure to isolate virus does not necessarily preclude its original presence.

Although these cases are somewhat selected in that the clinical diagnosis was usually viral pneumonia, the 6 positives out of 21 tested is striking.

<u>Age</u>	<u>Sex</u>	<u>Days from Onset to Death</u>	<u>Clinical Diagnosis</u>	<u>Asian Virus Isolation</u>	<u>Other</u>
6 mo.	M	5	Viral Pneumonia	Lung neg.	
3	M	22	Encephalitis	Lung neg.	CF=1:256
58	F	8	Influenza	Lung <u>pos.</u>	
38	F	5	Viral Pneumonia	Lung neg.	
36	F	2	Influenza	Lung neg.	Staph
7 wk.	F	21	Pneumonitis	Lung neg.	
27	M	6	Influenza	Lung <u>pos.</u>	Staph
35	M	2	Influenza	Lung <u>pos.</u>	Staph
20 mo.	F	?	Pneumonia	No tissue	Low CF
50	F	2	Pneumonitis	Lung <u>pos.</u>	
79	F	?	Influenza	Lung neg.	Staph
60	M	?	Viral Pneumonia	Lung neg.	
40	M	2	Influenza	Lung neg.	High CF
38	M	6	Viral Pneumonia	Lung neg.	
1 wk.	M	1	Viral Pneumonia	Lung neg.	
63	M	8	Viral Pneumonia	Lung neg.	
2½	M	3	Viral Pneumonia	Lung neg.	Sterile Lung
Infant	M	-	Viral Pneumonia	Lung neg.	
47	M	7	Viral Pneumonia	No tissue	
-	M	-	Sarcoma, Flu	Lung neg.	
-	F	-	Brain Tumor	Lung neg.	