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CDC INFLUENZA REPORT
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U. S. Department of Health, Education, and Welfare
Public Health Service Bureau of State Services
Communicable Disease Center
Robert J. Anderson, Chief

Keith E. Jensen, PH. D.
CDC Virus and Rickettsia Section*
P. O. Box 61
Montgomery 1, Alabama
Telephone No. AMherst 3-4468

Robert H. Drachman, M. D.
Frederick L. Dunn, M. D.
Influenza Surveillance Unit
Communicable Disease Center
50 Seventh Street, N. E.
Atlanta 23, Georgia
Telephone No. TRinity 6-3311
Extension 5455

*Serving as WHO International
Influenza Center for the Americas

SPECIAL NOTE

Information contained in this report is a summary of data reported to CDC by State Health Departments, Epidemic Intelligence Service Officers, National Office of Vital Statistics, collaborating influenza diagnostic laboratories, and other pertinent sources. Much of it is preliminary in nature and is primarily intended for those involved in influenza control activities. It is understood that the contents of these reports will not be released to the press, except by the Office of the Surgeon General, Public Health Service, U. S. Department of Health, Education, and Welfare. State Health Officers, of course, will judge the advisability of releasing any information from their own states.

Table of Contents

- I. Summary of Information
- II. Epidemic and Case Reports
- III. Progress Reports
- IV. Influenza Virus Studies
- V. Summary Tables - Cases and Outbreaks
- VI. Appendix - International Summary
 - a. Map
 - b. Summary chart

I. Summary of Information

An outline of the paths of travel and dates of appearance of Asian strain influenza in various parts of the world is appended to this Report. The extensive outbreaks seen in the Far East are contrasted with the relatively sporadic nature of the illness as seen, so far, in Europe and the United States.

Further information about the previously mentioned egg-animal-line of virus used in H-I tests at the Influenza Virus Center is contained here. The periodate treatment of serum to remove nonspecific inhibitor is also described.

Several airmen flying from Chile to Miami, Florida developed an influenza-like illness enroute. Specimens were obtained in Miami. Santiago, where the flight originated, is presently experiencing an outbreak of influenza.

A mild outbreak of febrile respiratory disease among Boy Scouts in a Missouri camp is outlined. Further influenza cases among Boy Scouts who attended the Jamboree are reported from Texas, New Mexico, and South Carolina. Asian strain has been isolated from a Texas Boy Scout.

Asian strain influenza virus has been isolated in New York State and infection detected serologically in Connecticut among returned Grinnell delegates. Despite 34 cases of influenza among those returned to Pennsylvania from Grinnell, only three secondary cases have been noted incident to them.

II. Epidemic and Case Reports

8-A MISSOURI, Osceola

(Reported by Dr. E. A. Belden, Missouri Department of Public Health and Welfare and Dr. Tom Y. Chin, Assistant Chief, CDC, Kansas City Field Station.)

About 68 cases of an influenza-like illness have been reported from a Boy Scout camp at Osceola. Twelve hundred scouts were at the camp at any one time. On July 22, a new group arrived at the camp. On July 24, one scout developed a febrile respiratory illness. On July 25, a scout who had been at the Valley Forge Jamboree became ill, as did eight others in his troop. On succeeding days, two, four, seven, nineteen, ten, and sixteen (on July 31) scouts were reported to have developed similar illness. Symptoms were very mild -- cough rarely noted. No cases appeared among adults. Representative blood specimens and throat washings were obtained.

8-B FLORIDA, Miami

(Reported by Dr. Hoffert, Florida State Department of Health, Dr. Tabos, Dade County Health Department, Dr. M. Sigel, University of Miami School of Medicine)

Five crew members of two airliners from Santiago, Chile developed influenza-like illness enroute to Miami, Florida. One airplane with three cases aboard landed on July 28th and the other with two cases arrived in Miami on August 1. Considerable coryza accompanied the influenza symptoms. One passenger who deplaned at Panama was also ill enroute. The flight from Santiago to Miami takes 24 hours with four fuel stops during this time. Throat washings and blood specimens are presently under laboratory study. At this time, influenza is reported to be epidemic in Santiago, Chile.

III. Progress Reports

8-C BOY SCOUT JAMBOREE (See CDC Influenza Report 3-D, 4-H, 5-F, 6-E, 7-C, 7-D)

Dr. J. E. Peavy, Texas State Department of Health, reports that cases of influenza among Texas Boy Scouts returned from the Jamboree have increased to 40. Asian strain influenza virus has been isolated from one case.

Dr. John Mason, New Mexico Department of Public Health, reports that 10 Las Cruces scouts were ill with influenza en route home or developed the illness within 1-2 days after arrival home on July 24. There has been one secondary case in a brother of one patient. The Las Cruces group of 12 scouts returned to New Mexico in a chartered train with 529 other New Mexico and Texas scouts. Twenty cases occurred en route on the train. One of the scouts on the train had been ill at Valley Forge, and developed a complicating pneumonia which was diagnosed in Detroit. Two scouts and two scout leaders from El Paso, Texas were reported ill after arrival home.

Dr. G. E. McDaniel, South Carolina State Board of Health, states that two Boy Scouts, returned from the Jamboree, and one sister contact in Sumter, South Carolina, have developed influenza-like illness.

From Dr. M. E. Rindge, Connecticut State Department of Health, comes further information on the influenza outbreak among California scouts travelling in New England. Of the 300 scouts who visited the New London Submarine Base on July 24, eighteen became ill at the Base and remained there overnight. Sera and throat washings were not obtained. These cases are in addition to those hospitalized earlier in Boston (see CDC Influenza Report 6-C). The 18 cases were apparently mild for they continued to New York City on July 25 with the main group.

8-D Grinnell (Iowa) Conference Outbreak

(See CDC Influenza Report 1-J)

Drs. J. L. Freitag and E. Whitney, New York State Department of Health, report the isolation of Asian strain influenza from an adult living in Troy. This case was directly related to the Grinnell outbreak. Isolation was effected in eggs and monkey kidney cell systems.

Dr. Mila Rindge, Connecticut State Department of Health reported serologic evidence of Asian strain influenza infection in Grinnell delegates ill after return home and in a secondary case. A rise in antibody titer of convalescent blood specimens was detected at the State laboratory.

Dr. W. Schrack, Pennsylvania State Department of Health, has circularized the 151 students from the State who attended the Grinnell conference. To date, 34 instances of illness after return home were noted. Only three secondary cases have occurred among contacts.

IV. Influenza Virus Studies

The Asian type A isolate, A/Japan/305/57, after transfers in eggs, ferrets and mice and subsequently back into eggs is currently being used at the Influenza Center in hemagglutination-inhibition tests. Comparison of results obtained with this virus and the line carried only in eggs indicates that the animal-passaged virus is more sensitive to antibody and non-specific inhibitor. This observation has been made repeatedly in the past with other type A isolates. Before the more sensitive virus is useful in H. I. tests, however, it is necessary that non-specific inhibitors be removed from the sera in order to measure antibody content. Many laboratories have found filtrates of Vibrio Cholerae cultures or trypsin valuable for this purpose. The current method of choice at the Center is to mix one volume of serum with two volumes of freshly prepared M/100 potassium periodate and hold overnight at 4° C. The next morning a volume equal to that of the periodate of 1% glycerol in saline is added to stop the action of the periodate. This treatment has resulted in complete destruction of inhibitors without reduction of antibody titers in human, ferret and chicken sera. The method was first described by Burnet and Lind (Australian J. Exper. Biol. and M. Sc., 32:145-151, 1954) and the steps outlined above contain only slight modifications.

Using the more sensitive line and periodate treatment of sera, many more cases of infection with the Asian type A viruses can be diagnosed using the H. I. test than with the egg line. In C. F. tests the egg line virus is as satisfactory as the animal passaged virus, however, and cases can be detected readily.

Sera from vaccine potency experiments are also being tested using both lines of virus in H. I. and C. F. tests. Again, many more antibody titer increases are demonstrable using the animal line in H. I. tests. The number of responses measured in C. F. tests with either virus appears comparable to that obtained with the sensitive line in H. I. tests.

V. Summary Tables - Cases and Outbreaks

TABLE I

Confirmed Outbreaks and Cases of Influenza due to Asian Strains, United States
June 1--August 1, 1957

Dates of Outbreaks	Location	Type of Population	Population at Risk	No. with Influenza-like Illnesses	Deaths	Laboratory Diagnosis by		CDC Influenza Report Number
						Virus Isolation	Serology	
May 20-- June 18	CALIFORNIA San Francisco	Ships from Far East	c.9500	800+	1		Yes	1-A
Early June	RHODE ISLAND Newport	Crews of several naval vessels	?	Attack rates 18-45%	0	Yes		1-B 2-G
Mid-June	CALIFORNIA San Diego	Naval Training Station Recruits Station Personnel	c.4500 c.6600	3159 753	0 0	Yes (6-21-57)		1-C
June 5-11	CALIFORNIA San Diego	Crew of naval vessel	130	78	0	Yes		1-C
June	HAWAII	Military personnel Military dependents Civilians	?	527+ 103+ 300+	0 0 0		Yes	1-E
Late June	CALIFORNIA Monterey	Fort Ord Army Base Army Personnel	?	4000+	1	Yes	Yes	1-H 2-F
Mid-June	OHIO Cleveland	Military man from Far East	Single case		0	Yes		1-D
June 24	OHIO Cleveland	Hospital orderly Young female	Single case Single case		0 0	Yes	Yes	2-A 4-F
June 17-25	CALIFORNIA Davis	High school girls and adult leaders College students* and adult leaders	391 24 1688	224 4 200+	0 1 0	Yes Yes Yes	Yes Yes Yes	1-G 3-J 1-J
June 26-- July 2	IOWA Grinnell	High school students and adult leaders	37	30	0	Yes	Yes	1-K
July 1--5	UTAH Salt Lake City	High school students Exposed residents	64 Single case	11	0	Yes		2-E 3-A
July 5	KENTUCKY Louisville	Traveller from the Philippines	Single case		0	Yes		

*See Table IV for further reports of influenza among delegates after return home.

TABLE I (Continued)

Dates of Outbreaks	Location	Type of Population	Population at Risk	No. with Influenza-like Illnesses	Deaths	Laboratory Diagnosis by Virus Isolation	CDC Influenza Report Number
July 11-18	PENNSYLVANIA Valley Forge	International Boy * Scout Jamboree	53,000	c.1000	0	Yes	3-D 5-F
July 11-13	KENTUCKY Morris Fork	Isolated encampment	24	12	0	Yes	4-C 5-E
June 19-23	VIRGINIA Norfolk	Pakistani ship previously at Newport, Rhode Island	?	57	0	Yes	6-A
Early July	TEXAS Corpus Christi	Naval Air Station	?	33	0	Yes	5-C 6-B
June 20-25	CALIFORNIA San Mateo County	Boys camp - 15-17 year olds	53	36	0	Yes	1-F 6-Note

* See Table V for further reports of influenza among Boy Scouts returning from the Jamboree.

TABLE II

Unconfirmed Influenza-like Illness, Outbreaks - United States
June 1--August 1, 1957

Dates of Outbreaks	Location	Type of Population	Population at Risk	No. with Influenza-like Illnesses	Deaths	Specimens Obtained		CDC Influenza Report Number
						Throat Washings	Blood	
May 29-- June 7 June 16	CALIFORNIA Solano County	Mare Island Naval Yard - Marines Crew of cruiser moored in harbor	75 ?	38 187	1 from bacterial pneumonia	Yes	Yes	1-I
June 22-- early July	CALIFORNIA Oceanside	Camp Pendleton Marine recruits	40,000	2511	0	Yes	Yes	2-D
Mid-July	CALIFORNIA Fresno, Sonoma, Los Angeles Counties	Three summer children's camps	800	c.100	0		Yes	3-E
July 8-12	CALIFORNIA Los Angeles	City Jail	?	200 ^f	0	Yes	Yes	3-F
July 8	CALIFORNIA Santa Clara	Juvenile Hall, teenage boys and girls	60	3 ^f	0	Yes	Yes	4-A
Mid-July	LOUISIANA Grant Parish	Girls Camp	60	30-35	0	Yes	Yes	4-B
June 26-- Early July	ILLINOIS Champaign Co.	Air Force Base	?	610 ^f	0	?	?	4-D
July 4-19	WASHINGTON Fort Lewis	Military Personnel	?	c.250	0	Yes	?	5-A
July 17	WASHINGTON Seattle	Military transport arriving from the Orient	2000 crew and passengers	302 en route, 18 on arrival	0	Yes	Yes	5-B 6-C
Mid-July	CALIFORNIA Fresno and Sonoma Cos.	Migrant farm workers	?	50 ^f	0	Yes	Yes	6-F 7-E
July	CALIFORNIA Sacramento Co.	Air Force Base personnel	?	300-500	0	Yes	Yes	7-B

TABLE II (Continued)

Dates of Outbreaks	Location	Type of Population	Population at Risk	No. with Influenza-like Illnesses	Deaths	Specimens Obtained		CDC Influenza Report Number
						Throat Washings	Blood	
July 11	IDAHO Ketchum	Children's camp	?	39	0	Yes	Yes	7-A
July 25-31	MISSOURI Osceola	Boy Scout Camp	1200	68	0	Yes	Yes	8-A
July 28 and Aug 1	FLORIDA Miami	Airline Crewman (Planes arrived from Chile)	?	5	0	Yes	Yes	8-B

TABLE III

Outbreaks of Febrile Respiratory Disease - Etiology Other Than Influenza or No Specimens Obtainable
June 1--August 1, 1957

Date of Outbreaks	Location	Type of Population	Population at Risk	No. with Influenza-like Illnesses	Deaths	Specimens Obtained		CDC Influenza Report Number
						Throat Washings Yes Negative for influenza	Blood Yes	
Early July	MISSOURI Columbia	Townpeople	?	2007	0	Yes		1-L
Late June through mid-July	CALIFORNIA, San Mateo, Santa Cruz, Sonoma, Tuolumne, Plumas, Fresno, San Diego, Los Angeles Counties	15 children's summer camps	c.2540	c.390	0	0		1-M 4-E

TABLE IV

Reported Influenza-Like Illness among Returning Delegates from Grinnell (Iowa) Conference
Through August 1, 1957

Date of Illness (Reported)	Location	Number Ill After Conference	Number of Secon- dary Cases in Contacts	Laboratory Confir- mation Asiatic Strain Influenza	CDC Influenza Report Number
June 26--July 2	Grinnell, Iowa	(200 7 of 1688 ill at conference)		Yes	1-J
July 5	KENTUCKY Louisville Lexington	24	—	Yes	2-B
Early July	INDIANA Indianapolis Evansville	24	—	No	2-C
Early July	ILLINOIS Decatur, Edwards- ville, Peoria, Chicago	64	—	No	—
Mid-July	NEW MEXICO	15	2	No	3-B
Mid-July	CONNECTICUT	3	1	Yes	3-C, 8-D
Mid-July	NEW YORK	4	2	No	5-D, 8-D
Mid-July	MINNESOTA	15	—	No	—
Mid-July	COLORADO Denver	1	—	No	—
Mid-July	NORTH CAROLINA	3	4	No	—
Mid-July	MARYLAND	1	—	No	—
Mid-July	WISCONSIN	24	—	No	—
Mid-July	IDAHO	54	—	No	—
Mid-July	PENNSYLVANIA	344	3	No	8-E

TABLE V

Reported Outbreaks of Influenza-like Illness among Boy Scouts Returning from the Jamboree
Through August 1, 1957
(See CDC Influenza Progress Report 6-E, 7-D)

Date of Report	Final Destination of Group	Mode of Transportation	No. Ill	Illness En Route Home	Illness after Arrival	Laboratory Confirmation of Asian Strain Influenza	Reported From
July 23	Southern California and Hawaii, except Los Angeles	Train	27	Yes	—	—	Louisiana
July 23	Connecticut	Train	1	—	Yes	—	Connecticut
July 23	San Francisco via New England	Train	46 ^A	Yes	—	—	Boston and New London, Conn. Marion County, South Carolina
July 23	South Carolina	Train	4	—	Yes	—	Roanoke, Va.
July 24	Baton Rouge, Louisiana	Train	2	Yes	—	—	Texas
July 24	Austin, Texas	?	40	—	Yes	Yes	New Mexico
July 30	El Paso, Texas	Train	24 ^A	Yes	Yes	—	Yellowstone, Wyo. and Mont.
July 25	San Francisco	Train	200 ^A	Yes	—	—	Mississippi
July 25	Jackson, Mississippi	Train	?	—	Yes	—	Alabama
July 29	Jackson, Alabama	?	4-5	Yes	Yes	—	Alabama
July 29	Thomasville, Alabama	?	5	Yes	Yes	—	Missouri
July 31	Missouri, Osceola	Train	100 ^A	—	Yes	—	New Mexico
July 30	New Mexico	Train	11 ^A	Yes	Yes	—	

Asian Strain Influenza 1957International Summary Through July 30, 1957

By Frederick L. Dunn, M. D.

The new Asian strain influenza, although a clinically mild infection, has spread so rapidly and extensively that it must now be termed pandemic. At this writing the disease has apparently touched all continents. To date it has swept through the countries of the western Pacific, Southeast Asia, and the Middle and Near East. It has reached the east coast of Africa, and jumped into several parts of Europe. It has touched many points in Oceania, and has solidly established itself in North America. Alaska and Greenland have had small outbreaks and now, at the end of July, influenza is reported in South America--vigorous outbreaks in Santiago and Valparaiso, Chile (Asian strain not yet confirmed).

The early history of the present pandemic is obscure and, in all likelihood, the point (or area) of origin will never be determined. In the first week of April the first report of epidemic influenza in Asia appeared--a report of disease sweeping Shanghai, Nanking, Wuhan, and Peking in Communist China in the early spring. Later it was learned that there had been similar cases in Canton, which is immediately inland from Hong Kong.

The month of April

Probably starting from the mainland of China, influenza moved, by way of Hong Kong, into several major areas of the Far East during April.

HONG KONG.--Probably in the first week of April the first cases of influenza arrived in Hong Kong, apparently in refugees from Communist China. By the week ending April 12, the disease was epidemic and continued so through April. The new Asian strain of virus was isolated. The disease was noted to be mild, characterized chiefly by fever, headache, myalgia, malaise, and sore throat. The mortality was very low; the over-all attack rate, about 15-20%. The epidemic subsided by the middle of May.

SINGAPORE.--In mid-April influenza appeared in Singapore, introduced probably by ships. During the second half of April, approximately 10% of the total population was affected. Clinically the disease was similar to that in Hong Kong, and the mortality rate apparently low. Prof. J. H. Hale is quoted in the World Health Organization Influenza Report for July 3: "We can only trace about 24 deaths in Singapore attributable to flu. These were in young children and were the result of complications such as bronchopneumonia. Two cases showed interstitial pneumonia and we were able to isolate the virus from the lungs. One significant fact worth mentioning is that the over-all reports of deaths in the city (from any cause) were much higher during the epidemic than at any other time."

Professor Hale described the Singapore Naval Base outbreak at an informal influenza meeting at the Fourth International Poliomyelitis Conference. The following information is from his report.

The outbreak lasted 38 days in May and early June, with more than half the cases between May 9--18. Attack rates were as follows:

<u>Population</u>	<u>No. at risk</u>	<u>No. ill</u>	<u>Attack rate</u>
Singapore Naval Base Personnel - Total	18,391	3383	18.4%
Asians	17,145	3296	19.2%
Europeans	1,246	87	7.0%

Two hundred ninety-eight cases were hospitalized, all Asians. There were 41 complications among these, including 15 with pneumonia and 16 with bronchitis. Most of the hospital admissions were in the youngest and older age groups, with relative few cases in young adults.

TAIWAN.--Whether influenza moved to Taiwan by ship or air or both is not clear. Probably the source of these cases, primarily or secondarily, was Hong Kong. Cases began to appear in late April and continued through June 13. An estimated 1,500,000 people were attacked. There was no unusual increase in mortality. As in Hong Kong and Singapore, the Asian strain virus was isolated soon after it appeared on the island.

BORNEO.--The next appearance, chronologically, of the new virus was in Borneo where the first cases appeared in the last week of April. A minor epidemic carried on into early May but details of this are lacking.

JAPAN.--On April 25 a vessel from Hong Kong docked at Yokusuka, Japan, with a number of cases of febrile respiratory illness aboard. The Asian strain virus was isolated from these cases. This first appearance of the disease in Japan did not, however, result in immediate spread to the general population; nor did the occurrence of a few cases at a U. S. Air Force base in early May. By late May, however, dissemination of the virus was extensive for on June 1 the disease was reported to be "all over the country." The epidemic peak occurred in mid-June and by mid-July the disease had virtually disappeared.

The month of May

From established foci in countries along the eastern fringe of Asia and from major shipping centers, particularly Hong Kong and Singapore, the disease spread with facility to many new areas including Malaya, Cambodia, the Philippines, Guam, India, and Indonesia. In addition, minor outbreaks were reported in Australia and on several steamships en route to San Francisco.

MALAYA.--It is not surprising that influenza appeared in Malaya soon after the Singapore epidemic. The disease here appears to have moved on land and by coastal vessels from south to north up the Malay peninsula. On May 8 the first evidence of an epidemic was noted in Johore and, by May 12-14, the first cases were appearing in the northernmost states. (See CDC Influenza Report No. 5 for a summary of the epidemic in the Kuala Lumpur area.) In general it was noted that the poor were attacked before the more well-to-do; the urban dwellers before the rural people. Attack rates were higher in Asians than in Caucasians.

Capt. R. E. Shope (WRAIR) reported that the attack rate approached 100% among Asian employees at the Kuala Lumpur Army Medical Research Unit while the rate was much lower among the non-Asian personnel. New cases were still abundant in most of Malaya in the second week of June, but the epidemic was definitely declining. The Asian strain was isolated in Malaya; the clinical picture was essentially the same as in other areas affected.

PHILIPPINES.--It seems likely that contact with Hong Kong resulted in the introduction of the disease into the Philippines. A few cases were noted in the first week of May but the epidemic onset was considered to be about May 18. The following information is from the report of Dr. J. J. Dizon, Chief, Epidemiology and Vital Statistics, Philippines.

Philippines: Reported influenza cases and deaths from all causes for five weeks in May--June 1957.

<u>Week ending</u>	<u>Cases</u>	<u>Deaths from all causes</u>
May 18	19,686	120
May 25	121,117	332
June 1	265,208	693
June 8	333,685	709
June 15	<u>179,361</u>	<u>395</u>
5 week total	919,057	2249

Dr. Dizon notes that that the reported incidence of influenza represents 4.14% of the total population but he estimates the actual incidence to have been five times this. There was 118 times as much reported influenza as the average influenza incidence for the previous five years for the same period. The mortality from all causes during the five-week-period was about five times as much as the average mortality from all causes for the previous five years for the same period. No details concerning direct associations of death with influenza are currently available.

SARAWAK.--Between May 11-18 influenza-like illness was epidemic in Kuching and Sibu. The disease may have spread from the previous epidemic in Borneo. By mid-June the country was nearly free of the disease.

NORTH BORNEO.--At about the same time that the disease appeared in Sarawak it was reported in North Borneo. Snadakin reported an epidemic between May 14-27. By June 8 the disease was declining after 8000 reported cases, with two known associated deaths.

AUSTRALIA.--While substantial epidemics were appearing to the north, Australia had a series of local outbreaks. In early May a sharp outbreak occurred in Victoria secondary to cases among passengers arriving by air from Europe via Singapore. Some 200 cases were reported without deaths. The Asian strain virus was isolated. The outbreak did not spread. At Cairns, about the same time, a small outbreak occurred secondary to cases off a ship from Singapore. Again the Asian strain was isolated (from one crewman), but again there was no spread. In mid-May, under similar circumstances, cases appeared at Darwin. Australia reported no cases during June but, on July 18, a Reuters report indicated that "flu was reported spreading in New South Wales." No additional details are now available.

OKINAWA.--By unknown means influenza reached Okinawa in mid-May. On May 18, 173 cases of typical illness were reported among 2000 U. S. Marines stationed there.

GUAM.--The method of introduction of influenza into Guam is known, at least in part. In the first week of May a number of cases were noted in recent arrivals from the Philippines. During the third week of May 89 military and 922 civilian cases were noted, and at this time a ship (USNS Sultan), transporting laborers from the Philippines, 308 of whom were ill with influenza, arrived in Guam. During June the epidemic continued, attacking 3670 civilians and 952 additional military personnel. The two-month epidemic was reported to be waning only in the second week of July. The over-all attack rates were at least 14% in civilians and 4% among military personnel. Several deaths due to pneumonia were recorded.

CAMBODIA.--Asian strain influenza returned to the mainland (excluding the Malay peninsula) about May 20 when it appeared in Cambodia. The epidemic exhausted itself in the second week of June.

INDIA.--On May 17 a ship from Singapore arrived in India with 44 active cases aboard to launch the westward movement of the disease. Madras, on the east coast, was stricken first. On May 21 Bombay, on the west coast, reported its first cases (some 500), presumably also secondary to ship or aircraft transmission from Singapore. Calcutta did not report cases until June 2, but five days later noted 1270 cases with 36 apparently associated deaths. Influenza was epidemic in New Delhi by mid-June, and soon thereafter the entire country was involved. At least 4,000,000 cases had been reported by mid-July. Mortality rates apparently did not remain at the high level of the early Calcutta report.

INDONESIA.--Within a few days of the onset of influenza in India, Sumatra and Java also became involved. During the first half of June flu was epidemic in Djakarta and, by the third week, throughout the main and outlying islands. By the latter part of June there were reported 6,000,000 cases in Indonesia.

UNITED STATES.--In late May known cases of Asian strain influenza were introduced by ship on several occasions to North America, although the virus had probably sporadically crossed the Pacific by air before that time. During the last week of May two military ships were known to have arrived in San Francisco from Japan with active cases aboard.

On June 2 the first of a number of outbreaks on Newport, Rhode Island, based ships of the U. S. Atlantic fleet was reported. Asian strain virus was isolated from a number of cases. No known contacts could be detected. (See CDC Influenza Reports 1-B and 2-G.)

In mid and late June additional ships from the Far East arrived in California with active cases of influenza and, as late as mid-July, a transport from Japan arrived in Seattle with influenza-like illness aboard (see CDC Influenza Report No. 6-C).

The first third of June

In the first ten days of June influenza expanded its domain considerably in Southeast Asia, spread into Southwest Asia, gained footholds in the Middle

East and Europe, and appeared dramatically in the U. S. Atlantic Fleet (see above). By the tenth of June influenza had almost circled the globe.

VIETNAM.--In the first week of June Saigon reported cases of influenza; by mid-June the disease was epidemic; and by June 29 the epidemic was reportedly over. It is possible that influenza reached Vietnam from Cambodia, which reported an earlier onset.

LAOS.--It is likely that influenza similarly spread from Cambodia into Laos. Here the first cases were also detected in the first week of June. At least in the town of Vientiane and Bassac province, the disease was still active at the end of the month. At Vientiane 400 cases were reported for the first two weeks of June, and 600 for the third week.

THAILAND.--Influenza was very active in Thailand during June and early July. The onset of the disease in Bangkok occurred about the first of June. The northward land spread seen in the Malay peninsula may have carried the disease into Thailand. Figures for three weeks in June demonstrate clearly the early urban character of the disease followed by a later rural spread (as also noted in Malaya).

	<u>Bangkok cases</u>	<u>Cases in provinces</u>
June 4-8	50,000	16,000
June 8-15	3,000	178,000
June 15-22	4,000	180,000

BURMA.--In the first half of June influenza became epidemic in Rangoon and Akyab with reportedly high attack rates. The epidemic peak occurred in Rangoon the last week of June; in Akyab the first week of July. The epidemics were declining in the third week of July. Information on the provincial areas is not available at present.

NETHERLANDS.--On June 4 a passenger with a febrile respiratory illness arrived in the Netherlands (The Hague) from Djakarta by plane. Asian strain virus was isolated from his throat washings. This was the first known case of Asian influenza to reach Europe. A few days later a laboratory infection occurred in Leiden in a person working with the strain isolated from the Djakarta passenger. In late June--early July, several ships arrived in Amsterdam and Rotterdam from the Far East with active cases of influenza. But by June 16 spread had already begun to occur--first, in a girl's institute in Bussum near Amsterdam, where the attack rate was about 30%; then in schools in the Amsterdam area (in two of these the attack rate was 60%); and finally in adults (though apparently not in epidemic form) in Amsterdam and Utrecht after July 1. One influenza-related death has been reported thus far--a staphylococcal pneumonia death in a child.

WEST PAKISTAN.--On June 6 Karachi reported a few cases in recent arrivals from Singapore and Bombay. Five days later Lahore, far to the north in the Punjab, but in contact with Karachi by rail and air, reported about 50 cases. Karachi at that time had 1500 cases. In the third week of June Karachi reported 13,000 new cases; Lahore, 80. By the end of the month Karachi had experienced 45,000 cases. Thus, at the time that the annual Moslem pilgrimage to Mecca was starting, the great Asiatic Moslem areas of Indonesia and Pakistan were heavily infiltrated by the influenza virus.

BAHREIN.--This outpost in the Persian Gulf probably received its influenza by air. The earliest cases were seen about June 8 but the disease remained sporadic until June 24. Thereafter it became epidemic.

The middle third of June

During this period influenza established itself in only three new countries and these were "behind the lines" of the advances of the previous ten days. Influenza touched the United Kingdom but failed to gain a foothold. The most interesting circumstance was the appearance of influenza (of unknown type) in Czechoslovakia.

EAST PAKISTAN.--Dacca reported 7 cases of influenza-like illness in the second week of June and by the third week a mild epidemic was clearly underway.

HAWAIIAN ISLANDS.--In mid-June a vessel, en route from Manila to San Francisco, stopped at Honolulu to disembark 27 passengers. During the voyage to Honolulu there had been 28 cases of flu. By June 24 influenza was well established in Honolulu County. Statistics on the epidemic in Hawaii are not yet available. At least one other ship, from Yokohama, has arrived in Hawaii with active cases of flu aboard.

KOREA.--In this Asiatic country epidemic influenza started comparatively late. On June 17, 215 children were reported ill in Hampyong and five days later Seoul reported 50 cases. At the end of the month the disease was still spreading.

UNITED KINGDOM.--London and Bristol reported influenza in crewmen of ships from the Far East during mid-June. There were, however, no secondary cases so far as known. Asian strain virus was isolated from the cases. Also, a British troopship from Hong Kong reached United Kingdom in mid-June, with a history of 130 cases during the voyage. The ship had made stops at Cape Town and Durban (where it had been quarantined) in South Africa, and the Canary Islands.

CZECHOSLOVAKIA.--A June epidemic due to a type A influenza virus has been reported from this country. As yet the strain, which is antigenically different from previous A strains, has not been compared with Asian strains.

The last third of June

In this ten day period the influenza virus moved into many new areas. Almost simultaneously it descended upon the Near and Middle Eastern countries. The Moslem pilgrimages to Mecca may have contributed to the sudden and dramatic westward movement of the disease. This movement carried influenza to the shores of Africa. An interesting sequel to the Czechoslovakian report is the report of influenza in Romania.

NETHERLANDS NEW GUINEA.--On May 18 a ship from Singapore is known to have arrived here, but no influenza cases were reported until late June when Hollandia and Sorong were swept by epidemics which were reported to be declining in mid-July.

CEYLON.--The first appearance of influenza on Ceylon was noted in the week ending June 28. Spread may have been directly from neighboring India.

ALASKA.--A few influenza-like illnesses were reported in Ketchikan and Anchorage in late June but there have been no outbreaks, nor have virus isolations been reported.

ROMANIA.--Outbreaks starting in late June have been reported to be due to a "type A" influenza virus.

IRAN.--Abadan and Khorramshahr, ports on the Persian Gulf, reported 86 cases on June 24, primarily in sailors. Four days later cases were reported among Army personnel in Teheran and, by July 21, 25% of the 2,000,000 population of Teheran had been reported ill. Several million cases were reported to have occurred throughout the country.

ADEN.--In late June a sudden upswing in febrile respiratory disease was noted and, by June 28, 10000 cases had occurred in the city area.

SAUDI ARABIA.--Jidda, the port for Mecca, first reported influenza in the last week of June. In Dhahran an epidemic started at about the same time with its peak in early July. The Dhahran epidemic declined rapidly.

YEMEN.--On June 27 a severe epidemic was reported to be in progress in Taiz. The over-all attack rate was about 20%, with no associated deaths reported.

IRAQ.--In late June, along with its neighbors, Iraq reported a few cases of influenza. By the second week of July Baghdad had reported only 50 cases but on July 17, with a report of 2586 cases, Baghdad had clearly reached the epidemic state. To date, 34,000 cases have occurred in Iraq. Asian strain influenza virus has been isolated.

ERITREA.--In late June Asian influenza crossed the Red Sea to Africa. Asmara reported an epidemic of at least 10,000 cases beginning at that time. No further details are available at present.

The first third of July

During this period the Middle and Near Eastern outbreaks developed into widespread epidemics and several more Near Eastern countries were invaded. Elsewhere in the world developments were few. In the United States the dissemination of the virus continued.

KUWAIT.--An influenza outbreak was reported from this country at the head of the Persian Gulf, on July 3.

SYRIA.--Influenza appeared in Syria in the second week of July and by July 13, Damascus and suburbs reported 7000 cases, with many more in other parts of the country.

The second third of July

The addition of Jordan and Lebanon during this period completed the roster of affected Near and Middle Eastern countries. A sporadic outbreak occurred in Greenland and a ship with influenza aboard had arrived in Germany.

JORDAN.--In mid-July Pakistani Moslem pilgrims, stricken with flu, passed through Amman. On July 23 Amman reported 5000 cases with at least two associated deaths.

LEBANON.--The first influenza-like cases appeared in this international air travel center about July 18.

GERMANY.--In mid-July a large ship, the General Patch, with 942 passengers, was quarantined in Bremerhaven, Germany, because of an outbreak of 134 cases of influenza during the voyage across the Atlantic from the United States. No cases in Germany have been reported to date.

GREENLAND.--An isolated outbreak of some 300 cases of influenza-like illness has appeared among U. S. airmen at Thule, Greenland, according to a July 22 newspaper dispatch.

The last third of July

The international influenza reports on events since July 20 are of particular interest because they represent the probable arrival of the virus in South America and extension into new areas of Africa.

CHILE.--A report on July 26 indicates that an influenza-like illness is sweeping through the cities of Santiago and Valparaiso at this time. A late report indicates that there have been at least 300,000 absentees from work during the past few days. No associated deaths have yet been reported.

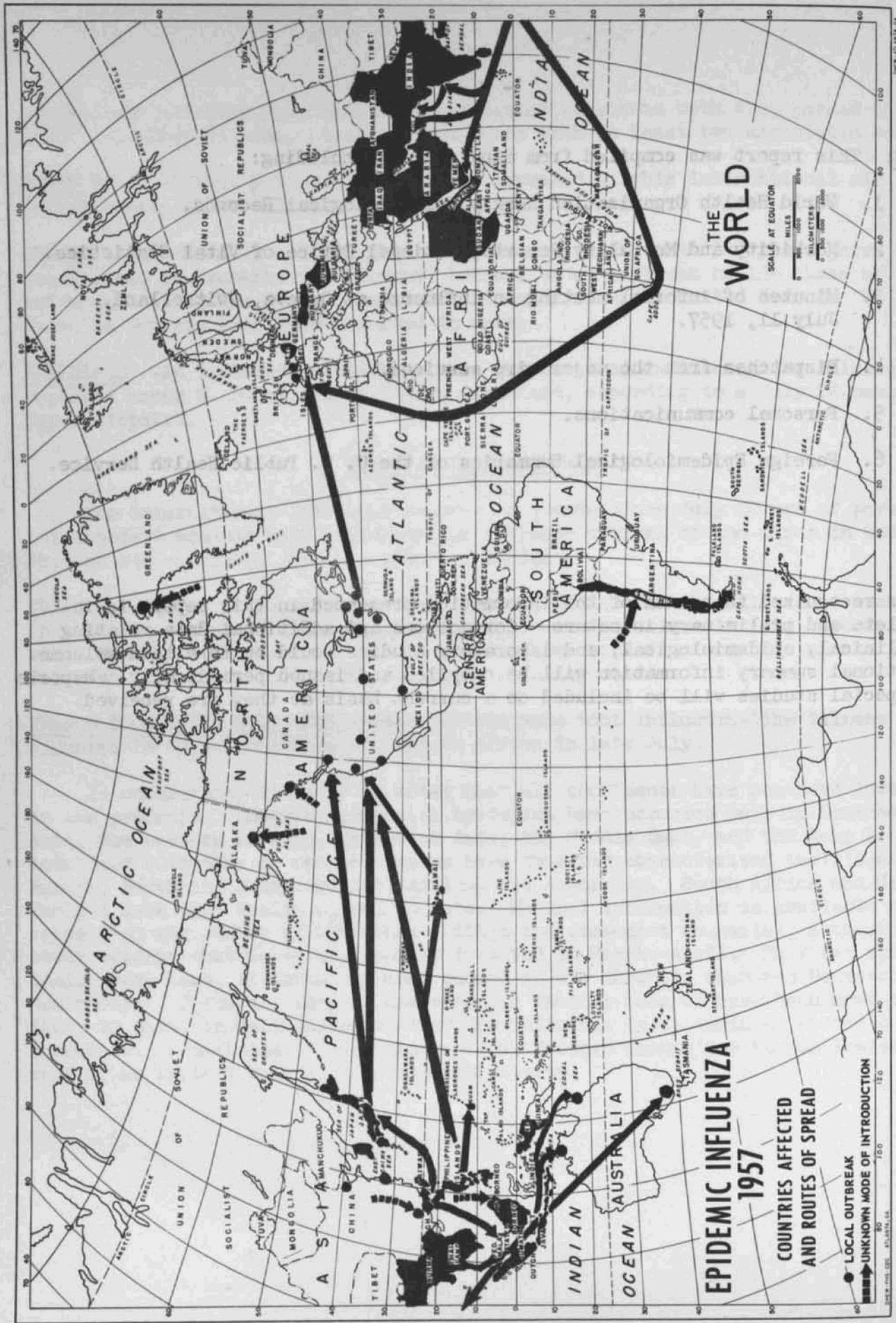
FRENCH SOMALILAND and SUDAN.--Late reports note that influenza-like illness appeared in these countries of eastern Africa in late July.

In conclusion, it is to be noted that all continents have now been involved in the pandemic. However, extensive epidemics have occurred only in Southeast Asia, the western Pacific, Southwest Asia, the Middle East, and the Near East. Localized outbreaks or sporadic cases have thus far characterized the disease in Europe, North and South America, Africa, and Australia. South Africa and New Zealand have been wholly spared to date. Minimal information is available at present on the status of influenza within the communist countries, although it seems evident that China was heavily involved in March--April. Thus far epidemics have been, if anything, more common in the Northern than the Southern Hemisphere. Cultural, social, and economic factors seem to have been most important, to date, in determining whether the influenza is epidemic or sporadic in character. Climatological and geographical factors cannot now be implicated as readily as factors such as crowding and poverty.

NOTE: This report was compiled from many sources including:

1. World Health Organization Weekly Epidemiological Records.
2. Morbidity and Mortality Reports, National Office of Vital Statistics.
3. Minutes of informal meeting on influenza at Geneva, Switzerland, July 11, 1957.
4. Dispatches from the major wire services.
5. Personal communications.
6. Foreign Epidemiological Summaries of the U. S. Public Health Service.

It is recognized that much of the information presented in this report is incomplete and preliminary in nature. Corrections and additional data relating to clinical, epidemiological, and laboratory studies would be more than welcome. Additional summary information will be compiled and issued periodically. Reports of special studies will be included on a current basis as they are received.



THE WORLD

SCALE AT EQUATOR
 MILES 0 100 200
 KILOMETERS 0 100 200

EPIDEMIC INFLUENZA
 1957

COUNTRIES AFFECTED
 AND ROUTES OF SPREAD

● LOCAL OUTBREAK
 → UNKNOWN MODE OF INTRODUCTION

GRAPHIC DESCRIPTION OF OUTBREAKS BY COUNTRY
INTERNATIONAL INFLUENZA REPORT

..... = Sporadic cases, local outbreaks
 _____ = Epidemics

Country	April	May	June	July
Hong Kong		
Taiwan	
Japan	
Philippines		
Okinawa	 ?		
Singapore	
Borneo ?		
Malaya		
Sarawak		
North Borneo	 ?	
Cambodia		
Indonesia	 ?
Vietnam		
Laos		 ?
Thailand		
Burma		
Neth. New Guinea		 ?
Australia	 ?	 ?
Guam	
Hawaii		 ?
West Pakistan		 ?
East Pakistan		 ?

Country	April	May	June	July
India	?
Ceylon		?
Bahrein		?
Iran		?
Aden			.._____?	
Arabia			.._____?	
Yemen			.._____?	
Iraq		?
Kuwait		?
Syria		?
Jordan		?
Lebanon		?
Eritrea		?
French Somaliland			?
Sudan			?
Netherlands		?
United Kingdom		?
Czechoslovakia			?..._____...?	
Romania		?
United States	
Alaska		?
Greenland			?
Chile			