

Bonds Are Steps on the
Buy-Way to Berlin.
Be a pocket patriot in-
stead of a hip patriot.
Help take the helm from
Wilhelm.

THE DANBURY NEWS

A JOURNAL OF TO-DAY

Don't Let Up
On buying bonds to the
utmost just because the
Kaiser has emitted a
doleful yap. Many a
wounded dog has got in
his deadliest bite.

\$1.50 a Year

VOL. 49, NO. 41.

THE RECORD OF A YANKEE TOWN.

DANBURY, CONN., WEDNESDAY, OCTOBER 9, 1918.

Three Cents a Copy

TEN PAGES

CAMBRAI CAPTURED; NEARLY 10,000 PRISONERS; CLIMAX OF WAR NEAR

Germans Are Being Driven
Back Toward French
Frontier.

HINDENBURG LINE LOST

Haig Makes Rapid Progress

the Champagne, and the French have
not been able to make very much
progress.

**CAMBRAI CAPTURED
BY BRITISH FORCES**

Anglo-American Attack Continues on
Entire Front South of City.

London, Oct. 8.—The Anglo-Amer-
ican attack was resumed this morn-
ing on the entire front south of Cam-
brai. Field Marshal Haig reported to-
day. Rapid progress was being made.

LOOKS AS IF CRISIS AVERTED

Maura Forms New Spanish
Cabinet—Takes Ministry
of Public Instruction.

San Sebastian, Spain, Tuesday, Oct.
8 (By the Associated Press).—Anto-
nio Maura, the resignation of whose
cabinet was reported today, has
formed a new government, in which
he takes the post of minister of pub-
lic instruction, which was vacated
by Santiago Alba, who is the only
minister superadded in the new cabi-
net. Premier Maura's enthusiastic
attitude gives the impression that a
crisis has been averted.

London, Oct. 8.—The Anglo-Amer-
ican attack was resumed this morn-
ing on the entire front south of Cam-
brai. Field Marshal Haig reported to-
day. Rapid progress was being made.

MAY NOT REACH LOAN GOAL IN ALLOTTED TIME

Present Rate of Progress and
Average Per Capita Looks
Doubtful.

NEED \$4,400,000,000

Officials Do Not Think German
Peace Proposals Have Af-
fected Campaign.

Washington, Oct. 8.—At the pres-
ent rate of going and with the pre-
sent average per capita, subscription

310 NAMES IN ARMY CASUALTIES

127 Soldiers Dead, 165
Wounded, 16 Missing and 2
in Enemy's Hands.

TEN FROM THIS STATE

Marine Losses Total 3,417 to
Date With 1,102 Killed,
2,161 Wounded.

This following casualties are re-
ported by the commanding general

30,000 CASES OF INFLUENZA IN STATE

Is Sweeping Through New
Britain Like Prairie
Fire.

MANY ARE DYING

Doctors Are Exhausted.
Whole Families Afflicted.
Great Need of Nurses.

Hartford, Oct. 8.—Dr. Elton Reek-
deputy commissioner of public health

PRES. WILSON LAYS TRAP FOR INSINCERE GERMAN STRATEGY

CLEVER AND LOGICAL.

Is View Taken in London of Pres.
Wilson's Reply.

London, Oct. 8.—President Wilson's
reply to the peace proposals of Prince
Maximilian, the imperial German
chancellor, is regarded in diplomatic
circles here as clever and logical.

U. S. Troops Pleased.

With the American Forces in

Confronts Enemy Diplomacy
With Superior Type of
Diplomatic Action.

WAY TO PEACE OPEN

His Call for Information

The "Spanish" Flu in Danbury, Bethel, & Beyond

Eric S. Starbuck, DrPH, MPH

(A former student of history & current resident of Bethel, Connecticut)

Updated March 21, 2020

(Runs for ~22 minutes in PowerPoint slide show mode, with animation on 3 slides.)

(See paper at: <https://www.savethechildren.org/us/about-us/resource-library/influenza-library>)

Camp Funston, Kansas, March 1918: Sadly, the comparatively benign 1st wave was not at all predictive of what was to come



National Museum of Health and Medicine, Armed Forces Institute of Pathology, Washington, D.C.

As in 1889, the flu in 1918 rode the rails to circle the globe, but now it also benefited from over-crowded troop ships to amplify the virus & deliver it to distant ports.



Apr 27, 2010 12:50 PM in [Health & Medicine](#) | [1 comments](#)

New maps show how 1889 Russian flu rode the rails to circle the globe in months

By [Katherine Harmon](#)



Many people assume that the [2009 H1N1 pandemic](#) spread rapidly across the globe

largely due to the sheer number of people [hopping onto planes](#). But more than 120 years ago, trains and ships alone sped the transmission of the 1889 "Russian" flu so that it reached the U.S. 70 days after the virus' first peak in St. Petersburg and circled the globe in just a few months, according to a new analysis of historic data.

E-MAIL

PRINT

COMMENT

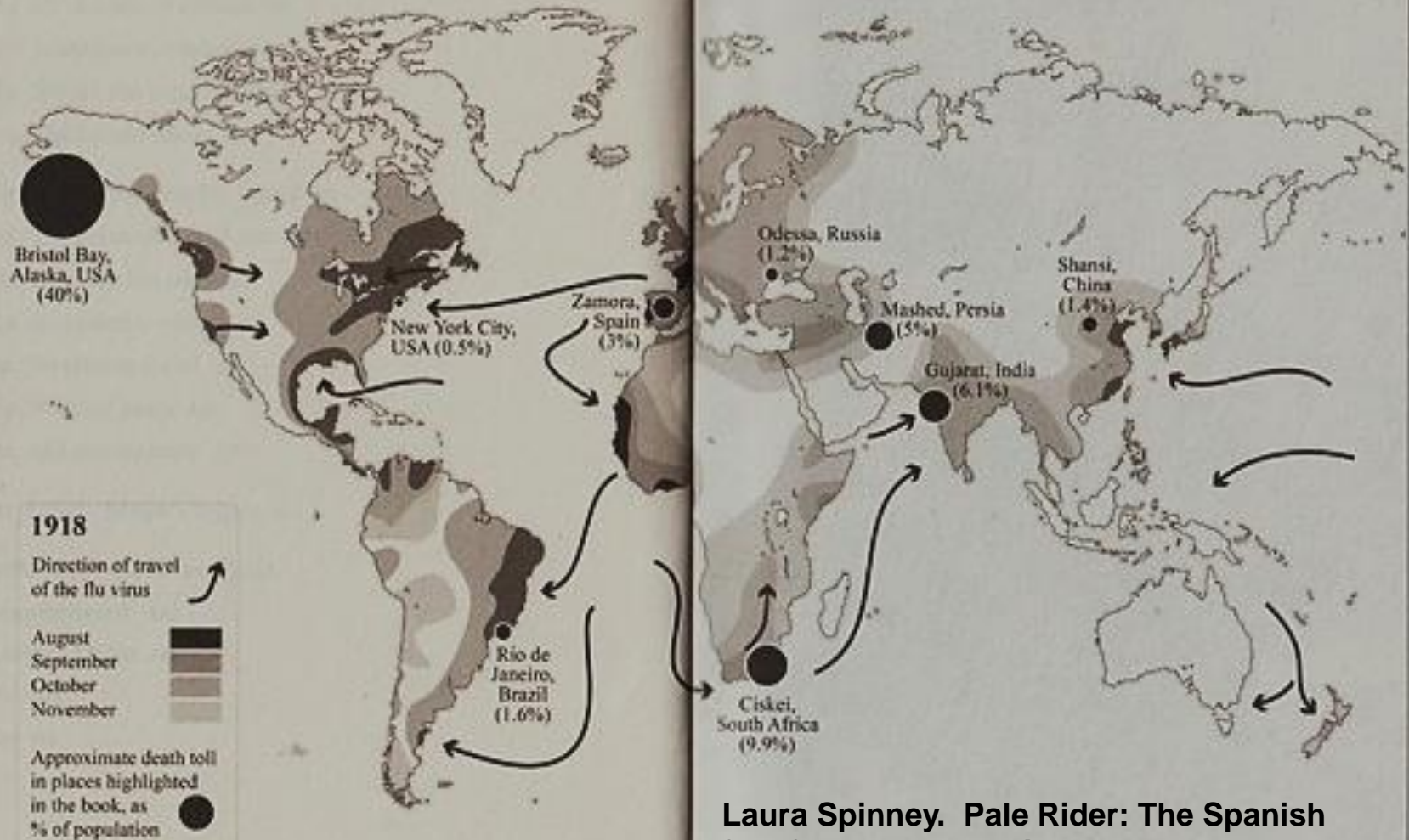
Submit to digg



Like it? Thumbs-
up! [Stumble!](#)

The *SS Leviathan* left New Jersey on September 29 with ~ 11,000 troops & crew. Flu broke out soon after, & by the time it docked in France a week later, ~ 2,000 men were sick, & ~ 90 had died.

Global spread of the Spanish flu: second wave, late 1918



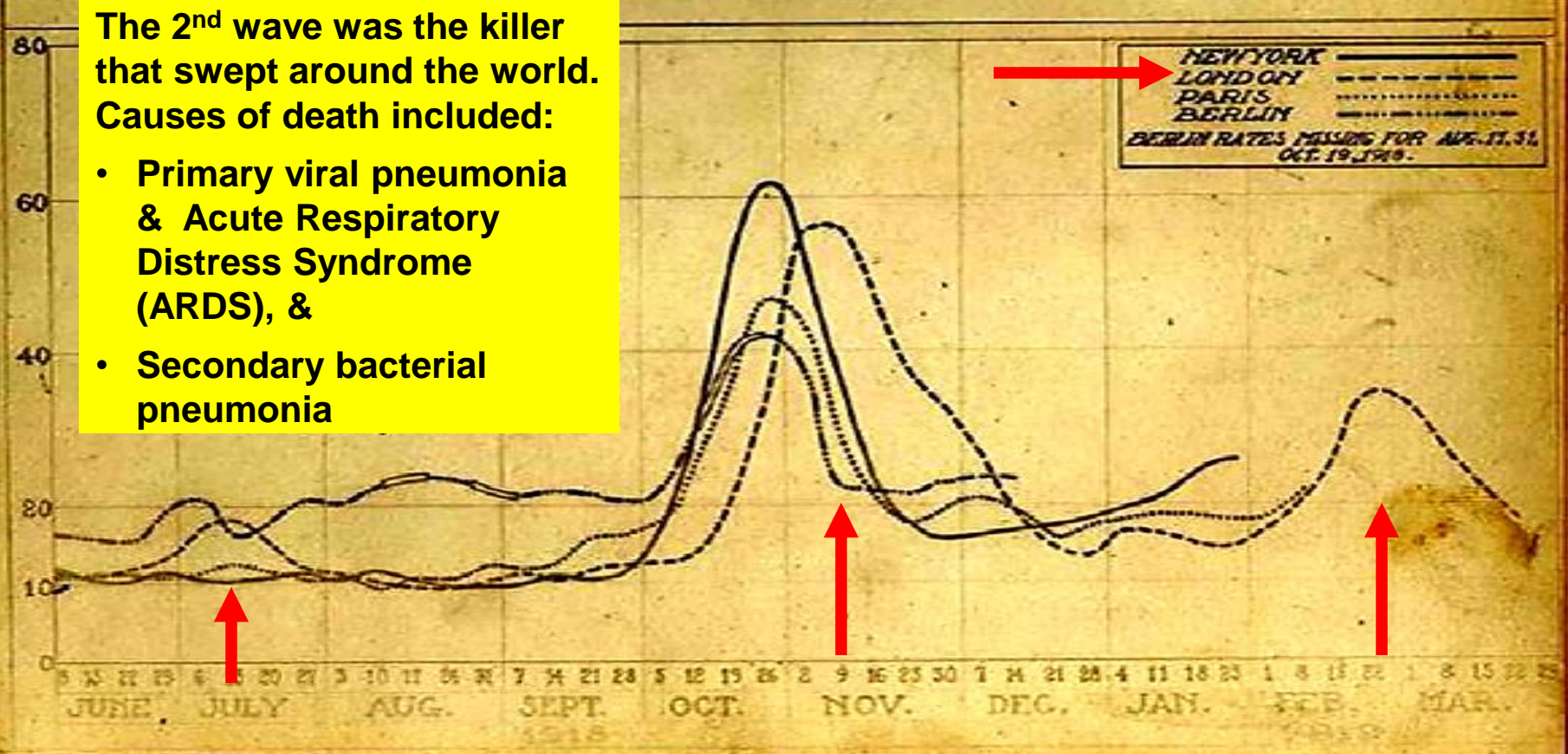
Laura Spinney. *Pale Rider: The Spanish flu of 1918 and how it changed the world*. New York: Public Affairs, 2017.

Communities around the world experienced 1, 2, or 3 successive pandemic waves / outbreaks (some at unusual times of year)

INFLUENZA PANDEMIC

MORTALITY IN AMERICA AND EUROPE DURING 1918 AND 1919

DEATHS FROM ALL CAUSES EACH WEEK
EXPRESSED AS AN ANNUAL RATE PER 1000



And, as the Second Wave Swept Around the World:

TAHITI BUILDS PYRES OF INFLUENZA DEAD

**Seventh of Papeete's Popula-
tion Succumbs and Bodies
Feed Steady Fires.**

FOOD AND MEDICINE SCARCE

**Victims of Plague Everywhere Are
Surrounded by Dying, While
Disease Is Spreading.**

PAPEETE, Tahiti, Dec. 9.—Influenza has turned the Island of Tahiti into a charnel place. At the crest of Papeete burn great pyres, with the stark, sheet-covered bodies of many natives waiting to be thrown into the glowing ashes of those who have been consumed by the flames.

6,000,000 DEATHS FROM INFLUENZA

**This Is Estimate For World, For
Past 12 Weeks:**

RECALLS BLACK DEATH

**'Flu' Five Times Deadlier
Than World War.**

LONDON, Dec. 18.—Canadian Press, via Reuter's.)—The Times' medical correspondent says that it seems reasonable to believe that about 6,000,000 persons perished from influenza pneumonia.

Called the "Spanish Influenza" because of extensive press coverage of it in Spain. The King got it & neutral Spain had no press censorship.

Published Pandemic Mortality Estimates for Selected Countries

(Johnson NPAS & Mueller J. Bulletin of the History of Medicine (2002) 76:105-15)

(**1918: 24% of 2019 global population.** www.birdflubook.org/resources/NIALL105.pdf)



Global Total:
50 – 100 million

- Sequestration protected Australia & American Samoa from the 2nd wave, while Western Samoa lost 24% of its population
- Mortality varied over 30-fold across countries
- Income differences contributed to this variation

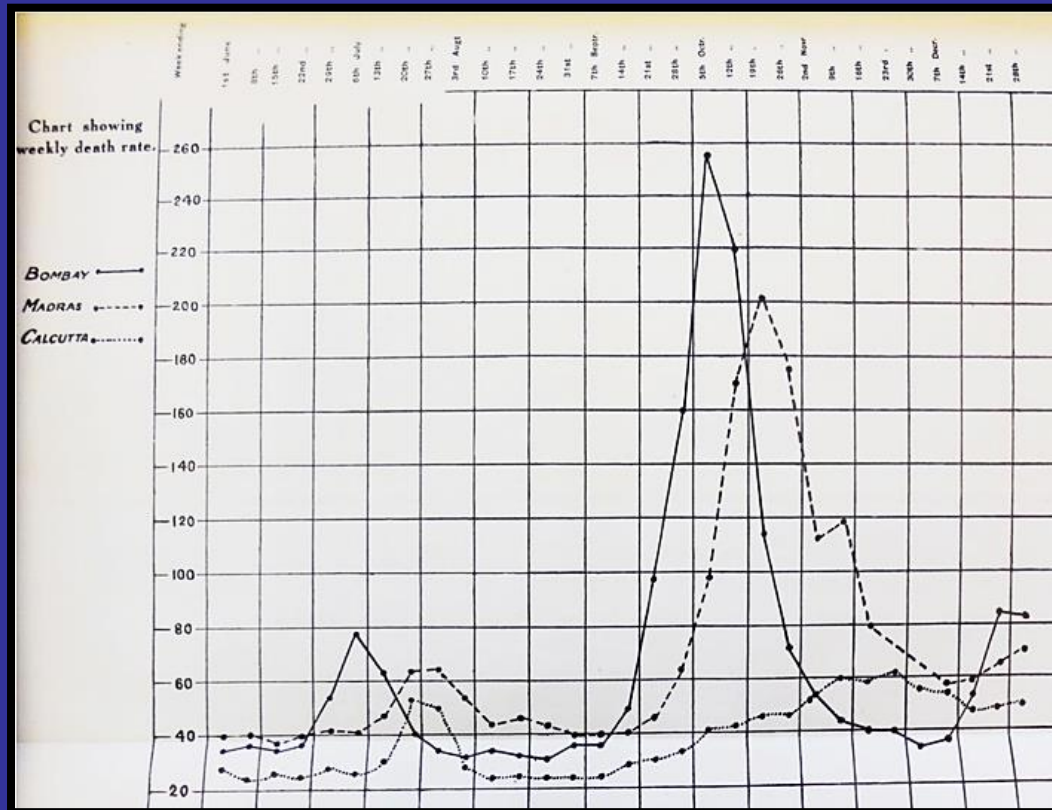
(Murray CJL, Lopez AD, et al, Lancet 2006;368: 2211-18)

India

“Throughout the Indian subcontinent, there was only death. Trains left one station with the living. They arrived with the dead and dying, the corpses removed as the trains pulled into station.

“The most devastated region was the Punjab. One physician reported that hospitals were so “choked that it was impossible to remove the dead quickly enough to make room for the dying. The streets and lanes of the city were littered with dead and dying people “Nearly every household was lamenting a death and everywhere terror reigned.

“The supply of firewood was quickly exhausted, making cremation impossible, and the rivers became clogged with corpses.”



Weekly Death rates in Bombay, Madras, and Calcutta, June-December, 1918.

Chandra, S., Kuljanin, G., & Wray, J. (2012). Mortality from the influenza pandemic of 1918–1919: the case of India. *Demography*, 49(3), 857-865.

(See: Laura Spinney. How the Spanish flu of 1918 changed India: <https://caravanmagazine.in/history/spanish-flu-1918-changed-india>)

(John Barry. *The Great Influenza*.)

Impact of the 1918 Influenza Pandemic in Coastal Kenya *

“We found that crude mortality rates and healthcare utilization increased six- and three-fold, respectively, in 1918, and estimated a pandemic mortality rate of 25.3 deaths/1000 people/year. Impact to society and the health care system was dramatic as evidenced by correspondence. In conclusion, the 1918 pandemic profoundly affected Coastal Kenya.”

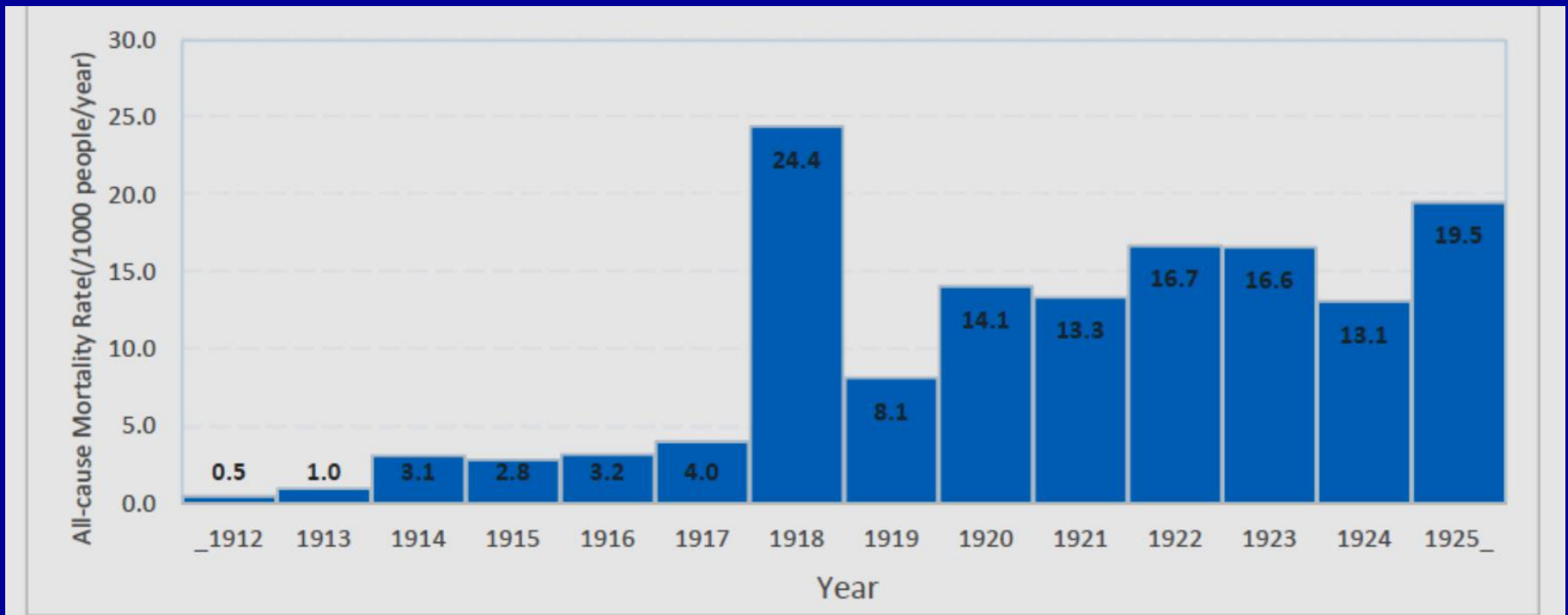


Figure 4. Crude all-cause mortality rates of Coast Province Kenya, 1912–1925. Years 1917, 1918, 1919 and 1921 data for Lamu and Tana River districts missing.

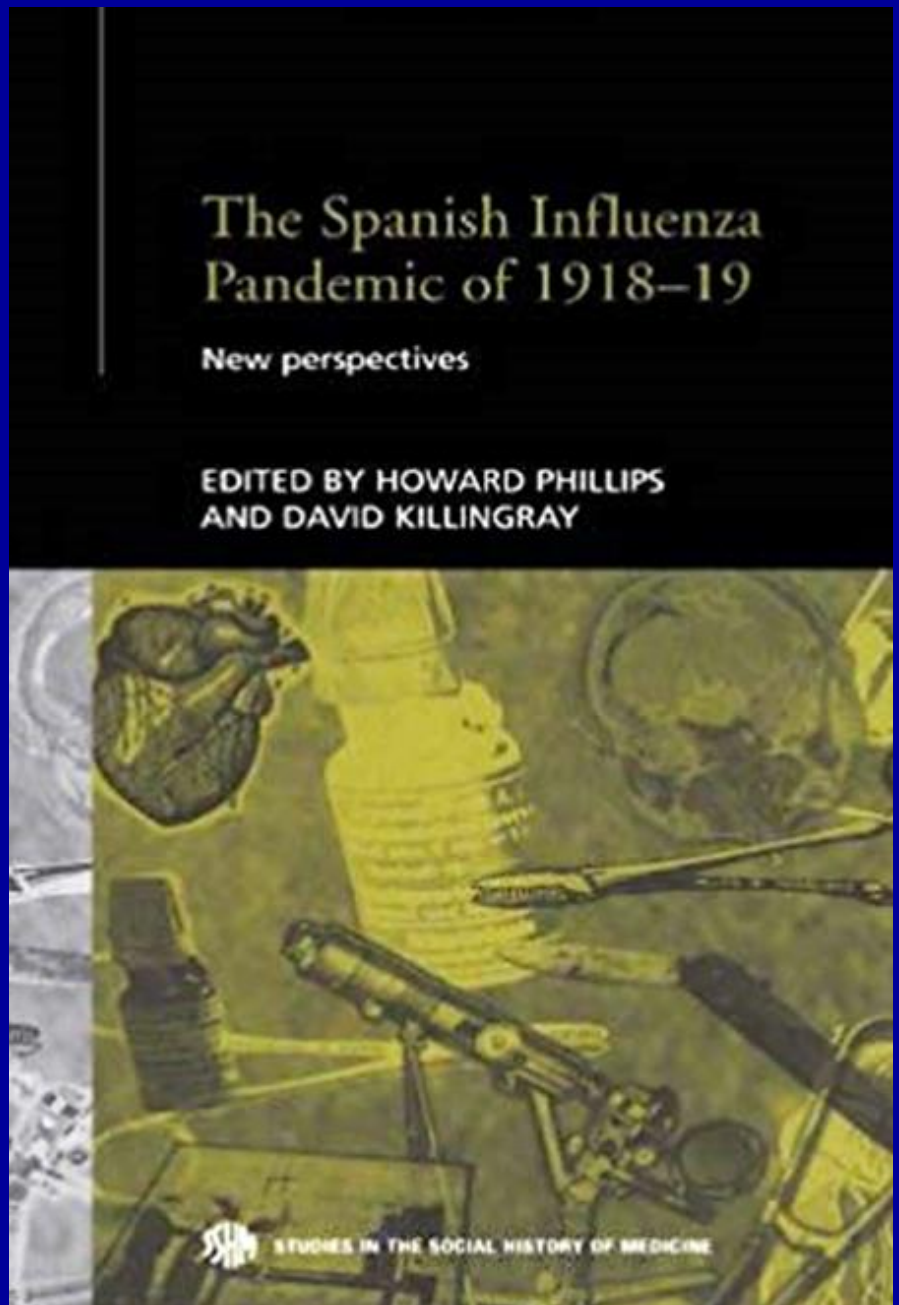
* Andayi, F., Chaves, S. S., & Widdowson, M.A. (2019). Tropical medicine & infectious disease, 4(2), 91.

1918 in Senegal

“The world influenza pandemic of 1918-19 pounced upon the French colony of Senegal with a ferocity of biblical proportions in the first week of September of 1918.

“By the time the last case was noted in December in the remote *cercle* or province of Kedougou, , influenza had reached every village, had probably infected over half of the estimated population of one and a quarter million, and had left a total of roughly 47,000 dead.”

Echenberg M. The dog that did not bark. Memory and the 1918 influenza epidemic in Senegal. The Spanish Influenza pandemic of 1918-19:230-8.



1918 in Singapore

Lee, V. J., Wong, C. S., Tambyah, P. A., Cutter, J., Chen, M. I., & Goh, K. T. (2008). Twentieth century influenza pandemics in Singapore. ANNALS-ACADEMY OF MEDICINE SINGAPORE, 37(6), 470.

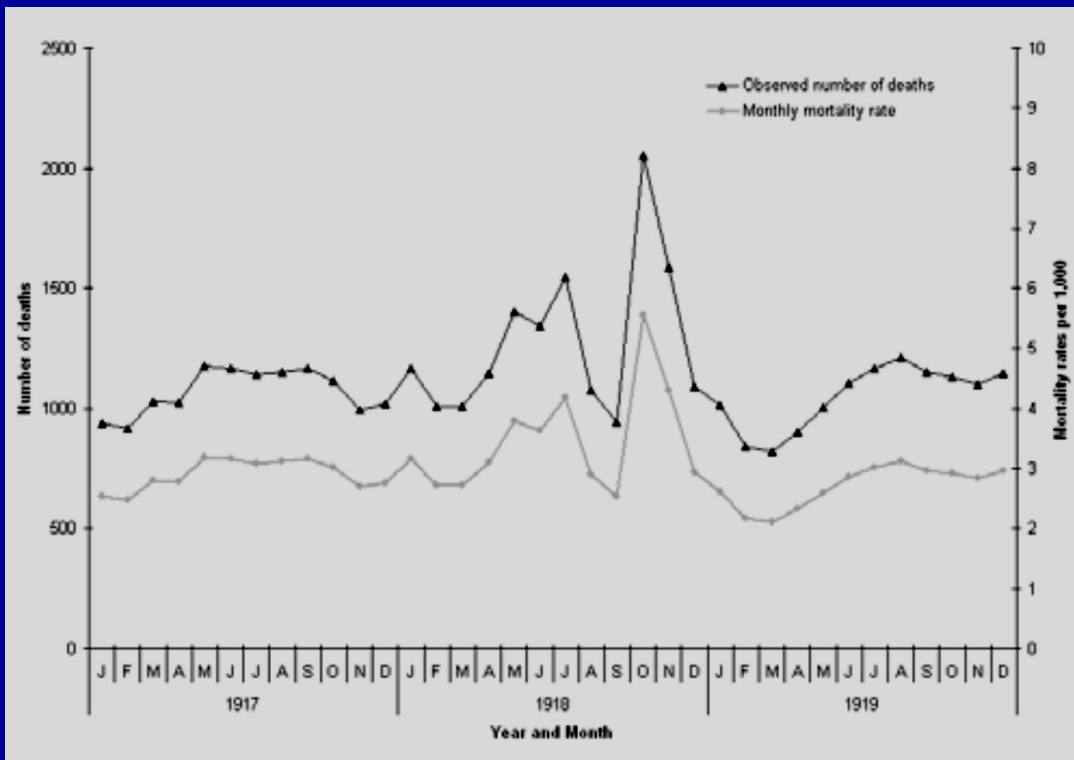


Fig. 1. All cause monthly mortality in Singapore, 1917 to 1919. Source: Registry of Births and Deaths, Singapore.

“Influenza was reported to be highly infectious and easily spread by breathing, coughing and spitting, and carried by letters and parcels, with an incubation period from a few hours to 3 days.

“The government and physicians thus advised infected persons to isolate themselves, to seek treatment early, and to avoid crowded places.

“Floors of public premises were disinfected daily. In addition, visits to hospitalized patients were restricted and prohibited.

“Schools were also closed for a week at the peak of the second wave.”

**In 1918, Masks Were
Popular in Many Areas,
& Required in Some**



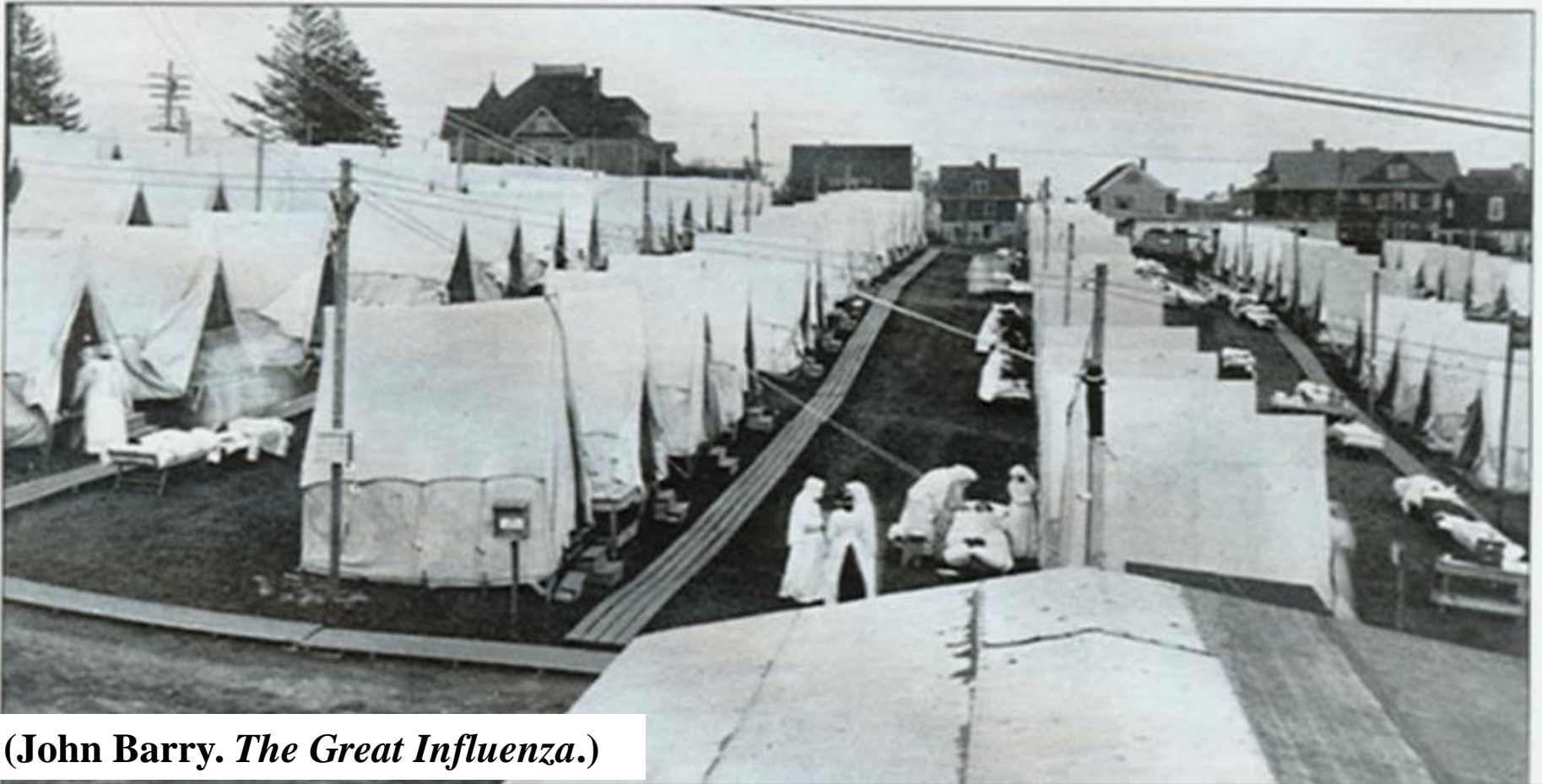
**Schoolgirls wear masks to
protect against the flu in Tokyo**



Seattle, Nov. 1918: No mask, no ride.

The 2nd Wave in the US

9. Massachusetts was the first state to suffer huge numbers of civilian deaths. This is a hospital in Lawrence.



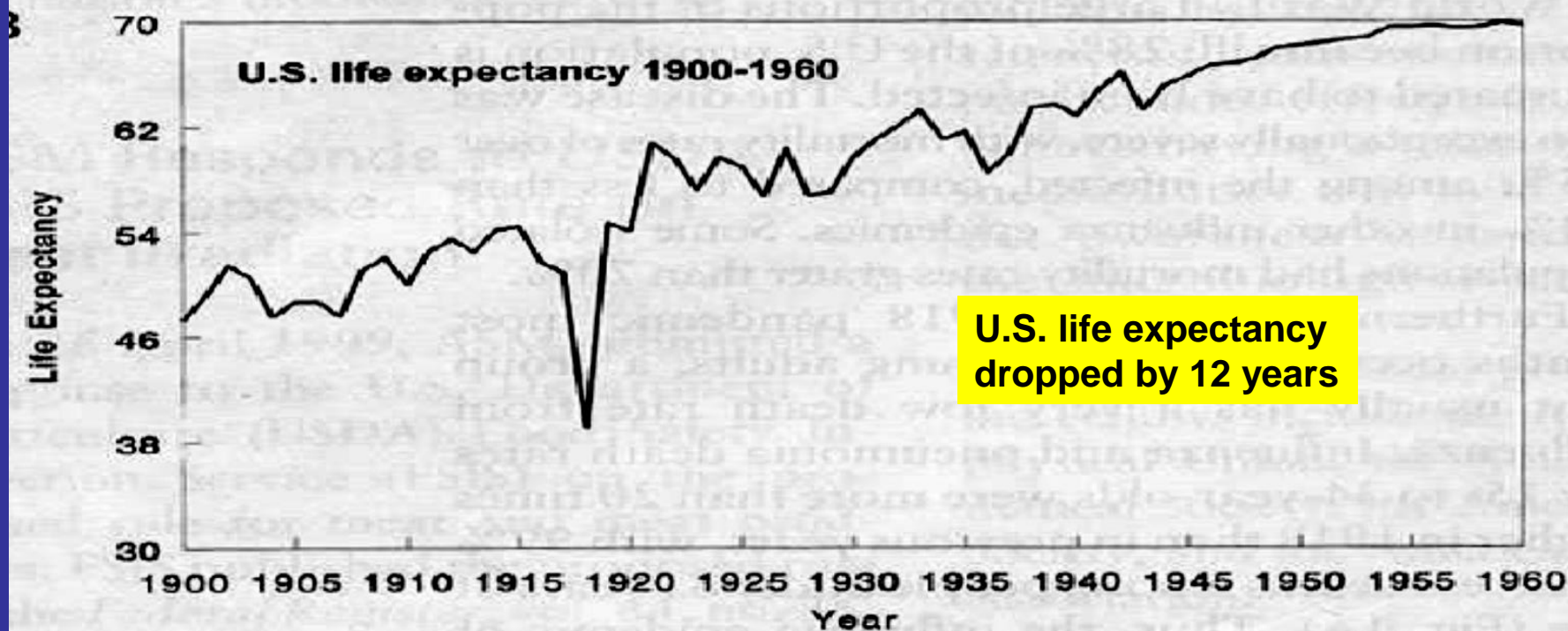
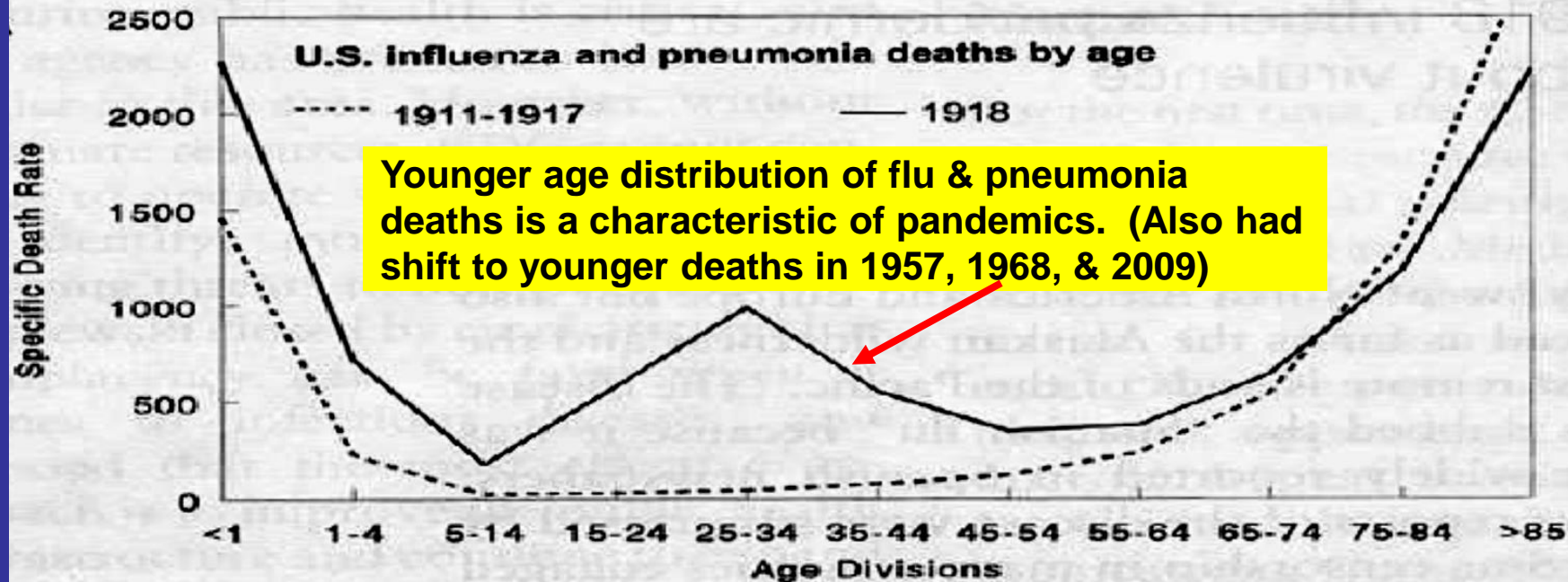
(John Barry. *The Great Influenza*.)

Movement of the Second Wave Across the US

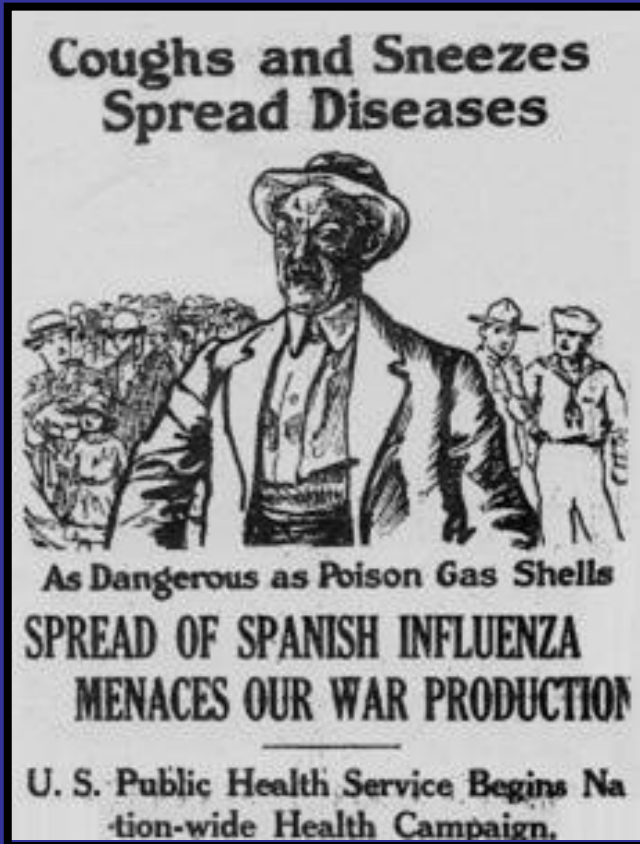


before sept. 14	between sept. 14 - 21	between sept. 21 - 28	between sept. 28 - oct. 5	after oct. 5
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Source: America's Forgotten Pandemic - The Influenza of 1918 - 1989



Impact Beyond Flu-Related Mortality: In 1918, Worker Absenteeism Led to Social & Economic Disruption



An Urgent Appeal to Restrict
the Use of the Telephone

The large number of operators now absent because of illness makes it necessary for us to appeal to our patrons to restrict their use of the telephone.

The thanks of the community are due those patrons who have already restricted their use of the telephone, thus helping the service of war industries, hospitals and stricken homes of the city.

Southern California Telephone Company

The Danbury News (Connecticut), Wednesday, October 9, 1918

**In 1918,
Some of the Guidance to the Public
(& Even Some of the Advertising)
Reflected a Good Understanding
of the Modes of Transmission**

TREASURY DEPARTMENT
UNITED STATES PUBLIC HEALTH SERVICE

INFLUENZA

Spread by Droplets sprayed from Nose and Throat

Cover each **COUGH** and **SNEEZE** with handkerchief.

Spread by contact.

AVOID CROWDS.

If possible, **WALK TO WORK.**

Do not spit on floor or sidewalk.

Do not use common drinking cups and common towels.

Avoid excessive fatigue.

If taken ill, go to bed and send for a doctor.

The above applies also to colds, bronchitis, pneumonia, and tuberculosis.



**To Avoid
The "Flu"**

Ride a
**"C.C.M."
Bicycle**

GET away from the stuffy, overcrowded street cars, with their danger of contagion.

Ride a bicycle through the pure, fresh air.

With an easy-running, long-lasting C.C.M. Bicycle, cycling will be a pleasure as well as a benefit.

You will need a bicycle next spring, anyway, and will save money by buying now.

THIS MARK IS YOUR PROTECTION
Always "C.C.M." Bicycle
Shows How Simple and Safe
the Machine Is.

Look for these Monograms
Always "C.C.M." Bicycle
Shows How Simple and Safe
the Machine Is.

A good understanding of modes of transmission led to non-pharmaceutical interventions but guidance in the US was inconsistent & communities made very different decisions.

NIGHT EXTRA FOR INFORMATION
 on any subject—the time of day, movement of trains, mails and so on—
 Call Main 300

MEMBER ASSOCIATED PRESS

The Seattle Daily Times

TIMES WHISTLE SIGNALS
 ONE LONG BLAST
 OF THE WHISTLE WHICH AT 12:15 P. M. SUNDAY—TUESDAY—WAS USED TO STOP ALL TRAFFIC AND TO OPEN THE GATES.
 TWO LONG BLASTS
 AT 12:30 P. M. SUNDAY—TUESDAY—WAS USED TO STOP ALL TRAFFIC AND TO OPEN THE GATES.
 THREE SHORT BLASTS
 AT 12:45 P. M. SUNDAY—TUESDAY—WAS USED TO STOP ALL TRAFFIC AND TO OPEN THE GATES.
 FOUR LONG BLASTS
 AT 1:00 P. M. SUNDAY—TUESDAY—WAS USED TO STOP ALL TRAFFIC AND TO OPEN THE GATES.
 FIVE SHORT BLASTS
 AT 1:15 P. M. SUNDAY—TUESDAY—WAS USED TO STOP ALL TRAFFIC AND TO OPEN THE GATES.

12 Pages. SEATTLE, WASHINGTON, SATURDAY EVENING, OCT. 5, 1918. Price 3c In Times Stacks, Seattle, Tacoma, etc.

CHURCHES, SCHOOLS, SHOWS CLOSED

EPIDEMIC PUTS BAN ON ALL PUBLIC ASSEMBLIES

MR. LOVERING'S COMMENT

Least in history. Day Liberty Bonds!

SUMMARY PLAYS
 THE LATEST NEWS
 CARRIES

Commenting on the order that no public assemblies be held, Mr. Lovering, former assistant attorney general, said: "The order is a direct result of the epidemic. It is a necessary measure to prevent the spread of the disease. It is a measure that is necessary to the health of the community. It is a measure that is necessary to the safety of the nation. It is a measure that is necessary to the future of the world."

SEATTLE TO MAKE FIGHT ON DISEASE

Mayor and City Health Officer Will Permit None but Gatherings in Open Air.

POLICE ORDERED TO CLOSE PUBLIC PLACES

The following order was posted at the police station this afternoon:
 General Order No. 100,000, in accordance with the order of the Mayor and City Health Officer, all public places, including churches, schools, and theaters, are hereby ordered to be closed. The only public places permitted to remain open are those in the open air.

EVERY place of indoor public assembly is closed, including churches, schools, theaters, and dance halls. The only public places permitted to remain open are those in the open air. The order is issued to prevent the spread of the epidemic. It is a necessary measure to the health of the community. It is a measure that is necessary to the safety of the nation. It is a measure that is necessary to the future of the world.



Send Liberty Loan Orders to Tom Thayer of The Times Art Staff.

AMERICANS AND FRENCH SMASH FOE

Associated Press Summary.

FRENCH and American troops are smashing into the German positions in Champagne and have forced the enemy to withdraw from valuable ground in the hill country near the Meuse River, says today's Associated Press summary of news from the front of war.

East and west of the Argonne and northwest of Reims there has been heavy fighting, to the advantage of the Allies.

On the northern sector, American troops have captured a line of German positions and the Meuse River. The French and American troops have captured a line of German positions and the Meuse River. The French and American troops have captured a line of German positions and the Meuse River.

Known in Deep Pocket.

Between the Argonne and Meuse the Germans are in a deep pocket, and the indication is that they will retreat. It is a line of German positions and the Meuse River. The French and American troops have captured a line of German positions and the Meuse River.

Final With Possibilities.

West of the Argonne the Germans are fighting with desperation to stop the advance of Allied troops. The French and American troops have captured a line of German positions and the Meuse River.

U.S. TROOPS SMASH HUNS IN ARGONNE

Americans Attack Along Extended Front and Capture Several Villages From Foe.

PARIS, Saturday, Oct. 5.—American troops attacked today with smashing results the Meuse and the Argonne along an extended front. The advance of our units has reached more than 100 miles, and several villages have

Liberty Loan Parade - Philadelphia

September 28, 1918

200,000 crowd to see the biggest parade in the city's history, 2 weeks after the first civilian cases, & the day after 200 were admitted to hospital !

41730 F5L aircraft hull in Liberty Loan parade in Philadelphia, 28 Sept. 1918

“By mid-October Philadelphia was reeling. the city had to secure five supplementary morgues. Many families, especially in the slums, had no adult well enough to prepare food & in some cases had no food at all because the breadwinner was sick or dead.” Alfred Crosby



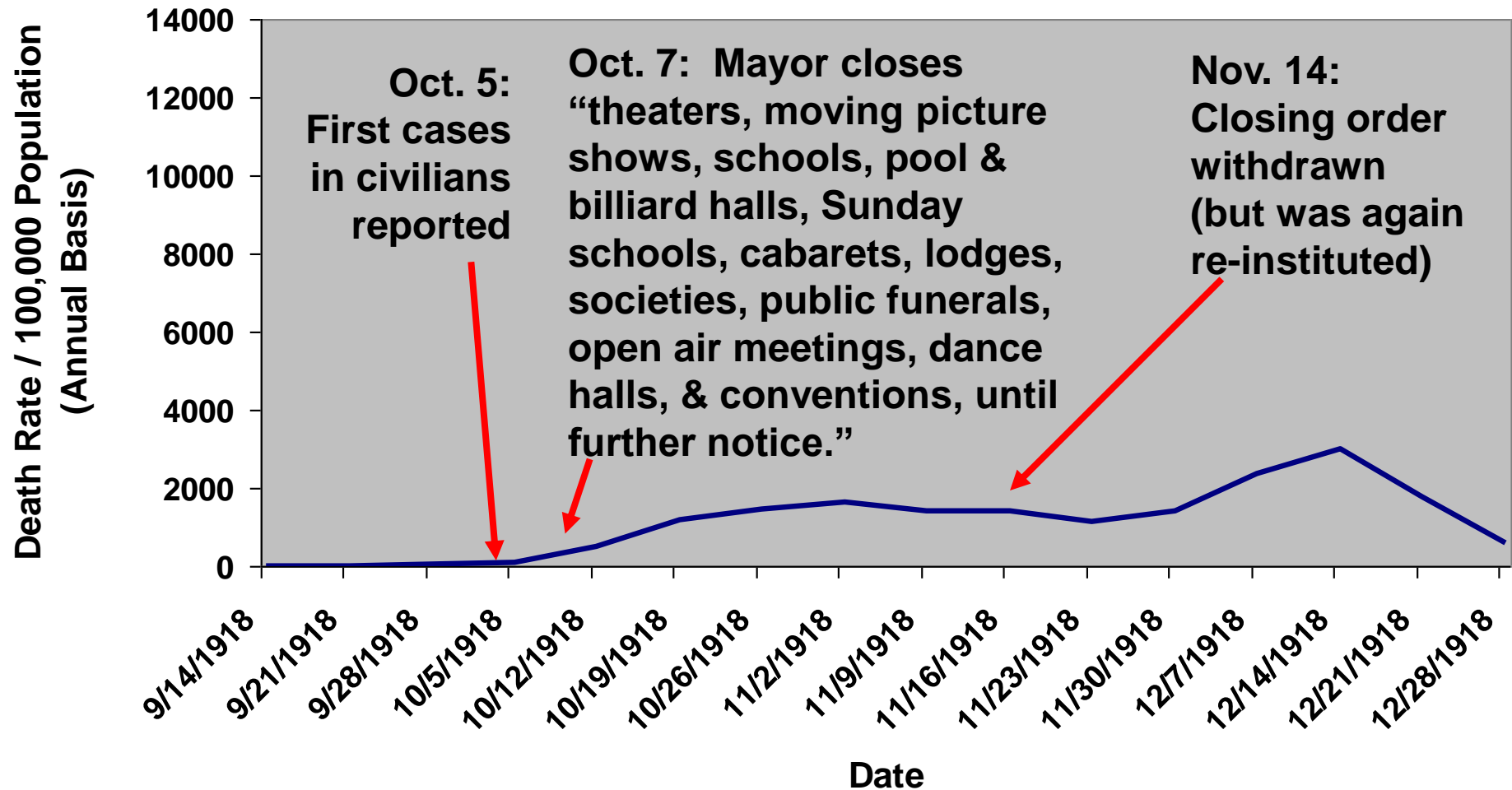
“In Philadelphia the number of dead quickly overwhelmed the city’s ability to handle bodies.

It was forced to bury people, without coffins, in mass graves and soon began using steam shovels to dig the graves.”



(John Barry, *The Great Influenza*)

3 studies have examined relationships between NPI implementation & mortality in US cities. This is St. Louis, from Sep. 14 to Dec. 28.



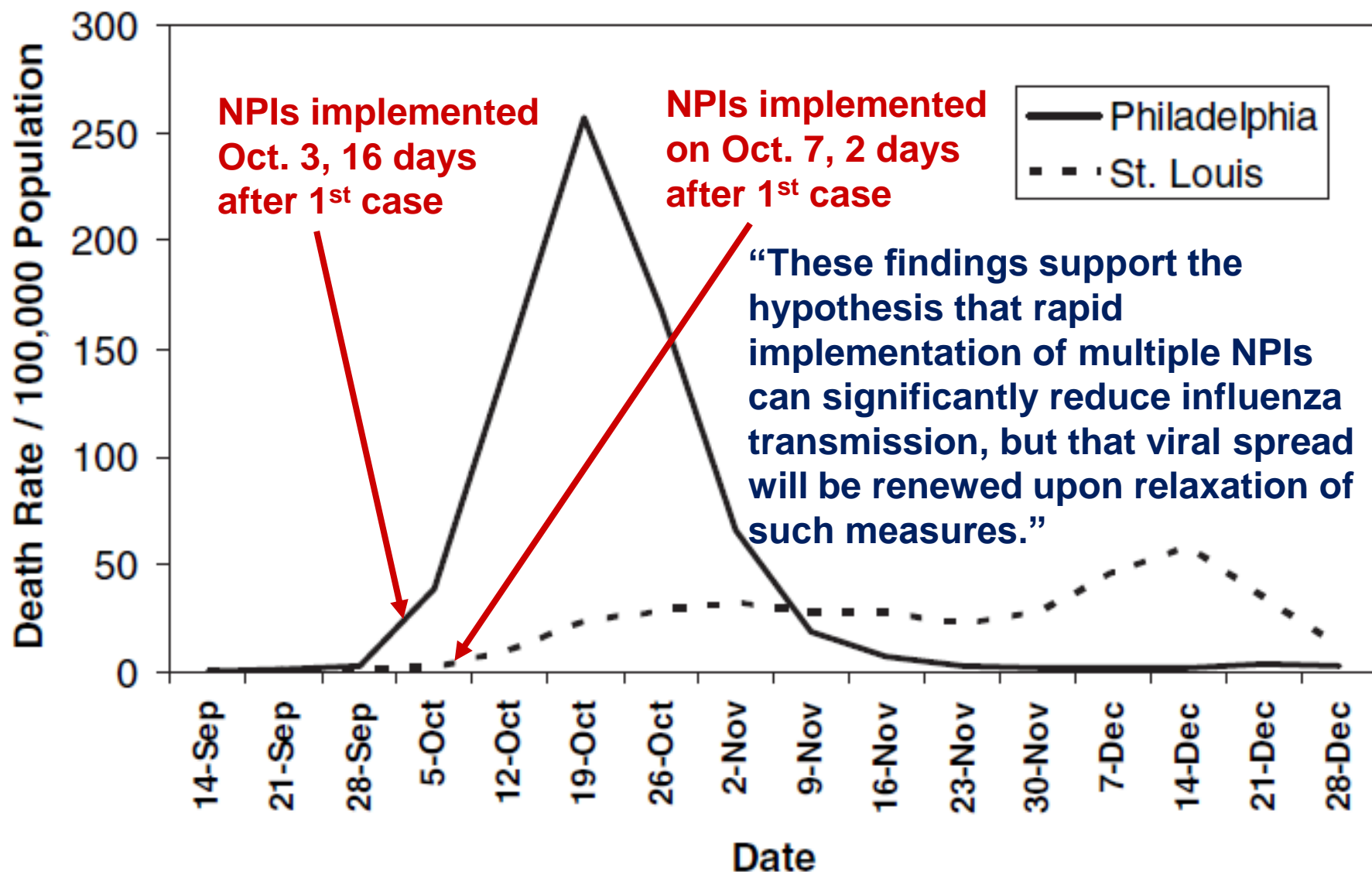
- Markel H, Lipman HB, Navarro JA, et al. Nonpharmaceutical interventions implemented by US cities during the 1918-1919 influenza pandemic. JAMA 2007, Aug 8; 298(6): 644-54: <http://jama.ama-assn.org/cgi/reprint/298/6/644.pdf> (43 cities)
- Hatchett RJ, Mecher CE, Lipsitch M. Public health interventions and epidemic intensity during the 1918 influenza pandemic. Proc Natl Acad Sci 2007, May 1; 104(18): 7582-7: www.pnas.org/content/104/18/7582.full.pdf (17 cities)
- Bootsma CJ, Ferguson NM. The effect of public health measures on the 1918 influenza pandemic in US cities. Proc Natl Acad Sci 2007 May 1; 104(18): 7588-93: www.pnas.org/content/104/18/7588.full.pdf (23 cities)

The Situation in Saint Louis During the Peak of the Second Wave Never Approached that in Philadelphia



In St. Louis, Missouri, the Red Cross Motor Corps transports a flu victim from a house at Etzel & Page Avenues (St. Louis Post Dispatch file photo)

Excess pneumonia & flu mortality over 1913–1917 baseline in Philadelphia & St. Louis, Sep. 8 – Dec. 28, 1918





“In most cities all public meetings were banned, all public gathering places – churches, schools, theaters, & saloons – closed. Most churches simply cancelled services, but this one in California met outdoors, a technical violation of the closing order but a response to the congregation’s need for prayer.” John Barry, *The Great Influenza*.

Menu of NPIs, circa 1918-1919

1. Making influenza a reportable disease
2. Isolating sick individuals
3. Quarantine of households with sick individuals
4. School closure
5. Protective sequestration of children or adults
6. Cancellation of worship services
7. Closure of public gathering places [e.g., saloons, theatres, etc.]
8. Staggered business hours to decrease congestion.
9. Mandatory or Recommended use of masks in public
10. Closing or discouraging the use of public transit systems
11. Restrictions on funerals, parties, and weddings
12. Restrictions on door-to-door sales
13. Community-wide curfew measures and business closures
14. Social distancing strategies for those encountering others
15. Public health education measures
16. Declaration of public health emergency.

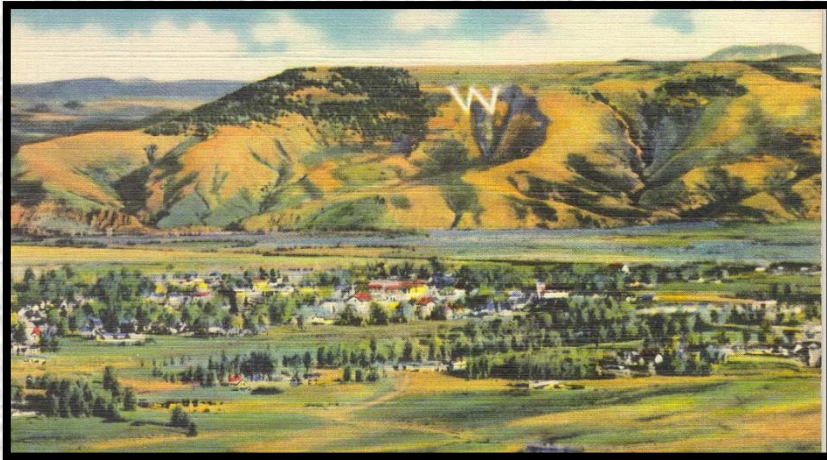


“Protective Sequestration” in Gunnison, Colorado

1 of only 7 U.S. towns & residential institutions **to escape the 2nd wave**

(Escape Community Digital Document Archive, Center for the History of Medicine, Univ. of Michigan:

<http://chm.med.umich.edu/research/1918-influenza-escape-communities/>)



Site: Small mountain town,
far from major population
centers, but on a major rail line.

Population: 1,329 in town

Flu Cases: 0 in town

Flu Deaths: 0 in town

Non-Pharmaceutical Interventions

- Barricades on roads for 4 months;
- Rail travel restricted;
- Quarantine of arrivals & jailing of those in violation;
- Isolation of suspected cases;
- Schools & all institutions closed;
- No public gatherings, per state law

14. All New York City workers wore masks. Note the absence of traffic on the street and pedestrians on the sidewalk. The same silent streets were seen everywhere. In Philadelphia a doctor said, "The life of the city had almost stopped."

**(John Barry,
The Great Influenza)**



Danbury (1918
population ~ 22,500) &
Bethel (1918 pop. ~
3,300), in western
Connecticut (60 miles
northeast of New York
City) **were hit by the
deadly 2nd wave in
October.**



**Main St.,
Danbury,
c. 1910**
(Danbury
Historical
Society)



**Bethel,
c. 1910**
(Wikipedia)

“The Siege of Illness”

- Wednesday, Oct. 2nd: 4 **cases** reported in Danbury to date.
- Friday, Oct. 4th: Danbury “**Schools Closed As Precaution.**”
- Saturday, Oct. 5th: **Theatres** closed.
- Thursday, Oct. 10th: Danbury **Fair** closed & public **dances prohibited.**
- Thursday, Oct. 17th: Bethel call for **volunteers** to help care for the ill.
- Monday, Oct. 21st: “Epidemic Hits **Coal Supply**” - many coal miners ill.
- Friday, Nov. 8th: Bethel cabinet maker making **caskets** because “it is difficult to secure caskets of any kind.”



(Photos not from Danbury papers)



“A Great Need of Nurses”

- **Saturday, Sep. 28th:** Danbury Hospital Superintendent urgently seeking nurses in Danbury to send to Camp Devens, Massachusetts, in response to their appeal.
- **Saturday, Oct. 5th:** Connecticut state-wide appeal to “use every means to keep nurses in this state.”



Class of 1917, Danbury Hospital Training School for Nurses, Sep. 5, 1917. *(Images of America: Danbury)*

NURSES

Graduate and Non-Graduate.

“You are needed in Connecticut to help overcome the influenza epidemic.

Don’t leave your home state folks to die while you seek a pot of gold at the end of the rainbow somewhere else.

The State Department of Health will place you where you can serve best, guarantees your pay.

Graduate nurses \$28 a week and expenses; trained nurses, assistants \$15 a week and upward with expenses.

Report at once by telegraph or telephone to the State Department of Health of Connecticut for assignment.”

Danbury Evening News, Tuesday, Oct. 8

“Health Authorities Differ”

“Two directly conflicting opinions in regard to the advisability of closing schools and theatres and other places of public gatherings have been given during the last forty-eight hours by federal and state health officials.....

“The most effective way to stop the spread of the Spanish influenza is to close churches, schools, theatres and public institutions in every community where the epidemic has developed in the opinion of Surgeon General Blue of the public health service.

“In its current campaign to check the epidemic of Spanish influenza, the state department of health does not advocate the closing of either schools or theatres.”

“When schools are closed, children are apt to play together at all hours of the day,”

Danbury Evening News, Sat., Oct. 5th

“Better Off in School”: School Medical Inspection as a Public Health Strategy During the 1918–1919 Influenza Pandemic in the United States

Public Health Reports / 2010 Supplement 3 / Volume 125

ALEXANDRA MINNA STERN, PhD^a
MARY BETH REILLY, BA^a
MARTIN S. CETRON, MD^b
HOWARD MARKEL, MD, PhD^a

SYNOPSIS

During the 1918–1919 influenza pandemic in the United States, most cities responded by implementing community mitigation strategies, such as school closure. However, three cities—New York City, Chicago, and New Haven, Connecticut—diverged from the dominant pattern by keeping their public schools open while the pandemic raged. This article situates the experiences of these three cities in the broader context of the Progressive era, when officials and experts put great faith in expanding public programs in health and education. It adds an important dimension to the historical understanding of the 1918–1919 influenza pandemic and offers lessons for public health practitioners and policymakers today who might face difficult decisions about how to respond to the 2009 H1N1 influenza pandemic.



<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2862335/pdf/phr125s30063.pdf>

<https://www.floridamemory.com/exhibits/wwi/postwar/>

HEALTH NOTICE.

"The holding of any public dance within the limits of the Town or City of Danbury is hereby prohibited, in accordance with the orders of the State Health Commissioner.

No more gatherings of this nature can be held until the order of the commissioner is revoked.

Any attempt at violation of this order will be dealt with promptly and effectively, through the police department.

BOARD OF HEALTH.

Danbury, Conn., October 10."

Danbury Evening News, Thurs, Oct. 10

Coughs and Sneezes Spread Diseases



As Dangerous as Poison Gas Shells
**SPREAD OF SPANISH INFLUENZA
MENACES OUR WAR PRODUCTION**

U. S. Public Health Service Begins Na-
tion-wide Health Campaign.

The Danbury News, Wednesday, October 9

A “Most Desperate” Situation

Friday, Oct. 25th: "Physicians and nurses are still working almost to the limit of their endurance and the hospitals are practically filled with patients.

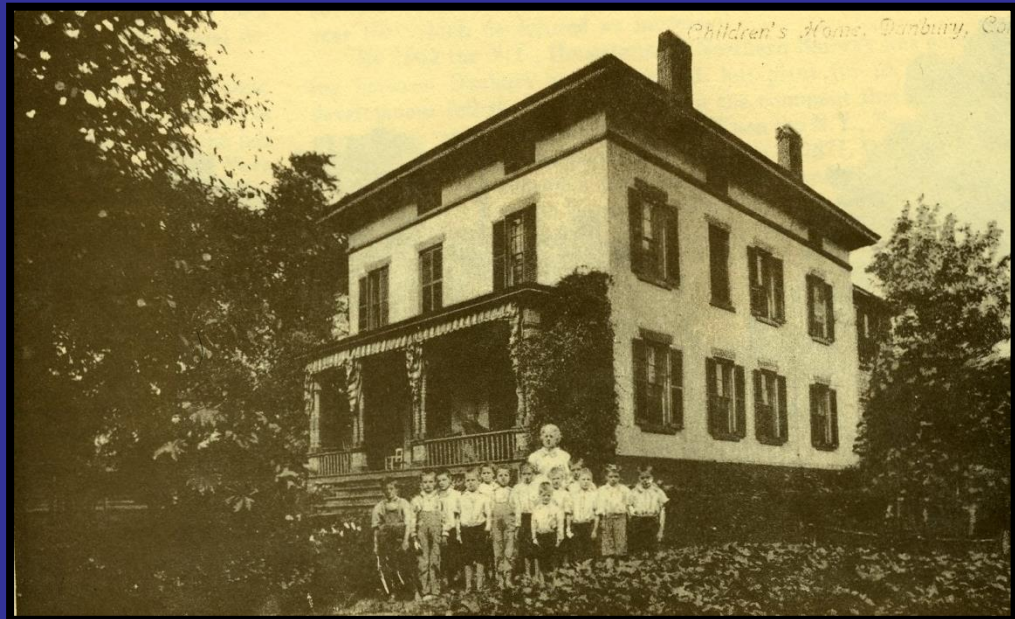
All effort is being made to divert influenza and pneumonia patients from the Danbury hospital to the emergency hospital, so far as possible.

It was stated this afternoon, however, that the emergency hospital, opened in the Children's Home on Town Hill avenue two days ago, will probably be filled by tonight.

Bad as the situation is here, it is good compared with that in several other places in Connecticut." (Danbury Evening News)



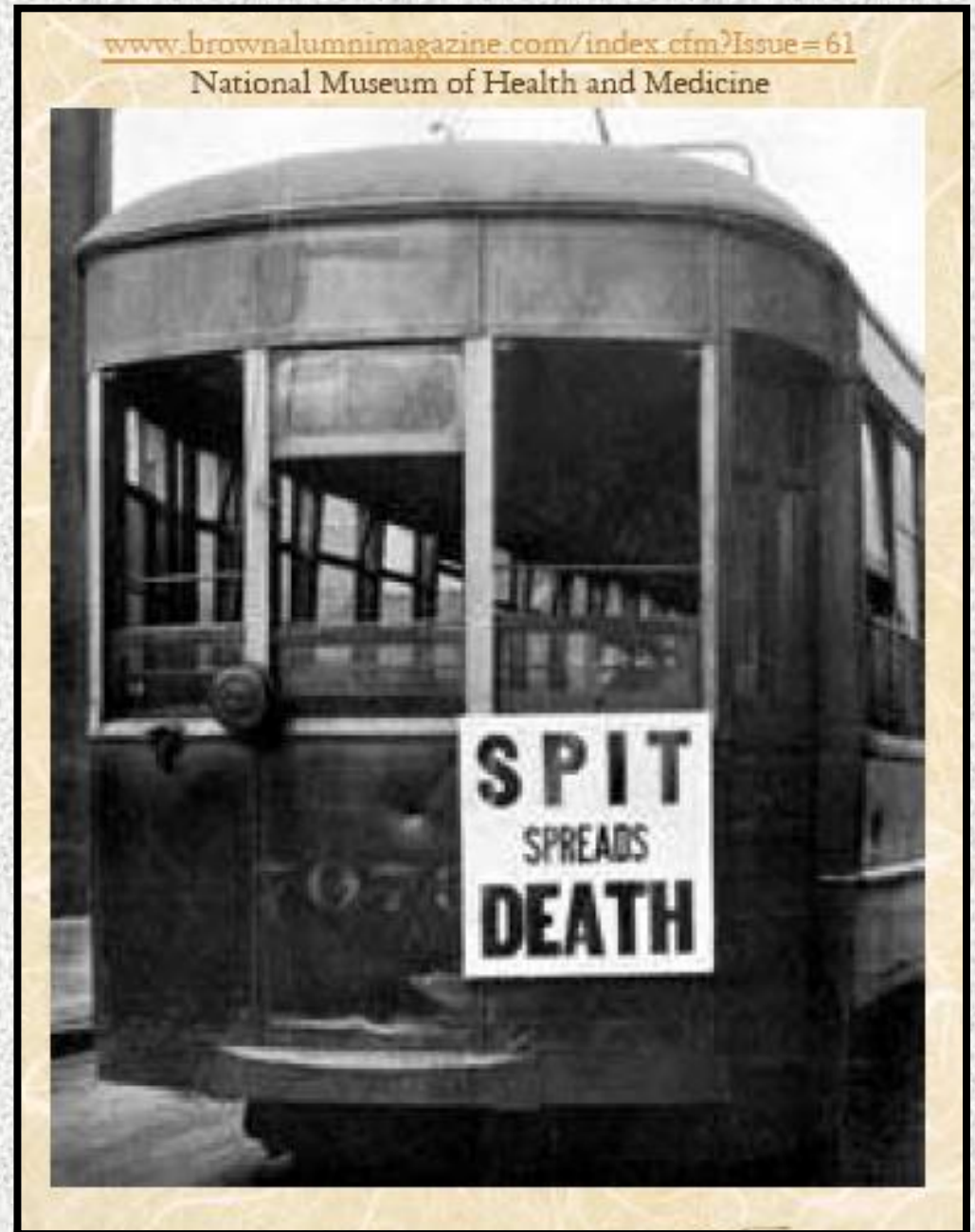
Danbury Hospital c. 1920 (60-bed facility on Locust Ave. opened in 1910) (*Images of America*)



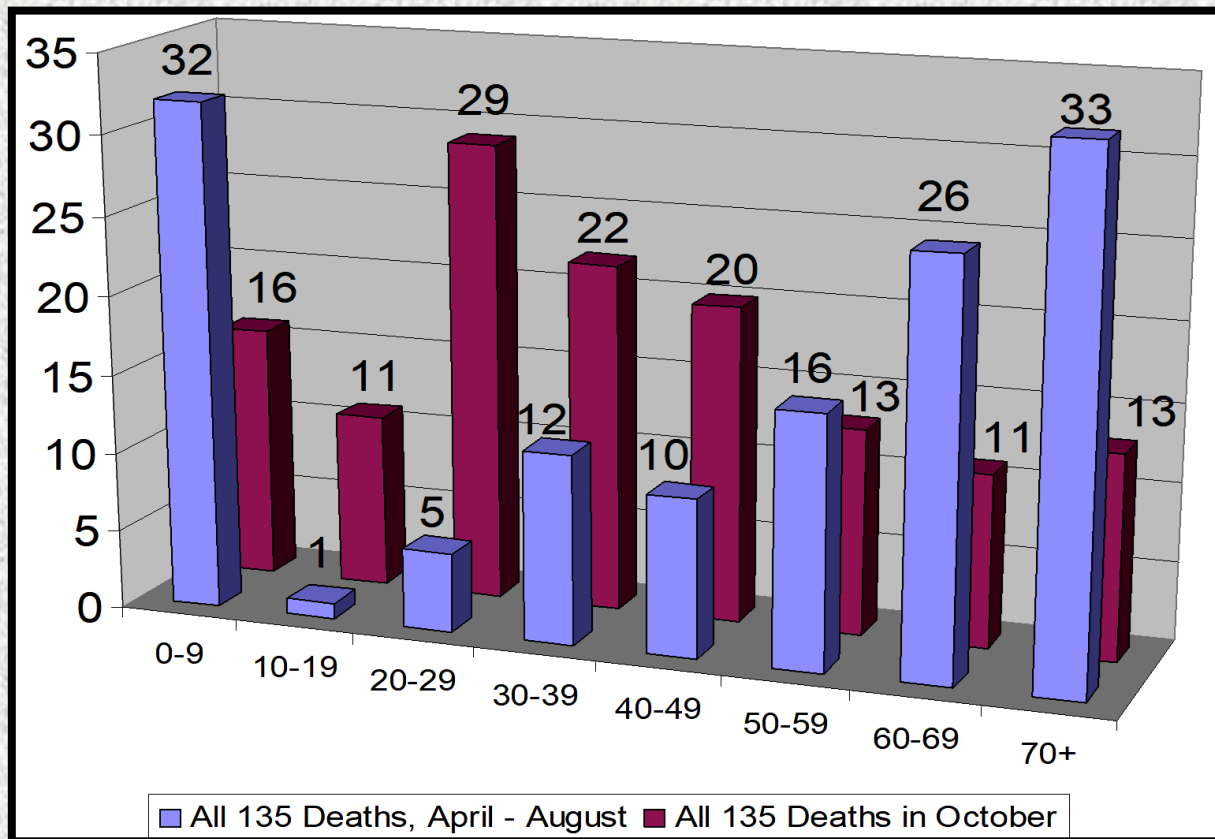
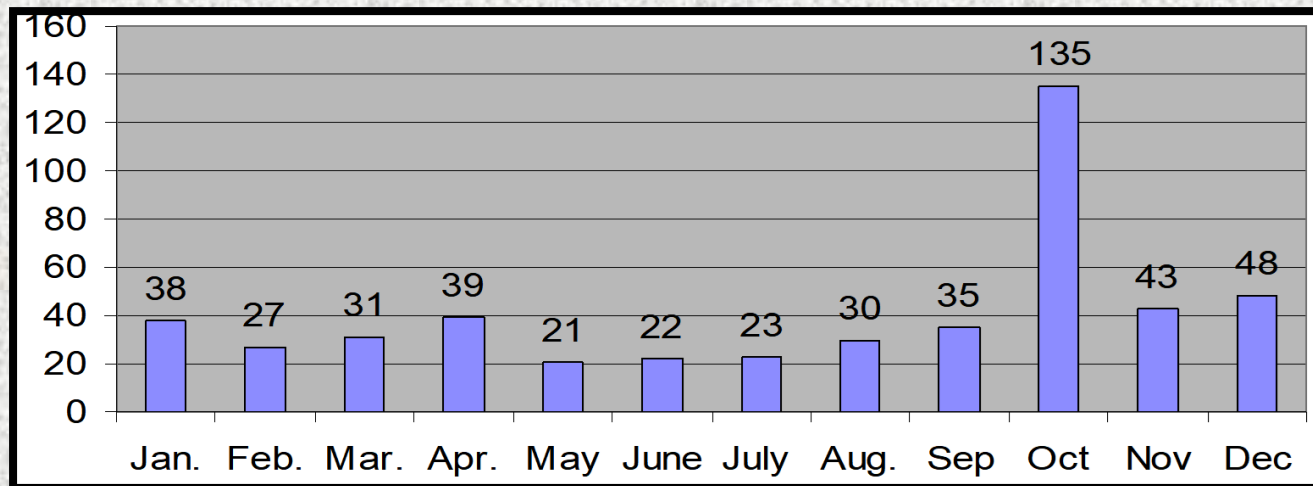
The Children's Home, which still stands at Town Hill Ave. & Cottage St. (Durgy ES, *As We Were*, 1977)

Prevention & Home Care

- Danbury press accounts reflect a good understanding of flu transmission.
- Many of the NPIs now being used around the world, were tried in Connecticut in 1918.
- But with conflicting guidance from federal & state authorities, different communities implemented different NPIs.
- Danbury papers printed key information on reducing the risk of infection & on home care, some of which was good by current standards, & some not.
- The feasibility of home care was challenged by the family clustering of cases & shortage of nurses, leading to a call for volunteers, & need for hospital admission for basic care.



Month of Death
Among the 492
Deaths from All
Causes in Danbury,
in 1918: ~145 excess
deaths Sep. - Dec. =
42% excess all-cause
mortality in 1918.*



1918 Danbury
 population ~ 22,500.

Charts based on
 information from the
 Danbury Evening News,
 January 13, 1919.

Age at Death Among
Deaths from All Causes
in Danbury, April –
August, & October, 1918:
61% of deaths in October
were in 10 – 49 year olds,
compared to 21% from
April through August.*

Some cities managed a decent public health response 15 years before the virus was first isolated from a human (at Mill Hill, London, in 1933, after an infected ferret sneezed into the face of a researcher).

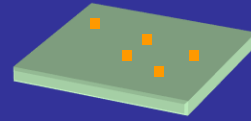


Purpose-bred ferrets at Mill Hill. Date unknown (c.1924–1926). Source: National Archives, FD 1/1284.
https://www.researchgate.net/figure/Purpose-bred-ferrets-at-Mill-Hill-Date-unknown-c1924-1926-Source-National-Archives_fig6_263290792



Johan Hultin excavating the Brevig Mission burial site in Alaska, where 72 of its 80 inhabitants were lost to the 2nd wave, Nov. 15 - 20, 1918.

Wave-2 Virus Reconstructed from Lung Tissue of 1 Alaskan Native & 2 Soldiers



Tissue specimens



Gene sequencing

Gene reconstruction

Reverse genetics



“Here we present sequence and phylogenetic analyses of the complete genome of the 1918 influenza virus, and propose that the 1918 virus was not a reassortant virus, but more likely an entirely avian-like virus that adapted to humans.”

Phenotypic characterization in tissue culture & animals

(Taubenberger, et al. *Characterization of the 1918 influenza virus polymerase genes*. Nature Oct. 2005)

(The Wave-2 virus now lives in Atlanta)

Jump-Rope Rhyme Chanted by Children in 1918

*“I had a little **bird**
Its name was **Enza**
I opened the window
And **in-flew-Enza**”*

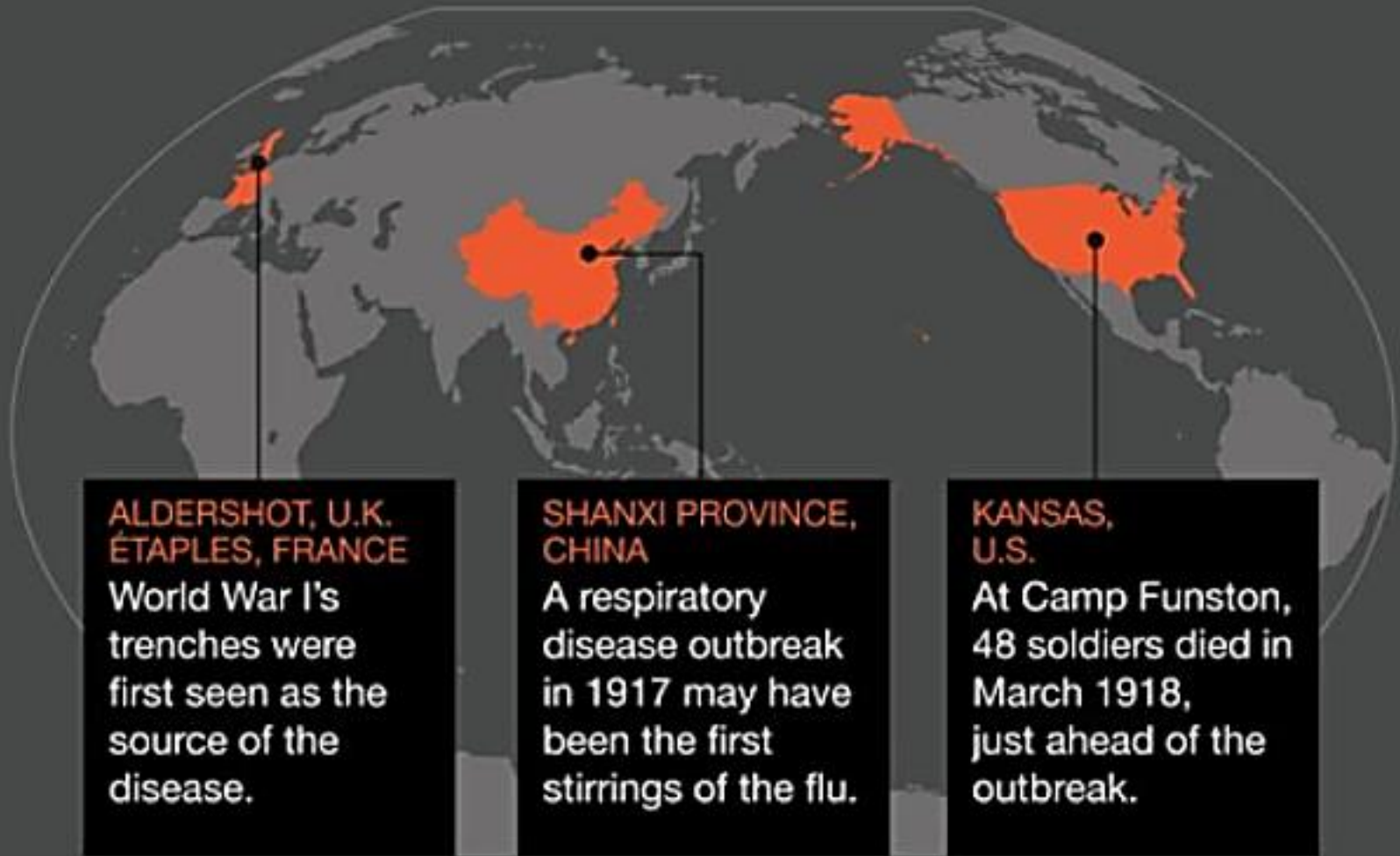


(The kids knew it came
from the birds 87 years
before Taubenberger did!)

Origins of deadly pandemic debated

The “Spanish flu” outbreak of 1918-20 killed perhaps 50 million people worldwide. Here are three possible origins:

(<https://www.nationalgeographic.com/news/2014/1/140123-spanish-flu-1918-china-origins-pandemic-science-health/>)

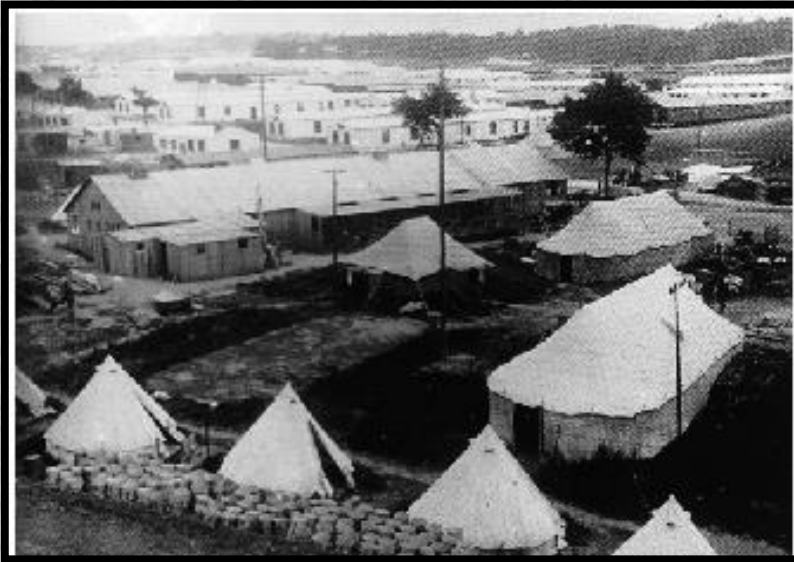


JOHN TOMANIO, RYAN MORRIS, KELSEY NOWAKOWSKI, NG STAFF
SOURCES: WAR IN HISTORY; JOURNAL OF PUBLIC HEALTH POLICY

Origins of the 1918 Pandemic?

(one of several hypotheses)

A hypothesis: The conjunction of soldiers, gas, pigs, ducks, geese, & horses in Northern France provided the conditions for the emergence of the pandemic... (JS Oxford, et. al.)



Huge British army base at Etaples: Site of the winter 1916/1917 outbreak (of H1N1?)

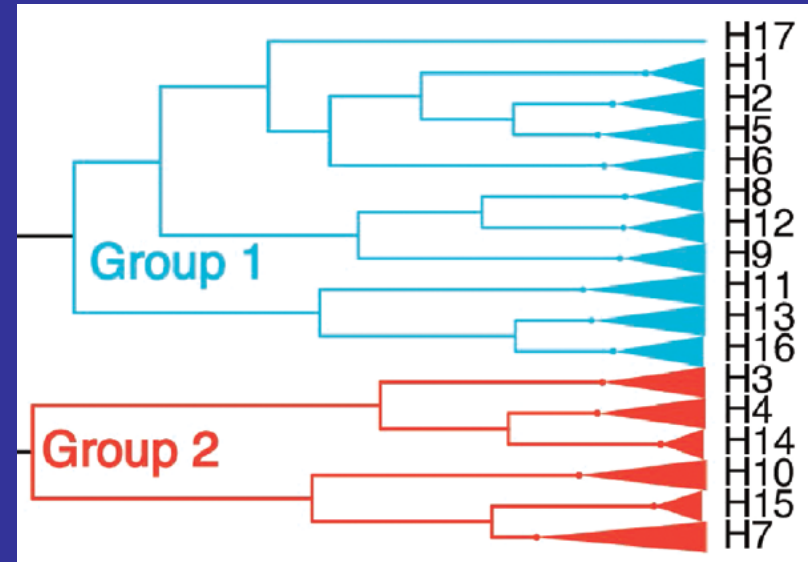


The origins of the great pandemic 8

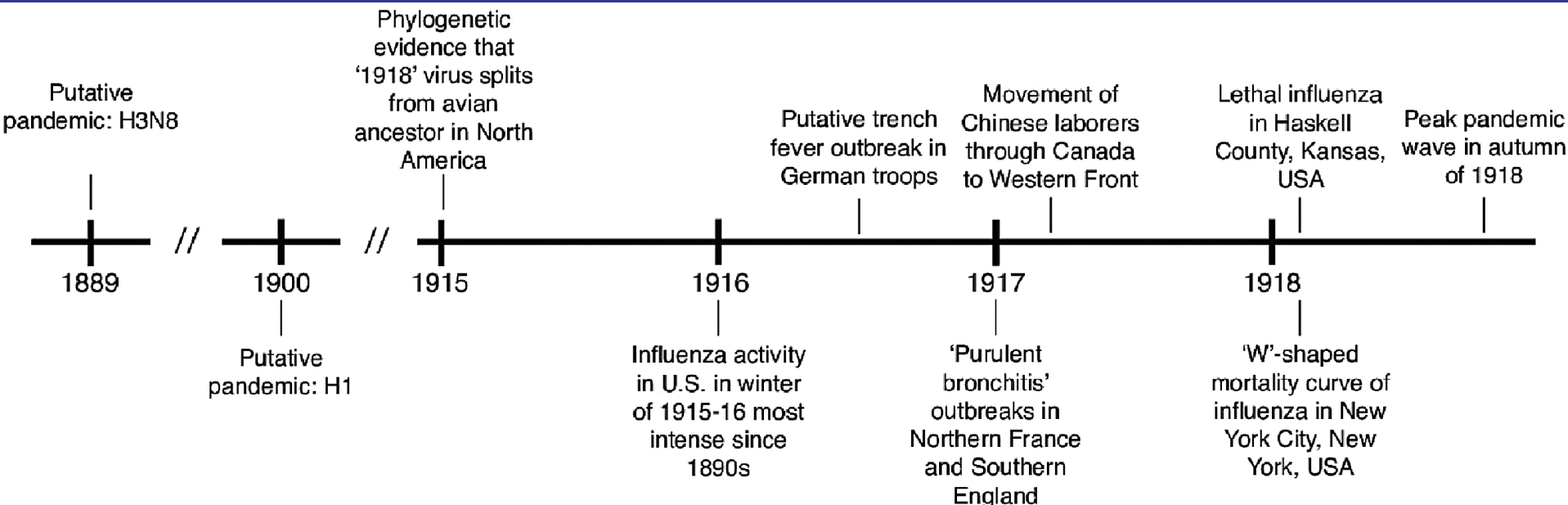
Michael Worobey ✉, Jim Cox, Douglas Gill

Evolution, Medicine, and Public Health, Volume 2019, Issue 1, 2019,

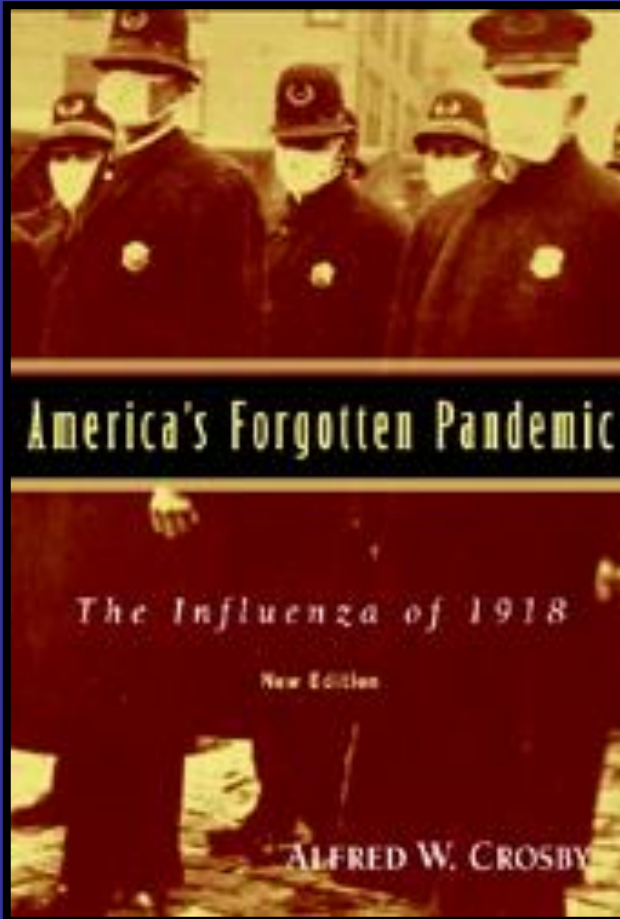
“most of the avian-like genomic segments in the 1918 human virus appear to be of Western Hemisphere and, probably, North American origin the virus reassortment event giving rise to the pandemic probably occurred in or around 1915..... antigenic imprinting caused by an individual's first IAV exposure(s) in infancy to one or the other of the two HA phylogenetic ‘groups’ has emerged as a key explanatory factor that appears to underlie the peak in mortality among young adults” ...



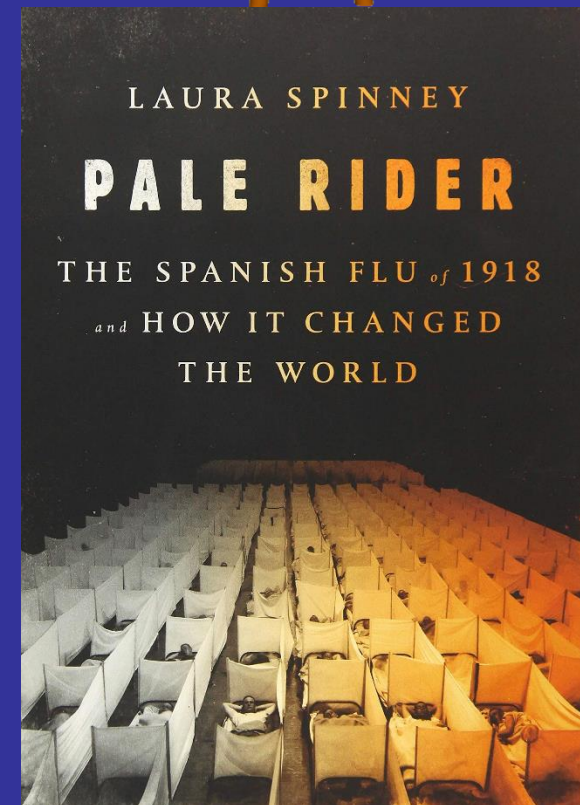
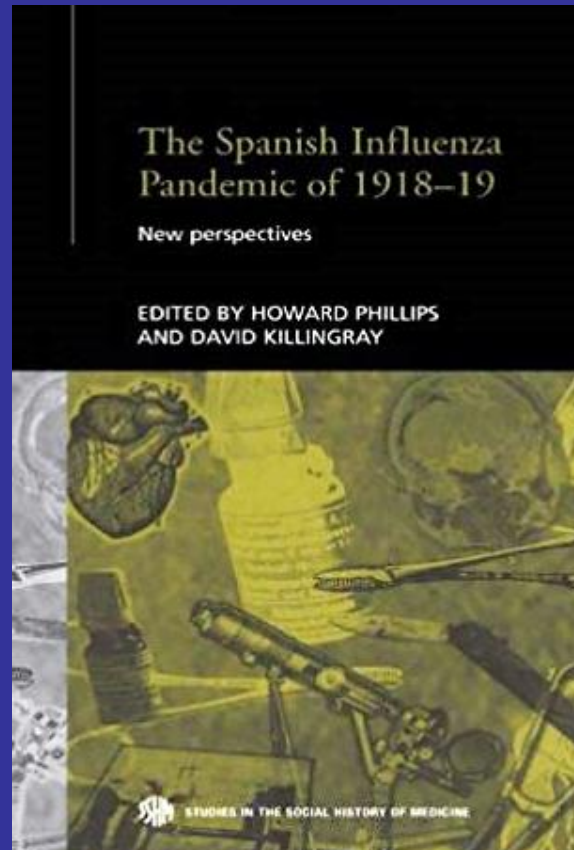
<https://doi.org/10.1093/emph/eoz001>



Recommended Books on 1918



(Same book as *Epidemic & Peace*, published in 1976)



Recommended Papers on 1918

1. Jeffery K. Taubenberger & David M. Morens. 1918 Influenza: The Mother of All Pandemics, Emerging Infectious Diseases, Jan. 2006: <http://wwwnc.cdc.gov/eid/article/12/1/pdfs/05-0979.pdf>
2. Howard Phillips, Influenza Pandemic, Intl. Encyclopedia of the First World War, Oct. 2014: https://encyclopedia.1914-1918-online.net/article/influenza_pandemic
3. Michael Worobey, Jim Cox, Douglas Gill. The origins of the great pandemic. Evolution, Medicine, and Public Health, Volume 2019, Issue 1, 1 January 2019, Pages 18–25, <https://doi.org/10.1093/emph/eoz001>
4. Niall P. A. S. Johnson & Juergen Mueller. Updating the Accounts: Global Mortality of the 1918–1920 “Spanish” Influenza Pandemic, Bull. Hist. Med., 2002, 76: 105–115: www.birdflubook.org/resources/NIALL105.pdf
5. Markel H, Lipman HB, Navarro JA, et al. Nonpharmaceutical interventions implemented by US cities during the 1918-1919 influenza pandemic, JAMA 2007, Aug 8; 298(6): 644-54: <http://jama.ama-assn.org/cgi/reprint/298/6/644.pdf>
6. Hatchett RJ, Mecher CE, Lipsitch M. Public health interventions and epidemic intensity during the 1918 influenza pandemic, Proc Natl Acad Sci 2007, May 1; 104(18): 7582-7: www.pnas.org/content/104/18/7582.full.pdf
7. Bootsma CJ, **Ferguson NM.*** The effect of public health measures on the 1918 influenza pandemic in US cities, Proc Natl Acad Sci 2007 May 1;104(18):7588-93: www.pnas.org/content/104/18/7588.full.pdf *Author, Imperial Coll. Rep. 9, 3/16/2020
8. Stern AM, Reilly MB, Cetron MS, Markel H. “Better Off in School”: School Medical Inspection as a Public Health Strategy During the 1918–1919 Influenza Pandemic in the United States, Public Health Reports. 2010;125(Suppl 3):63-70: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2862335/pdf/phr125s30063.pdf>

