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HOWARD MARKEL and SAM POTTS

American Epidemics, a Brief History

ALL epidemics are different in their own way, and the current swine flu outbreak — which by Friday had sickened 141 people in 19 states, and caused deaths and illness in Mexico and 13 other countries — is no exception. Yet, as you can see from the chart below, which provides details on a selected handful of epidemics in American history, all outbreaks share certain themes. While some of these events killed many thousands and others affected only a few, in each case public health officials felt a grave threat was imminent and did what they could using the science of the day.

History also shows us, unfortunately, that epidemics lead to reflexive scapegoating of those thought to have caused the problem. Just as European immigrants were blamed for importing cholera in the late 19th century, we are now seeing reports of American politicians saying

that Mexican migrant workers should be turned away from hospitals and a rash of scurrilous posts on the Internet attributing the outbreak to their “dirty” ways of life. Another common feature is misinformation. There are now boycotts around the world of Mexican pork, despite well-established science that humans do not contract swine flu from eating pork. And then there was Vice President Joe Biden’s premature suggestion that we all avoid airplanes and the subway.

Confusion and blame games aside, we can take heart that our public health professionals are working around the clock to prevent this crisis from getting out of control. One thing the history of epidemics teaches us is that given our remarkable arsenal of treatments, public health measures and rapid surveillance and communications ability, there’s never been a better time to have a pandemic than today — except, that is, tomorrow.

1892	DISEASE CHOLERA	SYMPTOMS Profuse vomiting and diarrhea leading to dehydration and death	PUBLIC HEALTH STRATEGY Isolation and quarantine of all cases
	LOCATION WORLDWIDE/ NEW YORK CITY	TRANSMISSION Gastrointestinal; usually contracted from contaminated food or water	NUMBER OF SICK OR DEAD Two million deaths worldwide; in New York City there were 11 cases and 9 deaths; there were 44 deaths at the New York quarantine station and an additional 76 aboard ships en route to New York Harbor
	CAUSE VIBRIO CHOLERAE BACTERIA	SCAPEGOATS Several thousand Russian Jewish immigrants were quarantined at Hoffman and Swinburne Islands, near Staten Island. Several hundred first-class cabin passengers were restricted to the Surf Hotel on Fire Island	
1900	DISEASE BUBONIC PLAGUE	SYMPTOMS High fever, intense muscle pain and headaches, fatigue and bloody vomiting, followed by swollen and painful lymph nodes	PUBLIC HEALTH STRATEGY Quarantine and forced vaccinations in Chinatown
	LOCATION SAN FRANCISCO	TRANSMISSION Fleas carried by rats	NUMBER OF SICK OR DEAD By 1904 there had been 121 cases and 113 deaths; of the dead 107 were Chinese, 4 were Japanese and 2 were Caucasian
	CAUSE YERSINIA PESTIS BACTERIA	SCAPEGOATS Chinese immigrants; many protested and some brought successful legal suits against mandatory vaccination laws	
1917	DISEASE TYPHUS FEVER	SYMPTOMS Extremely high fever, joint and muscle pain, delirium, reddish-purple rash spreading from the chest; 20 percent to 40 percent of victims died in the years before antibiotics	PUBLIC HEALTH STRATEGY Isolation of the ill and quarantine of those with contact with them. Intensive medical inspections at the Texas-Mexico border; kerosene disinfecting baths for all Mexicans crossing the border
	LOCATION EL PASO, TEX.	TRANSMISSION Body lice carrying rickettsia bite humans; when they scratch themselves, tainted feces enter the bloodstream	NUMBER OF SICK OR DEAD Three cases
	CAUSE RICKETTSIA PROWAZEKII	SCAPEGOATS Thousands of Mexican day workers crossing the border were subjected to daily kerosene baths; in one case an explosion occurred, killing 28 men and severely burning 25 to 30 more	
1918	DISEASE SPANISH INFLUENZA	SYMPTOMS Fever, cough, fatigue, chills, possibly progressing to pneumonia; in severe cases, patients suffocate as their lungs fill up with fluid	PUBLIC HEALTH STRATEGY Widespread closings of schools and public places and prohibitions against public gatherings; orders to keep mass transit and buildings well ventilated; isolation and quarantine in some communities
	LOCATION WORLDWIDE	TRANSMISSION Respiratory; highly contagious and easily spread	
	CAUSE INFLUENZA VIRUS (A/H1N1)	NUMBER OF SICK OR DEAD Estimated at 650,000 deaths in the U.S., and 25 million to 100 million worldwide	
		SCAPEGOATS Pandemic was too widespread for any one group to be blamed	

1947

DISEASE
SMALLPOX

LOCATION
NEW YORK CITY

CAUSE
VARIOLA MAJOR VIRUS

SYMPTOMS
Fever, headache, severe fatigue, severe backache and malaise, followed by rash that turns to blisters; 30 percent or more infected die

PUBLIC HEALTH STRATEGY
Vaccination of all who had contact with the ill, followed by general public vaccination

TRANSMISSION
Respiratory or physical contact with infected person; highly contagious

NUMBER OF SICK OR DEAD
Three cases

SCAPEGOATS
There was not enough vaccine produced for every American, causing panic among those turned away

1952

DISEASE
POLIO

LOCATION
NATIONWIDE

CAUSE
POLIOVIRUS

SYMPTOMS
Fever, sore throat, headache, vomiting, fatigue, pain or stiffness of neck, back, arms or legs, muscle spasms; in serious cases, paralysis and death

PUBLIC HEALTH STRATEGY
Social distancing measures like canceling summer camps for children and closing public pools. (The Salk polio vaccine was not widely distributed until 1955.) Children of upper socio-economic classes contracted polio out of proportion to poorer children who had developed antibodies through low-level exposure to the virus in unclean drinking water

TRANSMISSION
Gastrointestinal; victims ingest the virus, which infects the lymphatic glands and nerves until it reaches the spinal cord and possibly brain

NUMBER OF SICK OR DEAD
Approximately 58,000 cases and 3,145 deaths, primarily children

SCAPEGOATS
None

1976

DISEASE
SWINE FLU

LOCATION
FORT DIX, N.J.

CAUSE
INFLUENZA VIRUS (A/H1N1)

SYMPTOMS
Fever, cough, fatigue, chills, possibly progressing to pneumonia

PUBLIC HEALTH STRATEGY
Isolation and quarantine of ill soldiers and their contacts at Fort Dix; some 40 million vaccinations given to civilians. After the vaccination program there was an increase of Guillain-Barré syndrome, a neurological disorder causing paralysis. Scientists still debate whether there was a connection

TRANSMISSION Respiratory

NUMBER OF SICK OR DEAD
One death and fewer than 200 confirmed cases

SCAPEGOATS
The government officials involved in the widespread vaccination program; the head of the Centers for Disease Control lost his job and President Gerald Ford was accused of using the crisis for political gain

1982

DISEASE
H.I.V./AIDS

LOCATION
SAN FRANCISCO/LOS ANGELES/NEW YORK, THEN A GLOBAL PANDEMIC

CAUSE
HUMAN IMMUNODEFICIENCY VIRUS

SYMPTOMS
Fever, headaches, swollen lymph glands and weight loss; in time, damage to the immune system leads to a host of illnesses including tuberculosis, meningitis and cancers, and eventually death

PUBLIC HEALTH STRATEGY
Public health education, safer sexual practices, scrutiny of the blood-banking system, needle exchange programs

TRANSMISSION
Sexual activity, blood transfusions, needle sharing among drug abusers, blood exchange between mother and baby during pregnancy, breastfeeding

NUMBER OF SICK OR DEAD
More than 32 million people have died worldwide; 33 million others are now infected

SCAPEGOATS
Gay men, intravenous drug abusers, Haitians

2003

DISEASE
SARS

LOCATION
FIRST IN ASIA, THEN NORTH AND SOUTH AMERICA AND EUROPE

CAUSE
SARS CORONA VIRUS

SYMPTOMS
High fever, headache, chills, malaise, coughing, possibly severe pneumonia

PUBLIC HEALTH STRATEGY
Chinese government concealed the outbreak for several months, helping the disease to spread; quarantine and isolation policies in Hong Kong, Canada and Singapore

TRANSMISSION Respiratory

SCAPEGOATS
Asians and those who had traveled to affected parts of Asia. University of California at Berkeley briefly banned Asian students from visiting the campus

NUMBER OF SICK OR DEAD
8,427 cases, 916 deaths worldwide; 74 probable cases in the United States (one health worker; all others had traveled to SARS-afflicted areas abroad)

Howard Markel, a doctor and professor of medical history at the University of Michigan, is the author of "Quarantine" and "When Germs Travel." Sam Potts is a graphic designer.