The "Spanish" Influenza Pandemic in Bethel & Danbury Connecticut As Reported in the Danbury News & Danbury Evening News "A JOURNAL OF TO-DAY – THE RECORD OF A YANKEE TOWN"

Selected Headlines & Accounts of the Second Wave September 12th 1918 through January 29th 1919 Eric S. Starbuck, DrPH, MPH¹ April 8, 2007 Draft

Selected Headlines, Reports, and Findings

- September 28: Danbury Hospital Superintendent busy seeking nurses in Danbury to send to Camp Devens, Massachusetts, in response to their urgent appeal.
- October 5: Connecticut state-wide appeal to "use every means to keep nurses in this state."
- October 4: Danbury "Schools Closed As Precaution."
- October 5: Danbury theatres closed.
- October 5: "Directly conflicting opinions in regard to the advisability of closing schools and theatres and other places of public gatherings by federal and state health officials."
- October 10: Danbury Fair closed and public dances prohibited.
- October 17: Bethel call for volunteers to help care for the ill.
- October 21: "Epidemic Hits Coal Supply" many coal miners ill.
- October 25: "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."
- November 8: Bethel cabinet maker making caskets because "it is difficult to secure caskets of any kind."
- Although these accounts reflect a decent understanding of the modes of person-to-person transmission, and most non-pharmaceutical interventions (NPIs) now under consideration 89 years later, were tried in Connecticut in 1918, there were substantial differences in which NPIs individual communities decided to implement. During the epidemic, the Danbury News reprinted key information on how to reduce the risk of infection and on home care for the ill, some of which was good by current standards, and some not.
- There were 135 deaths from all causes in Danbury in October, compared to a monthly average of 29 for the first 8 months of the year, and a total of 145 more deaths during the last

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4 months of 1918 than expected (based on the previous monthly average), yielding a 42% increase in mortality for the year over the expected level. In October, 61% of these deaths were among those between the ages of 10 and 49 years, compared to 21% in these age groups among the 135 deaths from April through August. In Bethel there were 12 deaths in October, compared a monthly average of 3, and 14 more deaths during the last three months of the year than the expected number.

• These newspaper accounts include frequent references to the family clustering of cases and deaths, the shortage of nurses, and the implications of these challenges for the care of the ill. A similar family clustering of illness and shortage of nurses may again challenge Connecticut during any future severe influenza pandemic.

Introduction

Danbury, 15 miles (24 km) north of Westport, in Fairfield County of western Connecticut, bordering the state of New York, had a population of 23,500 in 1910 and 22,300 in 1920 (79,000 in 2005),² and a 60-bed hospital. Adjacent to Danbury, our little town of Bethel had a population of 3,800 in 1910, and 3,200 in 1920 (18,000 in 2000).³

The 1918 pandemic is the catastrophe against which all modern pandemics are measured. No other plague in recorded history killed as many people in such a short time. An estimated 20 to 40 percent of everyone on earth became ill, and at least 40 million,⁴ and perhaps as many as 100 million people died ⁵ as a result. Approximately 675,000 deaths from the flu occurred in the U.S. alone.⁶ Recent genetic sequencing of the 1918 H1N1 virus indicates that the strain was of avian origin, and gradually adapted to humans until it was easily transmitted from person to person.⁷

"According to statistics gathered by the state's Department of Health, Connecticut had a mortality rate of 6 per 1,000 from influenza and pneumonia in the last four months of 1918.⁸ In absolute numbers, this figure translates into more than 8,000 deaths from influenza and

⁵ Updating the Accounts: Global Mortality of the 1918–1920 "Spanish" Influenza Pandemic, Niall P. A. S. Johnson and Juergen Mueller, Bull. Hist. Med., 2002, 76: 105–115 (http://birdfluexposed.com/resources/NIALL105.pdf)

⁶ Pandemics and Pandemic Threats since 1900. 1918: Spanish Flu. US Department of Health and Human Services (<u>http://www.pandemicflu.gov/general/historicaloverview.html</u>)

⁷ The much milder 1957 and 1968 flu pandemics were the result of a mixing ("re-assortment") of bird and human influenza gene segments, rather than adaptive mutation of a purely avian virus, as in 1918. See: *Pandemic Influenza*, Center for Infectious Disease Research & Policy, University of Minnesota: <u>http://www.cidrap.umn.edu/cidrap/content/influenza/panflu/biofacts/panflu.html</u> & Taubenberger JK, Reid AH, Lourens RM, et al. *Characterization of the 1918 influenza virus polymerase genes*. (Letter) Nature 2005;437(7060):889-93.

<u>http://www.pandemicflu.gov/plan/community/commitigation.html</u>, estimated attack rate of ~29% X case fatality of ~2.2% = cause-specific mortality of ~6.4/1,000 population – quite amazingly consistent with the info. from Dr. Doty, in the Danbury Evening News, Oct. 7, 1918.)

² <u>http://en.wikipedia.org/wiki/Danbury,_Connecticut</u>

³ <u>http://en.wikipedia.org/wiki/Bethel,_Connecticut</u>

⁴ Avian Influenza - Frequently Asked Questions, World Health Organization, December 2005 (http://www.who.int/csr/disease/avian_influenza/avian_faqs/en/index.html)

⁸ This sounds close to what it was nationally (based on Figure 3A in *Community Strategy for Pandemic Influenza Mitigation in the United States*, CDC, February 2007,

pneumonia In geographic terms, the disease started in the southeastern section of the state, traveled northward, and then headed west. For Hartford, "instead of viewing the epidemic as a solitary event, perhaps one can better understand it as a set of somewhat discrete events or "mini-epidemics" within a city. These mini-epidemics affected various subgroups in the population differently in terms of the timing of the onset, the duration, and the lethality of the disease. The major point of differentiation of these subgroups was ethnicity, which overlapped with geography. social factors (e.g., networks based on ethnicities) exert a major influence on the likelihood of contracting influenza. the disease ran its course much more rapidly in congested, poor areas than in more sparsely populated, affluent areas."⁹

A 1999 review of the epidemic in Connecticut presented data published in the years immediately following the event, including a table of "Deaths from Influenza and Pneumonia, September 1 to December 28, 1918, by Towns and Months," which for Danbury, lists one death in September, 70 in October, 34 in November, and 14 in December, for a total of 119 deaths, and a cause-specific rate of 4.9 deaths per 1,000 population.¹⁰ "Towns under 5,000" population, such as Bethel, were combined in a single row, for which the death rate was 3.6 per 1,000. The towns of Derby and Seymour (south of Waterbury), and Windham (east of Hartford), were reported to have had the highest cause-specific death rate, each at over one percent of their populations. Total (all-cause) mortality by county for the last four months of 1918 was reported to have been highest near the port of entry of the flu in New London, in the southeast, and lowest in the last county to be hit in Connecticut, Litchfield in the northwest, with Fairfield county in the southwest having the second lowest mortality.

John Barry comments in his valuable book on this observation in Connecticut, noting that "the same pattern held true throughout the country and, for that matter, the world. It was not a rigid predictor. The virus was never completely consistent. But places hit later tended to be hit more easily" (meaning that they had lower mortality).¹¹

Two recent studies suggest that Barry's observation may be related to how early in their epidemics different cities introduced multiple non-pharmaceutical interventions (NPIs). "...... cities whose epidemics began later tended to intervene at an earlier stage of their epidemics, presumably because local officials in these cities observed the effects of the epidemic along the Eastern seaboard and resolved to act quickly. cities in which multiple interventions were implemented at an early phase of the epidemic had peak death rates ~50% lower than those that did not and had less-steep epidemic curves. Cities in which multiple interventions were implemented at an early phase of the epidemic also showed a trend toward lower cumulative excess mortality, but the difference was smaller (~20%) and less statistically significant than that for peak death rates. This finding was not unexpected, given that few cities maintained NPIs longer than 6 weeks in 1918. Early implementation of certain interventions, including closure of schools, churches, and theaters, was associated with lower peak death rates, but no single intervention showed an association with improved aggregate outcomes for the 1918 phase of the

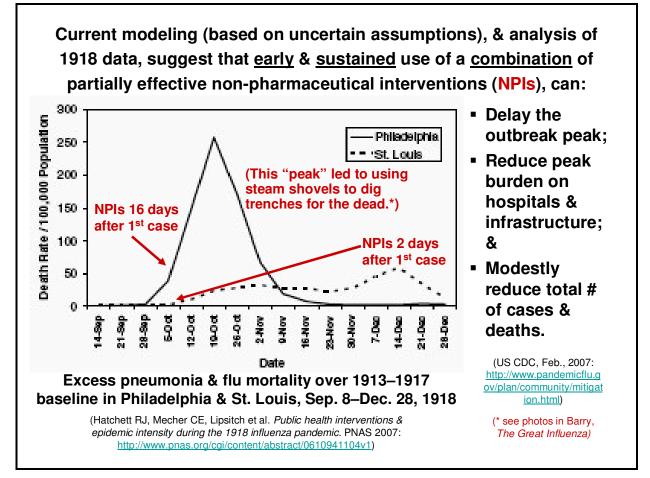
⁹ P Tuckel, S Sassler, R Maisel, A Leykam, *The Diffusion of the Influenza Pandemic of 1918 in Hartford, Connecticut*, Social Science History 30:2 (summer 2006), 167–96.

¹⁰ Arcari, Ralph D, and Hudson Birden (1999), *The 1918 influenza epidemic in Connecticut*, Connecticut History 38: 28–43. The source of this table is not specified. The 70 deaths in October from flu and pneumonia reported here is lower than the 89 for the same month and causes, reported in the Danbury Evening News on November 11, based on death certificates filed with the Town Clerk, which included deaths in Danbury among non-residents (see Nov. 11, below).

¹¹ John Barry, *The Great Influenza: The Epic Story of the Deadliest Plague in History*, Viking, 2004, page 372. (**Recommended reading**, though it contains more background information than readers may desire.)

pandemic. These findings support the hypothesis that rapid implementation of multiple NPIs can significantly reduce influenza transmission, but that viral spread will be renewed upon relaxation of such measures."¹²

The second recent study found that, "during the 1918 influenza pandemic, the U.S., unlike Europe, put considerable effort into public health interventions. city-specific per-capita excess mortality in 1918 was significantly correlated with 1917 per-capita mortality, indicating some intrinsic variation in overall mortality, perhaps related to socio-demographic factors. an even stronger correlation was found between excess mortality and how early in the epidemic interventions were introduced. we found the time-limited interventions used reduced total mortality only moderately (perhaps 10–30%), and that the impact was often very limited because of interventions being introduced too late and lifted too early. Our analysis also suggests that individuals reactively reduced their contact rates in response to high levels of mortality during the pandemic."¹³ (Danbury was not among the cities which contributed data to either study.)



The distribution of deaths by age was also noteworthy in 1918. While mortality from influenza and pneumonia is typically highest among the youngest and oldest age groups, in 1918 mortality was exceedingly high in young adults. For example, in Waterbury, 20 miles (31 km) northeast

¹² Hatchett RJ, Mecher CE, Lipsitch et al. *Public health interventions and epidemic intensity during the 1918 influenza pandemic.* Proc Natl Acad Sci 2007 (http://www.pnas.org/cgi/content/abstract/0610941104v1)

¹³ Bootsma MCJ, Ferguson NM. *The effect of public health measures on the 1918 influenza pandemic in* U.S. cities. Proc Natl Acad Sci 2007 (http://www.pnas.org/cgi/content/abstract/0611071104v1)

of Danbury, 90% of the 841 deaths in October 1918 were influenza-related. Among these 753 flu-related deaths, 78% were among those between the ages of 11 and 49 years of age.¹⁴

U.S. Secretary of Health and Human Services. Mike Leavitt, noted in February 2006 at the pandemic influenza planning summit in Hartford, that the pandemic struck Connecticut "the week of September 11th, laying low Navy personnel in New London. Just two weeks later, about 2,000 cases of influenza were reported in and around the city. On September 27th, the Public Health Service declared, "influenza is prevalent throughout the eastern and southern parts of the state and it appears to be increasing." It was. Three days later, 9,000 cases were reported. A week later, that number had doubled. Then it redoubled, and redoubled again. By the end of October, an estimated 180,000 people had been struck by influenza. The pandemic was spreading with equal ferocity through Massachusetts, and the situation in Boston was so bad that those there begged the people of Connecticut to send any doctors or nurses that could be spared. None could be. The emergency was too dire: the pandemic was too overwhelming. The Connecticut Commissioner of Health (John T. Black) was forced to urge doctors and nurses to remain in the state. At its peak, the pandemic claimed more than 1,600 lives in a single week. But the total number it took in Connecticut will never be known. Reports are incomplete; the pandemic was too overpowering. But its echoes of terror, of suffering, and of loss remain. When it comes to pandemics, there is no rational basis to believe that the early years of the 21st century will be different than the past. If a pandemic strikes, it will come to Connecticut."¹⁵

Methods¹⁶

Reels 102, 103, and 104 of the Danbury News and Danbury Evening News from August 20, 1918 through the end of January 1919 were reviewed by the author in February and March 2007 at the Danbury Public Library, with the consistently friendly and always helpful assistance of library staff. All headlines and related text on the epidemic in Bethel, which were detected by the author, were printed (photo copied), and the most noteworthy text included herewith. However, much of the "Bethel News" appeared without headlines, and content on the epidemic may have been missed for this reason. (Even epidemic-related headlines were easy to miss because the newspaper page from top to bottom was not visible on the screen all at once.) Less noteworthy headlines and text related to the second wave in Danbury were not printed, and only the most noteworthy stories on the situation in other Connecticut communities and beyond were printed. (Unless otherwise indicated, the following headlines and accounts are from the inside pages of the Danbury Evening News.)

¹⁴ Wallach, Gert (1977), *The Waterbury Influenza Epidemic of 1918/1919*, Connecticut Medicine 41: 349–51.

¹⁵ http://www.pandemicflu.gov/general/greatpandemic.html#connecticut

¹⁶ Information on the epidemic in Bethel was sought at the Bethel public library and from the Bethel historical association, but was reported to be unavailable.



September

Thursday the 12th (bottom of front page): "**PNEUMONIA IN NAVY. Five Deaths Reported at Boston To-day.** Boston, Sept. 12—Five deaths from pneumonia among men in naval service here, were reported to-day. In each case, physicians said, the disease followed an attack of influenza, 1,483 cases of which have been reported since August 20."

(This two-sentence account is the first report of the second wave detected in the Danbury papers. Alfred Crosby notes in his excellent book, that "in the latter part of August 1918, the Spanish influenza mutated, and epidemics of unprecedented virulence exploded in the same week in three port cities thousands of miles apart: Freetown, Sierra Leone [west Africa]; Brest, France; and Boston, Massachusetts."¹⁷ Brest and Boston were major ports for the disembarkation and embarkation of troops.)

Tuesday the 17th (bottom of front page): "4,000 MEN IN QUARANTINE. Spanish Influenza in Aviation Camp at Great Lakes, III."

Friday the 20th (top of front page): "**108 DEATHS IN CAMPS. Spanish Influenza Spreads. Epidemic at Some Cantonments.** Rapid spread of Spanish influenza among soldiers in training, with epidemics at Camps Devens, Mass; Upton, New York; Dix, New Jersey, and Lee, Virginia,, 108 deaths at all camps during the week compared with ninety-five the preceding week."

Monday the 23rd (top of front page): "MANY INFLUENZA CASES IN STATE. One Death in Hartford, 125 Ill There – 25 Ill in Bridgeport. Hartford, Sept. 23 – The first death from Spanish influenza in this city was reported to-day. Hospital Nurses Ill. Bridgeport, Sept. 23.—Twenty-five cases of Spanish influenza have been reported to Health Officer Walter H. Brown up to noon to-day. In this number are included several nurses at the Bridgeport hospital"

Tuesday the 24th (top of front page): "INFLUENZA EPIDEMIC IN NORWALK. Eighteen Cases in One Section. Efforts Being Made to Check Disease. 5,000 BROCKTON CASES. Hospitals Overflow, Doctors and Nurses Scarce--Six Deaths in Quincy."

Thursday the 26th (front page, top right): "NEW VACCINE BEING TRIED FOR INFLUENZA. Boston Hospital Nurses and Tufts Medical College Students Inoculated. PLANS TO FIGHT DISEASE. Mass Meeting Discusses Ways to Combat Epidemic in New England." (Spreading it while discussing it?) "Government Takes Hold. Washington, Sept. 26—"Stamping out of the Spanish influenza, which has extended to more than a score of army camps and many sections of the country, has been recognized by the government as a war measure."

¹⁷ Alfred Crosby, *Epidemic and Peace, 1918*, Greenwood Press, 1976, page 37, republished more recently as *America's Forgotten Pandemic*. This is **highly recommended reading**, even though Crosby's assertion that both Connecticut towns of Darien and Milford escaped the mortality of the Spanish influenza completely (page 64), has recently been "refuted by reviewing that state's annual board of health reports for 1918 and 1919 as well as the local newspapers" by the Univ. of Michigan's Center for the History of Medicine (*A Historical Assessment of Nonpharmaceutical Disease Containment Strategies Employed by Selected U.S. Communities During the Second Wave of the 1918-1920 Influenza Pandemic*, 2006, page 37, www.med.umich.edu/medschool/chm/influenza/, **also recommended reading**).

Thursday the 26th: "INFLUENZA IN 26 STATES. Federal Officials Confer on Plans to Help Local Committees."

Friday the 27th (top of front page): **"27 DEATHS IN NEW YORK. To-day's List Higher Than Previous Total—Influenza Cases Need Nurses."**

Friday the 27th: **"TO AVOID INFLUENZA. State Board of Health Gives Directions for Precaution.**

Because Spanish Influenza is at present epidemic, extraordinary precautions should be taken not only to avoid contracting the disease but to prevent the possible development of pneumonia, said Dr. John T. Black, state commissioner of health, in a statement issued to-day for the guidance of the public during the epidemic.

Spanish influenza is an infectious disease which should at all times be seriously considered because of the frequent development of pneumonia as a consequence, Dr. Black said. Widespread epidemics occasionally occur, as at present, with more or less disastrous results. When influenza once gets a foothold in a community it is practically impossible to check it by the usual methods of controlling communicable diseases. Many, however, can often avoid serious consequences by observing a few simple precautions.

Most cases of pneumonia occur in the cases of persons who try to fight off symptoms of influenza without going to bed, or who leave their beds before recovery is complete.

Here is Dr. Black's precautionary instructions:

How to Avoid Influenza.

- 1. Keep your mind and body in as near a normal state as possible.
- 2. Avoid overwork and excess.
- 3. Don't allow anyone to breathe, cough or sneeze in your face.
- 4. Keep away from public gatherings.

5. Keep your teeth clean by brushing and by the use of an antiseptic gargle night and morning.

How Not to Give Influenza.

1. Upon the first indication of cold or fever retire immediately to your home and send for the doctor.

2. If the doctor confines you to your room or sends you to bed, stay there until he tells you to go out or get up.

3. Bar all other visitors until well on the road to recovery."

Saturday the 28th: "APPEAL FOR NURSES. Danbury Asked to Send Women to Camp Devens at Once. Miss Mary Durnin, superintendent of the Danbury hospital has received the call from the State Council of Defense and Danbury is asked to send as many nurses as possible to help out in the emergency. "The call is most urgent," said Miss Durnin this morning, "and I hope that every graduate nurse in the city who can arrange to get away will communicate with me as soon as possible in order that I may make arrangements for sending them to camp. Persons who have nurses in their homes at the present time and can let them go ought to do so. The students who have taken the first-aid course should volunteer to do what they can in the homes of the city to relieve the graduate nurses. Nurses, married or single, who can make arrangements to go to Camp Devens, should make every effort to get away as soon as possible." Miss Durnin has been busy ever since receiving the appeal getting in communication with nurses in the city and hoped to be able to report by this evening that Danbury was ready to respond to this call to duty as it had to all other calls."



THE TRAINING SCHOOL FOR NURSES. The Danbury Hospital Training School for Nurses wa established in 1892 and graduated progressively larger groups of women into the nursin profession until the end of the challenging three-year program in 1965. Shown on Septembe 5, 1917, are the graduates of the Class of 1917.

(Images of America: Danbury, Danbury Museum & Historical Society, Arcadia Pub., 2001)

Monday the 30th: "**NURSES NOT NEEDED. Epidemic at Camp Devens Believed to Be in Hand.** This message was received by Miss Mary Durnin, superintendent of the Danbury hospital, in connection with the cancellation of the request received on Saturday for nurses to be sent to the camp as speedily as possible. Five Danbury nurses volunteered for this service and were preparing to leave"

October

Tuesday the 1st: "**TWO SOLDIERS DIE IN CAMP.** Pneumonia, following an attack of Spanish influenza, claimed another Danbury soldier at Camp Devens yesterday, …"

Thursday the 3rd: "**KEEP CALM; BE CAREFUL. Comparatively Little Influenza Has Appeared in This City as Yet.** Dr. G. E. Lemmer, local health officer, stated yesterday that only four cases of what has been diagnosed as the genuine Spanish influenza had been reported to him as having been found in this city. The state health authorities told Dr. Lemmer that they felt it would be safe to go forward with arrangements for holding the Danbury Fair as usual, although certain restrictions should be applied. One of these restrictions will be in regard to the use of cloth towels or napkins at eating places upon the grounds. The use of these articles will be positively prohibited." (This story goes on to include the same 12 rules to avoid respiratory disease by the Surgeon General of the U.S. Army which appear again, below, on October 5.)

Thursday the 3rd: "**VISITORS TO DEVENS. Conveyances Will Be Provided for Relatives.** Looking to the interests of relatives and friends at Camp Devens, who may be ill, arrangements have been made to facilitate visits to the camp." (Is there a term for this "conveyance" of the healthy into the midst of a deadly epidemic? This sounds like the precise antithesis of isolation of the ill, which was recommended and practiced in 1918, as attested to by several accounts here!)

Friday the 4th (inside page, referring to Danbury schools): "SCHOOLS CLOSED AS PRECAUTION. Action Taken to Safeguard Health of Children in Present Emergency. It was stated that about fourteen per cent. of the pupils in the public schools were out of school yesterday, many of them because of the grip, or colds, and the opinion has been expressed by state health officials that any town where ten per cent. of the pupils are absent from school at the present time, it is advisable to close the schools." (Feb. 2007 CDC guidance is to close schools much earlier than this, and consider keeping them closed for up to 12 weeks, in a pandemic as severe as in 1918.)

Friday the 4th (Perhaps the most frequently printed among a variety of different advertisements clearly addressing the flu, inside page of this edition and on many other days during the epidemic): "Spanish Influenza. Fortify yourself against it by taking Kerr's FLAX-SEED Emulsion. LINONINE Trade Mark. THE FOOD MEDICINE, SWEET AS CREAM. At all drug stores."

Saturday the 5th (front page): "**THE INFLUENZA IS SPREADING. Reaching the Smaller Connecticut Towns Now—Appeal for Nurses.** Hartford, Oct. 5—In cooperation with the state department of health the Connecticut State Council of Defense began to-day through its local agencies in towns and cities throughout the state a campaign to keep Connecticut's nurses in Connecticut to care for the state's victims of the Spanish influenza. The following telegram was being sent out to-day by the council to its local agencies:

"Every Connecticut nurse needed within state. Dangerous situation caused by shortage; influenza growing more serious all the time. Request you use every means to keep nurses in this state. Urge that nurses do not leave home community except at request of health authorities. Council co-operating to utmost with state department. Do everything possible locally."

Twenty thousand copies of the poster entitled "Help fight the grippe, Kaiser Wilhelm's ally" are being distributed throughout the state."

Saturday the 5th: "MANY CASES OF INFLUENZA. General Caution Advised, But There Should Be No Alarm. The "Spanish" influenza that has been spreading through the country and particularly in the north Atlantic coast section, for several weeks, appears to have reached Danbury in earnest, but it is hoped that the precautionary measures that have been taken and strict observance on the part of the public of the rules and safeguards advised by the health authorities will have the effect of minimizing the effects of the trouble, and averting more serious consequences that might otherwise be the case. Up to this forenoon, Dr. G. E. Lemmer, local health officer, had received from physicians of the city reports of eighty-four cases of the influenza, of which thirty-one have been reported in the last twenty-four hours.

Physicians Very Busy.

Theatres Closed.

...... it was decided to close the theatres, commencing to-day. In many of the churches Sunday-school sessions will be omitted to-morrow.

Health Authorities Differ.

Saturday the 5th (text box): "**RULES TO AVOID RESPIRATORY DISEASE** (**By the Surgeon General of the U.S. Army**)

- 1. Avoid needless crowding—influenza is a crowd disease.
- 2. Smother your cough and sneezes—others do not want the germs which you throw away.
- 3. Your nose, not your mouth, was made to breathe through—get the habit.
- 4. Remember the three C's—clean mouth, clean skin, and clean clothes.
- 5. Try to keep cool when you walk and warm when you ride and sleep.
- 6. Open the windows—always at home at night; at the office when practicable.
- 7. Food will win the war if you give it a chance—help by choosing and chewing your food well.

- 8. Your fate may be in your own hands—wash your hands before eating.
- 9. Don't let the waste products of digestion accumulate—drink a glass or two of water on getting up.
- 10. Don't use a napkin, towel, spoon, fork, glass, or cup which has been used by another person and not washed.
- 11. Avoid tight clothes, tight shoes, tight gloves—seek to make nature your ally not your prisoner.
- 12. When the air is pure breathe all of it you can-breathe deeply."

Monday the 7th: "**BETHEL NEWS. GRADE SCHOOLS CLOSED. Number of Cases of Influenza Reported in Town.** It was decided yesterday to close the grade schools, or the schools at Grassy Plain and the Center, on account of the influenza. Six cases have developed among pupils at the Grassy Plain school, and while none has been as yet from the Center school, it was thought best to close both schools. The High school and schools in the outer districts are still open, and will not be closed unless conditions necessitate it, as these schools are not as conjested, and in the High school especially the pupils are older and can more easily be taught to take proper precautions against the disease. The High school building as well as the schools in the outer districts will be heated and kept ventilated, and while it is acknowledged that there are a number of cases of influenza in town, there is none who is reported as being in a serious condition, as yet, and it is hoped that there will be no widespread sweep of the disease in town."

Tuesday the 8th (notice in a text box): "**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."

Wednesday the 9th (Danbury News, top of front page): "**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.**"



...... "Surgeon General Rupert Blue of the U.S. Public Health Service has authorized the following statement:

The disease spreading over this country is highly catching and may invade your community and attack you and your family unless you are very careful.

Influenza is a crowd disease. Therefore keep out of crowds as much as possible.

Influenza probably spreads mostly by inhaling some of the tiny droplets of germ-laden mucus sprayed into the air when ignorant or careless persons sneeze or cough without using a handkerchief. Therefore cover up each cough and sneeze.

Influenza is probably spread also by the filthy habit of spitting on sidewalks, streetcars and other public places. Therefore do not spit on the floor or sidewalk.

Influenza is probably spread also by the use of common drinking cups and use of common towels in public places. Therefore shun the common drinking cup and the roller towel in public places." (A pretty good review of disease transmission, by today's standards.)

Wednesday the 9th (Danbury News, on another inside page): "**FUNERALS LIMITED. Relatives Only to Attend Services at Homes.** The undertakers of this city received from State Health Commissioner Black, of Hartford, to-day, an official notice limiting the attendance at funerals of persons dying of influenza and its complications to relatives. This order does not relate to funerals held at churches, but only to those held in private homes. To conform to the above regulation it is recommended that, during the present epidemic, you discourage wakes, and to this end no chairs should be provided at homes where persons are dead. This order does not, of course, prevent relatives and friends calling at the residence of the diseased to extend sympathy, but it is expected that they will not remain for a longer period than is necessary. JOHN T. BLACK. State Commissioner of Health."

Wednesday the 9th (Danbury News): "**DOCTORS VERY BUSY. They Ask Patients to Try to Co-operate With Them.** It is impossible for a physician to promise to call at a definite time while conditions remain as they are,"

Wednesday the 9th (Danbury News, this is the 5th story on the flu in this Oct. 9 edition of the newspaper): "**BETHEL NEWS. SOME INFLUENZA. About Forty or Fifty Cases Reported as Such.** Many Bethel people are sick with the influenza, which is prevalent in so many places at the present time. One physician said this morning that he had reported forty-six cases to the health officer, but that aside from two cases sent to the hospital several days ago, none had developed serious symptoms. The majority of cases are said to be on the west side of the town. While there are many ill, the number has not yet reached an alarming total, and there is strong hope that with proper precautions the disease may be held in check."

Thursday the 10th (notice in large bold type in text box): "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."

Friday the 11th (text box): "WHAT TO DO FOR THE INFLUENZA PATIENT.

The Connecticut State Council of Defense, after consultation with high medical authorities and upon their advice, issues the following "Treatment for Influenza without complications":--

Influenza is rapid in its onset. It is usually preceded by a chill, a chilly sensation, or dizziness. Sometimes a marked feeling of weakness is the first symptom. Upon any of these symptoms, the first thing to do is to go to bed. Then take a saline cathartic (dose of Rochelle or epsom salts), to be followed soon after by a drink of hot lemonade, in order to get the bowels and skin active. This is of paramount importance, as it helps rid the system of many toxins. Should profuse perspiring occur, the body should be wiped dry with a soft towel. If the patient is restless, due to high fever, an ice cap placed at the head and kept there for one or two hours at a time will help reduce nervousness and make the patient more comfortable.

The room should be well ventilated by open windows, which will tend to allay irritation of the nose and throat. Cold air is not harmful, but close air acts as a poison.

It is necessary to maintain the body resistance by regular diet, which consists of milk every two hours for the first day. If the patient is unable to take milk, substitute broths or light gruels, and in either case give a plentiful supply of water. Too much stress can not be placed on the necessity of giving the patient plenty of water during the course of the disease." (Good hydration is very important indeed.)

"After the first or second day, cocoa and broths may be added. After the fever subsides, lightly cooked egg, toast and cereals are permissible. Usually, on the fourth or fifth day the patient's temperature subsides to practically normal, but it is at this time that the utmost care is needed to prevent the pneumonia complication, and the surest way to do this is to remain in bed AT LEAST FORTY-EIGHT HOURS after the fever has subsided.

If these suggestions are followed, especially by those unable to obtain the ready services of a physician, there will be fewer complications and deaths."

Friday the 11th: "GAUZE FACE MASKS. Board of Health Gives Directions for Making Them. "Directions for the making of gauze face masks, which should be worn by all persons attending cases of influenza or pneumonia, were announced to-day by the State Department of Health. The directions follow:

For material use as fine gauze or cheese cloth as possible. Fold the material to make five thicknesses," (No reports were found in this newspaper relating to mandatory wearing of masks in public places in Connecticut, unlike in Seattle, for example, where, according to Crosby and/or Barry, the wearing of masks was mandated by law, and folks were jailed for failing to do so.)

Saturday the 12th: "**BETHEL NEWS.** The Congregational church will hold no services tomorrow. As a precautionary measure against the spread of influenza, no Sunday school session will be held in the Congregational, Episcopal or Methodist schools to-morrow."

Tuesday the 15th: "**BIG TOLL OF INFLUENZA. 3,425 Cases in Hartford—658 Deaths in 24 Hours in New York.**"

Wednesday the 16th (Danbury News, top of front page): "WEAR MASKS IN CARS AND AT DESKS. Washington's Young Women War Workers Protect Themselves Against Influenza. MANY ILL IN CAPITAL. Lack of Nurses in Hospitals. New Cases Increase in Many Cities. One Per Cent. Stricken. Bridgeport, Oct. 16—One per cent of the entire population of this city have now been stricken with influenza. Lack of nurses has caused suffering to many confined in hospitals and homes. Health Officer Dr. Walter H. Brown says there will be no closing of theatres, public amusements or schools at present."

One of these deaths occurred in late September, but all others were reported during the present month."

Thursday the 17th: "**BETHEL NEWS. WHO WILL VOLUNTEER? Women Needed to Care for Those Who Are Ill**.

There is great need of nurses, or persons who will assist in caring for persons who are ill in the town, and at present it is impossible to supply the demand. The local war council of defense has been asked to help in this great time of need, and calls for volunteers who will go to the aid of families where, in some instances, every member is sick with the prevailing disease.

It is not necessary that those responding should be experienced nurses, but if persons who can will go into the homes and assist, if only for an hour or two, their help will be gratefully received.

The two doctors of the town are finding instances where help is greatly needed, and if persons who can assist will send their names, a list will be kept, so that they may know whom to call on.

One doctor found a case this morning where help was sorely needed, where three members of the family were ill, two of them seriously, and the person who had been caring for them worn out with the long strain and herself ready to collapse.

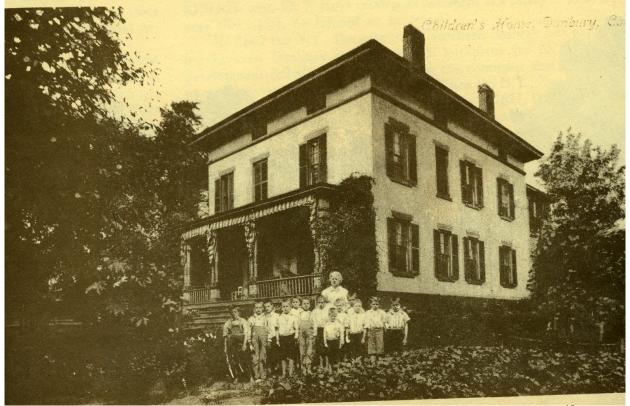
In some cases where the patients are not in a serious condition, but still too sick to prepare proper nourishment, there is need of such being provided, and those who can not actually go in and care for the sick ones, might help by sending in such articles as would tempt the appetite of the sick ones.

..... In some instances there will be much suffering if help can not be procured. No nobler work than this has been asked for in all the war work calls,

...... Names should be sent as soon as possible to the offices of either Dr. Wright or Dr. Moore."

Monday the 21st: "**EPIDEMIC HITS COAL SUPPLY. Fuel Administrator Russell Predicts Further Curtailment Because of Influenza.** consumers of all classes in this state should exercise the most rigid economy in the use of hard coal. From one mine after another, said Mr. Russell, comes the report that the reason for the falling off of shipments is the fact that so many of the coal miners are ill with influenza. This makes for the time being an exceedingly serious situation, It is earnestly requested that every householder purchase at least one cord of wood and use this fuel as much as possible to reduce consumption of coal."

Monday the 21st: "DANBURY HOME AS HOSPITAL. Urgent Need of Volunteer Helpers to Aid in Emergency Work. The number of serious cases of influenza and pneumonia, and especially cases where more than one in the same family are ill, has increased to such an extent that it has been decided to establish a temporary hospital in the Children's Home on Town Hill avenue as soon as the necessary help can be obtained. It is believed that there are several experienced nurses in the city, who, by reason of marriage or for other causes, have retired from the profession, who will be willing to volunteer their assistance, One suggestion made is that some housewives who have maids will be glad to take over the work for a short time and give the hospital the services of their maids, or that some of the housewives themselves will volunteer. The opportunity to perform a genuine service to the community, the hospital and to humanity is great."



The Children's Home, which still stands today at Town Hill Ave. & Cottage St.¹⁸

Wednesday the 23rd (Danbury News): "**NEW HOSPITAL OPEN. First Case Taken to Emergency Institution To-day.** Dr. G. E. Lemmer, town health officer, stated at noon to-day that 120 cases of influenza had been reported to him since yesterday noon, but he estimated that fully half that number were cases developing during the last three or four days, and which physicians had not reported promptly because of the pressure of other work."

Thursday the 24th: "**BETHEL NEWS. INFLUENZA SUBSIDING. Believed that Height of Epidemic Has Been Passed.** The epidemic seems to be subsiding in Bethel to some extent, the local physicians say. Bethel has been fortunate in comparison to most places in this epidemic, for there have been but three deaths that were directly due to the epidemic."

¹⁸ From: Durgy ES, *As We Were. A Pictorial Remembrance of Old Danbury*, Scott-Fanton Museum Publication, 1977. (Year of photo unknown.)



Danbury Hospital c. 1920 (60-bed facility on Locust Ave. opened in 1910)¹⁹

November

Friday the 1st (referring to Danbury): "**130 DEATHS LAST MONTH. All Previous Mortality Figures Exceeded During October.** This number of deaths is about 100 greater than the average for the first nine months of the year, the average having been just below thirty a month." One of the most unusual features of the mortality record is the remarkably large number of cases in which more than one person in the same family have died."

Saturday the 2nd: "**BETHEL NEWS. Schools to Open Monday.** The schools of the town will reopen Monday after a four weeks' vacation on account of the influenza epidemic. The disease seems to have been pretty well stamped out in Bethel, ……… In other towns and cities the schools were opened last week and in some instances there has been no interruption in the studies, although such places were an exception."

Monday the 4th (front Page): **1,263 DIED LAST WEEK. Increase of 383 Influenza Cases in Paris Since Previous Week.** Paris, Nov. 4.—"During the week ending October 30 there were 1,263 deaths caused in Paris by the influenza epidemic." (This appears to refer to France, which, because of the war, received considerably more front page coverage at the time than did Danbury itself.)

¹⁹ From: *Images of America: Danbury*, Danbury Museum & Historical Society, Arcadia Pub., 2001

Monday the 4th (inside page, headline above 3 column-wide photograph): "**Open-air Camp for Influenza Victims at Lawrence, Mass.**" (Below photo of persons outside of tents): "This photo shows a scene at the open-air influenza camp at Lawrence, Mass. The open-air treatment for the influenza patients was decided upon as the best way of curbing the epidemic. Note the armed guard wearing an influenza mask."

Wednesday the 6th (The Danbury News, referring to Danbury schools): "SCHOOLS WILL REOPEN MONDAY. Sessions to Be Resumed Next Week, After Five Weeks of Inactivity."

Friday the 8th: "**BETHEL NEWS. CASKETS MADE HERE. Local Cabinet Maker Filling Orders at Bethel Factory.** The numerous deaths which have occurred all over the country during the past two months have depleted the stock of the undertaking supply houses to such an extent that it is difficult to secure caskets of any kind. To meet the demands in this vicinity, Joseph Vaghi, the Depot place cabinet maker, is making caskets...... Mr. Vaghi's well known reputation for turning out the finest work, is a guarantee that caskets made in Bethel will compare favorably with those manufactured elsewhere. It is, however, no new business for him, for in talking of the matter this morning, he said that he made caskets for the dead in Italy, long before coming to this country."

Saturday the 9th: "EMERGENCY WORK ENDS. Auxiliary Hospital on Town Hill Avenue Did Splendid Service. The emergency hospital which was opened in the Children's Home building on Town Hill avenue, three weeks ago, at the height of the epidemic of influenza and pneumonia, was closed yesterday, its mission of assistance and mercy having been accomplished. With physicians driven almost to the limit of their endurance and no more nurses available for service in private homes, the situation was perhaps the most desperate of its kind that had ever developed in this city, and the establishment of an emergency hospital seemed to be the only way to meet it. The emergency hospital was established under the direction of the officers of the Danbury hospital and was conducted by a force of volunteer occurred in the institution. It became known to-day that the money necessary to establish and maintain the emergency hospital was advanced by Charles A. Mallory, president of Danbury hospital, who saw the need of immediate action and did not let the absence of available funds from any public source stand in the way of doing what was necessary to be done. The total cost of establishing and conducting the emergency hospital was \$641, of which a small amount has been received from patients. It is expected that the town of Danbury will bear the expense finally, as it is felt that it would be hardly fair to ask the Danbury hospital to do it."

Monday the 11th (Armistice Day): "**132 DEATHS LAST MONTH. Epidemic Responsible for Big Majority of Town's Mortality Record.** The mortality record for Danbury during the month of October, from the death certificates filed in the office of Town/Clerk George M. Stebbins, was 132, practically four times as great as the average death rate of the town for years. The greater number of the deaths were due to influenza or pneumonia, or both, the total being eighty-nine, leaving the deaths from other causes forty-three, or above the average."

stated to-day that owing to the marked contagiousness of the influenza it had been considered unwise to attempt other work while cases of influenza were there. Consequently, practically all other work was suspended, as far as possible, while the epidemic was at its height, During October, 118 patients were admitted to the hospital. The average daily number of patients cared for was 53. The cost of caring for these patients was \$3,395, of which more than half was purely charity work."

December

Saturday the 7th: "**INFLUENZA COST 400,000 LIVES. They Were Worth to the Nation 10,000,000 Years Says Insurance Man.** Addressing the annual convention of the Association of Life Insurance Presidents yesterday The average age at death of all the cases submitted was 33 years. In the 1889-91 epidemic of influenza, the old and the feeble seemed most liable to succumb; This condition does not seem to hold now, and millions of the best years of life have been stolen by this scourge."

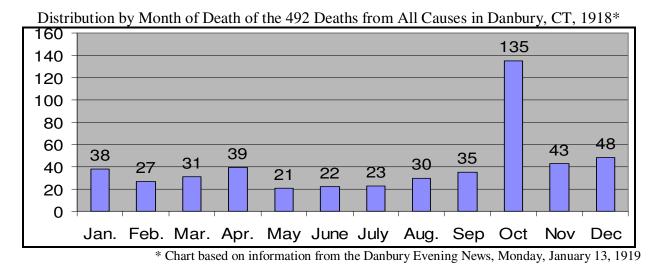
Wednesday the 11th: "**DEATH RECORD FOR NOVEMBER. Effects of Influenza Epidemic Shown in Mortality for Last Month.** The number of deaths occurring in Danbury during the month of November was forty-three. the number of deaths for the early part of the month was high and many of them were due to influenza. During November, the returns show, there were seventeen deaths from either influenza or pneumonia, or both, making the total number of deaths from these diseases during the two months 106."

Friday the 20th: "**INFLUENZA TOOK 6,000,000. Total Fatalities Throughout World Past Three Months. Worse Than War.** Never since the Black Death has such a plague swept over the world,"

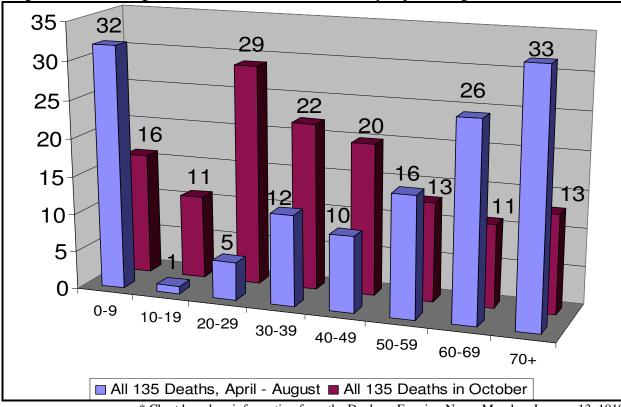
January 1919

Wednesday the 8th (Danbury News): "MAY LAST TWO YEARS. Influenza Likely to Make Protracted Stay in State. The physicians ascribe the recurrence of the recent epidemic at present in different parts of the state to the fact that these sections escaped the full force of the previous epidemic. Both doctors said that it could not be impressed upon the public too strongly that the most practical way to keep down the number of influenza cases and subsequent mortality was for persons with colds, however slight they might consider them to be, to remain away from public gatherings. They pointed out that for one person in an office or workroom to continue at his work while bothered with a cold, was not altruism to his employers but an injustice to his room mates." Friday the 10th: "**DECEMBER DEATHS. Pneumonia or Influenza Caused 17 of 48 Deaths.** Of the total deaths reported, nine were of non-residents."

Monday the 13th: "**DEATH RECORD OF YEAR 1918. 492 Persons Died in Danbury Last Year—Influenza Caused Large Increase.** During the past year there occurred in Danbury 492 deaths, exclusive of still births, which are recorded as deaths. In 1917 there were 408, in 1916 there were 349, in 1915 343, and in 1914 there were 337. Fifty of the deaths for the year were of non-residents." (The article lists the names and ages of the 492 people who died, from all causes, in 1918, by date of death. The distribution of deaths by month, and the distribution of the ages at death in October, with the strikingly high numbers of deaths among young adults, as elsewhere in the pandemic, is presented in the author's charts below.)



Age at Death Among Deaths from All Causes in Danbury, April – August, & October, 1918*

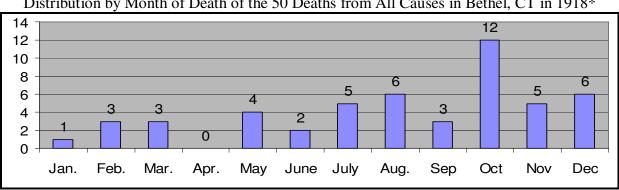


* Chart based on information from the Danbury Evening News, Monday, January 13, 1919

Tuesday the 21st (top of front page): "FAMINE AND INFLUENZA NOW SWEEPING INDIA."

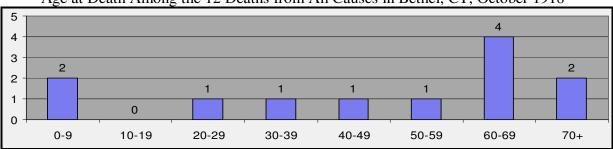
Friday the 24th (front page): "300,000 HAD INFLUENZA. State Health Report Covers Epidemic—6,000 Deaths."

Wednesday the 29th (Danbury News): "**BETHEL NEWS AND CHAT: VITAL** STATISTICS. Births, Marriages and Deaths in Bethel During 1918. The vital statistics of the town of Bethel, as recorded at the town clerk's office for the year of 1918, shows a considerable decrease in the birth rate over that of 1917, for the last year there were only 48 births, against 64 the year before. There were only seventeen marriages last year, while in 1917 twenty-nine were recorded. The death rate was practically the same for the two years; the record for 1918 is fifty and for 1917 fifty-two. The records show that the rate of deaths was highest in October, when there were twelve deaths. There were three deaths from influenza in October, and three in November, a total of six who succumbed to the deadly disease which wrought such havoc all over the country." (The article lists the names and ages of the people who died, from all causes, in 1918, by date of death. The distribution of deaths by month, and the distribution of the ages of these people at death, is presented in the author's charts below.)



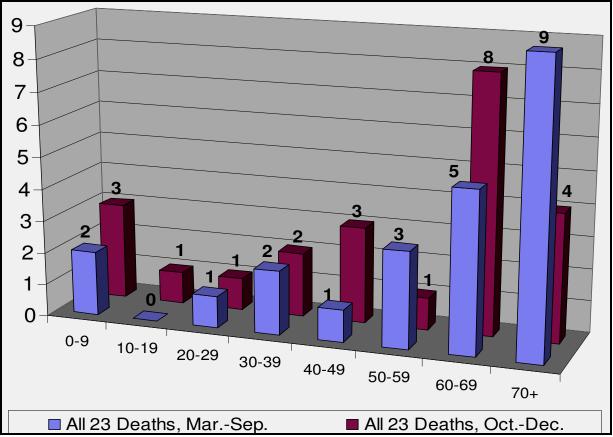
Distribution by Month of Death of the 50 Deaths from All Causes in Bethel, CT in 1918*

* Chart based on information from the Danbury Evening News, Wednesday, January 29, 1919



Age at Death Among the 12 Deaths from All Causes in Bethel, CT, October 1918*

* Chart based on information from the Danbury Evening News, Wednesday, January 29, 1919



Age at Death Among Deaths from All Causes in Bethel, CT, March-Sep. & Oct.-Dec. 1918*

* Chart based on information from the Danbury Evening News, Wednesday, January 29, 1919

Discussion (Please comment / expand)

- 1. **Newspaper coverage** may have been influenced by wartime press censorship, which ended only after the end of the war on November 11th. Though the author was impressed by the extent of coverage of the second wave in these accounts, it is interesting to note that, in spite of "the seriousness of the siege of illness through which Danbury" was passing, a situation "perhaps the most desperate of its kind that had ever developed in this city," Danbury-area epidemic-related news was consistently covered only on the inside pages. Only flu news from Washington D.C., Massachusetts, and other locations in Connecticut, from Hartford and New Britain in the central part of the state, to Bridgeport and Norwalk (to the east and west of Westport) in the south of Fairfield County, along with headlines on the pandemic in France and India, received front page coverage, which was dominated by war-related news.
- 2. **Mortality in Danbury:** According to the Danbury Evening News, there were 492 deaths in Danbury in 1918, 37% more than the annual average of 359 (30 per month) from 1914 through 1917. There were 231 deaths in the first eight months of 1918, an average of 29 per month, and 135 deaths from all causes in October. If mortality during the first 8 months of the year is used as the expected mortality level for the last 4 months, then the 261 deaths in the last four months include 145 more deaths than the expected number of 116 [29 X 4], which represents a 42% increase in mortality in 1918 over the expected level for the year

[145 / {492-145}],²⁰ similar to the 37% increase in the number of deaths during the year compared to the previous 4 years. Among all 135 deaths in October, 61% were among those between the ages of 10 and 49 years, compared to only 21% in these age groups among the 135 deaths from April through August.

Deaths in Danbury include those of non-residents, including deaths of residents of the smaller surrounding towns in Danbury Hospital and in the emergency hospital, though it is not known if the distribution of deaths by residency changed over the course of the year. Because some of these deaths were among non-residents of Danbury, this data does not lend itself to a rigorous estimate of a rate of excess mortality using the population of the town as the denominator. However, the computation yields an estimated level of excess mortality, which may be attributable to the epidemic, of 145 / 22,500 = 6.4 per 1,000 population, which is somewhat higher than the cause-specific mortality of 4.7 per 1,000 computed for Danbury soon after the event, but consistent with the cause-specific attributable mortality estimate of 6 per 1,000 population for Connecticut as a whole, and precisely the same as the estimate for the impact of the pandemic on mortality nationwide!²¹

3. Mortality in Bethel: According to the Danbury Evening News, there were 50 deaths in Bethel in 1918 and 52 in 1917, with substantially larger drops from 1917 to 1918 in the numbers of births and marriages in the town, suggesting substantial out-migration.²² There were 27 deaths during the first 9 months of 1918, for a monthly average of 3. In October there were 12 deaths. If mortality during the first 9 months of the year is used as the expected mortality level for the last 3 months, then excess mortality during the last three months of the year, which may be attributable to the epidemic, is 23 – 9 = 14, with 6 people noted to have died of the flu. These 14 excess deaths represent a 39% increase in mortality for the year of 1918 over the expected level for the year [14 / {50-14}]. Only 3 of the 12 deaths in October, and three of the five in November, were among those between the ages of 10 and 49, yielding no remarkable change in the age distribution in this comparably small number of deaths.

As this information appears to refer only to deaths <u>in</u> Bethel, it may be an undercount of the toll of the epidemic, as Bethel residents who were admitted to Danbury Hospital or to the Emergency Hospital would have been counted among the deaths in Danbury, though this phenomenon applies to the mortality data for Bethel during the rest of the year as well. Because some deaths among Bethel residents are likely to have been missed, this data does not lend itself to a rigorous estimate of a rate of excess mortality using the population of the town as the denominator. However, the computation yields an estimated level of excess mortality, which may be attributable to the epidemic, of 14 / 3,300 = 4.2 deaths per 1,000 population, similar to the cause-specific attributable mortality estimate of 3.6 per 1,000 population computed soon after the event for all smaller towns of Connecticut combined.

²⁰ The approach used here and by the Danbury press, of comparing deaths from all causes during the epidemic to the expected number, based on prior average monthly figures, may be a better measure of the burden of the epidemic on the city than estimates of cause-specific mortality, which depend on determination of cause of death, and fail to count epidemic-related deaths which are not due to flu or pneumonia, but do count pneumonia deaths which were not associated with the pandemic.

²¹ Estimated attack rate of ~29% X case fatality of ~2.2% = cause-specific mortality of ~6.4/1,000 population (Figure 3A in *Community Strategy for Pandemic Influenza Mitigation in the United States*, CDC, February 2007, <u>http://www.pandemicflu.gov/plan/community/commitigation.html</u>)

²² Apparent out-migration perhaps associated with the war and/or a decline in the hat making industry?

- 4. Transmission, NPIs, and Home Care: During the epidemic, the Danbury News reprinted key information on reducing the risk of infection and on home care, some of which was good by current standards, and some of which was not. The 1918 guidance was based on a decent understanding of routes of transmission, thirteen years before the influenza virus was first isolated (in pigs). However, communities in Connecticut received contradictory official guidance in these newspaper reports, and made very different decisions about closing schools and theatres. Some of the issues debated in this regard in October 1918 are some of the very same issues now under debate, 89 years later. Unfortunately, the extent to which guidance on prevention (and home care) was implemented, can not be judged from these accounts. For care of the ill at home, hydration appears to have received the attention it deserved in one of the newspaper stories, along with some rubbish. Some of the advice on prevention was clearly rubbish as well (particularly in the numerous advertisements, most of which have not been included here). Crosby, Barry, and these newspaper accounts, include numerous references to all of the following currently recommended non-pharmaceutical interventions (NPIs):
 - Isolation of the ill (along with exactly the opposite on November 3, inviting and assisting relatives to visit ill soldiers at Camp Devens!);
 - School closing (probably implemented too late in Bethel and Danbury, when compared with February 2007 CDC guidance for a "Category 5" pandemic, and either not at all or very late in Bridgeport);
 - Adult social distancing / avoiding crowds (though the only reference in these newspaper accounts to the complete cancellation of church services was from Wallingford);
 - Cough etiquette;
 - Hand washing (perhaps emphasized now more than in 1918);
 - Use of masks by those caring for the ill (though these home-made cloth masks were not likely to have been very effective);
 - While quarantine was only rarely reported in these newspaper accounts in relation to military camps (and may even have referred to isolation of the ill rather than quarantine of those exposed to infection, but free of symptoms).
- 5. **Timing of NPIs**: According to the Evening News on October 3rd, four cases in Danbury had been reported to the health officer as of the previous day, but according to the Danbury News on the 16th, there had already been an influenza-related death in late September in the city. The paper reported the closing of schools on October 4, closing of theatres the next day, funeral restrictions on the 9th, and closing of public dances and the Danbury Fair on October 10th. With regard to Bethel, the Evening News reported on October 4th that there had been one case reported in the town to date. On the 7th, the paper reported that only the primary schools were being closed after six cases had already been reported in one of the schools. It appears that local government never suspended church services in either Danbury or Bethel, though there were several reports of churches canceling Sunday school for children, and one report of a church service being cancelled, though without any reference to the reason for this. On Saturday, November 2nd, the Evening News reported that Bethel schools would reopen on the 4th, after having been closed for four weeks, while on Wednesday the 6th, the Danbury News reported that Danbury schools would re-open on the 11th after having been closed for five weeks. In Danbury, excess all-cause mortality and influenza deaths continued through November and December, though at a much lower level than in October, while in

Bethel, three influenza-related deaths were reported for November. Danbury and Bethel do not appear to have resembled cities such as St. Louis, which implemented a variety of NPIs two days after the first case in the city, nor Philadelphia, at the other end of the continuum, which waited 16 days after the first case in the city before introducing NPIs.

6. These local newspaper accounts stress the family clustering of cases and deaths, and the nursing shortage, and the implications of these challenges for the care of the ill, to a greater extent than what the author now recalls having read in Crosby and Barry (except for their accounts of Alaska and the Canadian north). (Is this correct? It has been over a year since the author read the two books.) The family clustering of cases, combined with the lack of nurses to support care of the ill in their own homes, challenged Danbury Hospital "surge capacity," necessitating the opening of the emergency hospital. A similar family clustering of illness and shortage of nurses may again challenge Connecticut during any future severe influenza pandemic.