

Conn Doc
H342n
cop. 2

dup

THE 1938 FLOOD
AND HURRICANE DISASTER

DAY BY DAY ACCOUNT OF
HOW HEALTH WAS PROTECTED

Conn Doc
H342n
cop. 2



3 0231 00376 6719

The 1938 Flood and Hurricane Disaster

Day by Day Account of How Health Was Protected

Tuesday, September 20

As a rule Connecticut is not concerned with flood disaster in the fall months of the year, fear of this being largely confined to spring months which always bring freshets from the sudden melting of snow and ice to the north. Having experienced one major flood, and so recently as two years ago, Connecticut experiencing the heavy downpour of several days' duration dared not say, "It can't happen again".

The third week of September, 1938, the state was anxiously watching the height of the Connecticut River as it slowly reached flood proportions giving increasing evidence that another major flood was approaching. That this would be accompanied by another disaster—a hurricane of such proportions as were unknown in the northern states—did not occur to people in Connecticut or the New England States. Yet both these catastrophes happened and September 21, 1938 will remain as a significant date in Connecticut history.

Warning of an impending flood was given on Tuesday, September 20 when the South Glastonbury dam washed out disrupting the supply for 300 families. There was also a large break in the Cold Brook Main of the East Hartford water supply. Mr. Warren J. Scott, Director of the Bureau of Sanitary Engineering of the State Department of Health and sanitary engineers, Frederick O. A. Almquist and David C. Wiggin, Jr. went to East Hartford and Glastonbury and installed an emergency chlorinator on the Salmon Brook supply of East Hartford because of the heavy draft on that supply. Due to the road washing out on the Salmon Brook supply of East Hartford and destruction of bridges, it was necessary to take back roads to get to Glastonbury and to the reservoirs. About 3:30 P. M. arrangements were made for connection between the East Hartford supply and the South Glastonbury Water Company system. When the water main of the South Glastonbury supply broke, Lee J. Whittles, M. D., Health Officer, informed all users by telephone to boil the water.

Wednesday, September 21

All during the morning heavy rains continued and the danger of flood was increasing. Mr. Almquist was in East Hartford checking up on chlorination of the Cold Brook River Supply and he advised that all consumers be notified to boil the water because of chlorination difficulties before his arrival.

In the afternoon the hurricane descended upon the state shortly after 3:00 P. M. making the problem of flood conditions even more serious and difficult. At Storrs the Connecticut State College water pump was not working due to lack of electricity and the water pump at Mansfield State Training School and Hospital was out of order due to flooding by the river. Both places had a water supply for two days. Sanitary engineer J. Henry L. Giles took a supply of a chlorine compound to disinfect. Mr. Giles left Hartford at noon but was caught in the storm on his way and finally had to abandon his car because of falling trees. He arrived at Mansfield State Training School, a distance of only 26 miles, about 7 P. M. He made preliminary arrangements

for disinfection of the water supply which was inoperative because of lack of power. While in that section Mr. Giles was also in close touch with the Connecticut State College at Storrs and was making arrangements to supervise chlorination at Willimantic where the power had failed.

Sanitary engineer, Leslie K. Sherman started out to assist the Portland Water Company in checking their water supply. He had great difficulty in reaching the reservoir, had to abandon his car on account of the storm but finally reached the reservoir in the superintendent's car. Consumers were ordered to boil the water because of the abnormal conditions.

All three engineers were unable to get back to Hartford—Mr. Almquist stayed at a farm house in East Hartford, Mr. Giles was at Mansfield State Training School and Mr. Sherman remained with the superintendent of the water company in Portland.

On the day of the hurricane various members of the department staff were caught in different parts of the state and many of them could not get back to Hartford on account of fallen trees and impassable highway conditions.

The hurricane caught Miss Irena DeRonde, public health nurse from State Department of Health, in Trumbull where she was making a consultation visit. Undaunted by the road conditions, the scheduled conference with board members was held, several people attending.

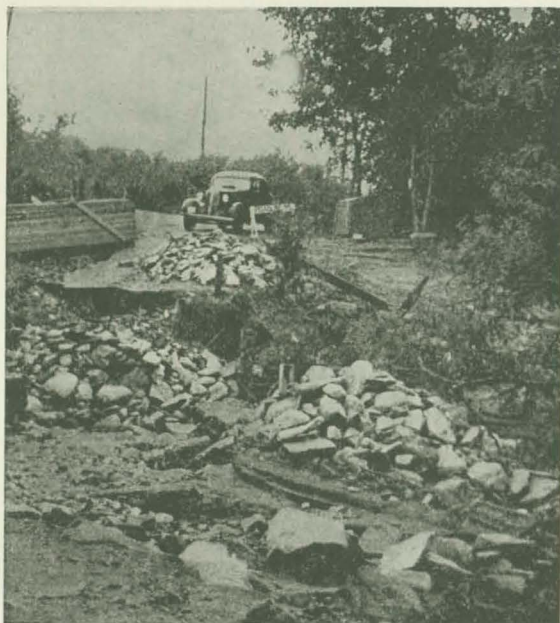
Conscious of rising flood waters, Miss Hazel V. Dudley, director, Bureau Public Health Nursing, State Department of Health, and Miss Gertrude Beattie conferred with Miss Gertrude Osborne, Chairman of the State Red Cross Nursing Committee, on procedures in providing nursing service in the event of a disaster.

The majority of the physicians in the state, including many of the physicians on the State Department of Health staff, were at New Haven attending the Clinical Congress of the State Medical Society. Stanley H. Osborn, M. D., Commissioner of Health enroute to the Congress heard over the radio in his car that there was five feet of water flooding the center of Stafford Springs, that more rain was expected and that the wind had a velocity of 40 miles an hour in Maryland or some place near there. He immediately turned back. On arriving in Meriden, Doctor Osborn telephoned Hartford and told Mr. Scott to order two more emergency chlorinators (two had been ordered the day before). Doctor Osborn returned to Hartford via Middletown and visited the Cromwell pumping station after finding that the road on the east side of the Connecticut River through Portland and Glastonbury to East Hartford was impassable due to bridges that had been washed out the day before.

On reaching Hartford at 2:30 P. M. Doctor Osborn called Commissioner of Finance Edward F. Hall and got permission to spend necessary funds to handle the emergency situation. He at once had an order placed for five tons of chloride of lime and 1000 1st doses and 1,000 2nd and 3rd doses of typhoid vaccine.

At the Clinical Congress in New Haven a special session on public health had been arranged for the evening of the twenty-first and W. Bradford Walker, M. D., Health Officer of Cornwall was to speak on "The Value of Full-Time Health Departments". In connection with this the new department film, "Centerdale Grows Up" was to be shown, Franklin M. Foote, M. D., Chief of the Division of Local Health Administration having taken the department equipment in preparation for this. At about 6 P. M. Doctor Walker telephoned to say that it would be impossible to reach New Haven to give his talk. The film "Centerdale Grows Up" was shown to the fourteen public health workers present who participated in a lively discussion on local health problems. Some department physicians who had left the Clinical Congress late that afternoon encountered so many delays and detours that it took five hours to reach Hartford, a distance easily covered in an hour.

About 3:30 P. M. the wind was rapidly reaching a velocity of sixty miles an hour and carrying destruction in its wake. Thousands of Connecticut's priceless trees that had lent glory to her landscape for centuries were uprooted. Large elms on Lafayette Park, Hartford, fell down, preventing traffic on Lafayette Street, and soon fallen trees on Washington Street stopped all traffic going south. Members of the State Department of Health staff on duty in the office in Hartford had varying experiences in reaching their homes, what with uprooted trees and scattered branches blocking the highways and rain drenched streets making passage impossible. The common experience was to take from one to three hours to cover the distance ordinarily requiring only 30 minutes to an hour. Doctor Osborn attempted to reach his home but found conditions so difficult he returned to the office at 7:30 P. M. and remained there the rest of the evening to keep in touch with the outside so as to direct emergency services.



Main Avenues for Traffic Were Blocked

Meanwhile the rain continued unabated and the river rapidly advanced to flood stage. That evening reports were received from WHT, radio station in Hartford, and the National Guard Headquarters that Putnam, Norwich and New London were completely cut off, that a fire had burned five blocks in New London on Bank Street; and that the "tidal wave" accompanying the hurricane had wrecked the waterfront at New London. Doctor Osborn tried to reach the doctors of the department by telephone, at first without success, but finally got in touch with Henry P. Talbot, M. D., director, Bureau of Venereal Diseases and requested him to go to New London at once. He replied that he would be ready in ten minutes. Then he got in touch with Mr. Scott and asked for an engineer to go with Doctor Talbot, Mr. Scott assigning Roy L. VanKleeck. When it was learned from the State Highway and the State Police Departments that it was impossible to reach New London because of washed-out roads

and bridges and fallen trees across the highways, the two men were advised to defer this trip until morning.

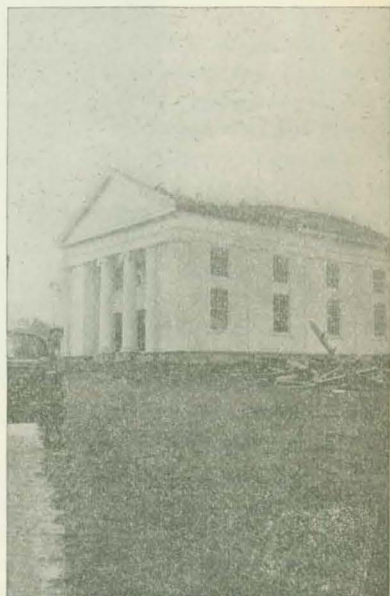
Miss Hazel V. Dudley, Director of the Bureau of Public Health Nursing, who is also Nursing Field Representative for the American Red Cross, was called in the evening by local Red Cross Disaster Relief Director to investigate a disaster case. After winding her way through a jungle of fallen trees and dangling wires for several blocks, Miss Dudley reached her car which had been abandoned earlier in the day. She proceeded across the town to find that the case proved to be a young man who had been killed when a garage collapsed on him during the hurricane.

At Doctor Osborn's suggestion Miss Dudley attempted to telephone nursing services in New London and Norwich to learn of their needs but she was unable to reach them.

One of the public health nurses, Miss Antoinette Coderre, on field duty for the Bureau of Child Hygiene was encountering difficulty in the Thompson area where she was arranging for a six months' well child conference in the village of Quinnebaug. At West Thompson it was rumored that the inhabitants had been notified to vacate their homes as the dam had given way. Making her way there Miss Coderre found twenty rain soaked and shivering refugees who had been given shelter in the Methodist Church. Although the chimney and the steeple had fallen and part of the roof had blown away fifteen remained there over night. In the morning ten of these found that they had lost everything they possessed.



Devastation in West Thompson



Refugees Sheltered Here

Such pictures were duplicated hundreds of times throughout the state.

Another child hygiene public health field nurse, Mrs. Helen VanMeter, working in her district near Winsted at Pleasant Valley gave assistance in this Farmington River Area and reported to the health officer of New Hartford, Homer Ashley, M. D.

who suggested that she visit homes in the flooded area to persuade people to have typhoid inoculation.

Thursday, September 22

A radio was brought into the State Department of Health office by Laurence A. Fagan, Chief of Division of Supplies, which made it possible to get news from WTHT, the only broadcasting station in Hartford still in operation.

With reports indicating that conditions were becoming worse, all the sanitary engineers of the department went on day and night service. This flood, differing from the flood of 1936 affected many of the public water supplies because chlorinators and pumps were put out of commission as a result of the hurricane, and falling trees destroyed the power lines. Winsted and New Hartford reported broken water mains due to washouts but the situation was quickly handled locally.

It was learned that the water supply of Canaan was depleted due to a break in the main as a result of a washed-out bridge and the people were carrying water from springs. Mr. Almquist returning from East Hartford was sent to Canaan. He remained over night and made arrangements for an emergency chlorinator to be shipped to him as it was proposed to pump from wells which had been flooded with river water.

Mr. Giles disinfected water supplies at Mansfield State Training School and Connecticut State College at Storrs. He also checked up on the Willimantic water supply where there was a complete power failure and the dam was reported to be in danger of collapsing. Sanitary engineer Eugene L. Lehr was sent to Willimantic to assist in this serious situation. Mr. Sherman worked in the vicinity of Portland, Middletown and Cromwell, though finding everything under control in Middletown. The chlorinator at Cromwell was functioning with some difficulty and boiling notices were issued. Meanwhile health officers on the east side of the river were being contacted by sanitary engineers Messrs. Wiggin, Sherman and sanitary inspector Edward B. Noonan.

On receipt of material ordered the day before, disinfectant was made ready for distribution. Material ordered—two 350 lb. drums of chloride of lime—was divided into small cartons and distributed by department cars to towns calling in for it, supervision of this was in charge of Mr. Fagan. Two cars left at 11 P. M. and returned at 7 A. M. next morning, after delivering all of it. Fifteen tons of chloride of lime were ordered and placed in City of Hartford Street Department yards where large quantities were delivered by the State Department truck and called for by town trucks.

Mr. VanKleeck and Doctor Talbot left Hartford for New London early in the morning encountering many hazards and making several detours before arrival at 11 A. M. They were informed that because of the fire in New London the afternoon before the water pressure had run down to practically zero and it had been necessary to get additional pumps from the Coast Guard in order to supply pressure to put out the fire. Realizing that there was a possibility of the water being contaminated by syphonage from the toilets and by a possible back pressure from the polluted waters of the harbor they felt it imperative to warn the people to boil the water for five minutes. It was also advised, in view of the fact that the electricity was off and the pasteurizing plants were not running, that boiling notices should also include the boiling of milk. With no electricity and no printing establishment running, a short notice to this effect was mimeographed and within an hour's time these were being distributed on the streets by the militia and boy scouts.

In Hartford, Miss Dudley conferred with Miss Amelia Meyersieck of the local Red Cross Nursing Committee regarding recruiting Red Cross nurses who might be needed for emergency service.

Miss Beattie representing Miss Dudley as Red Cross Nursing Field Representative, contacted Mr. Shepard, Red Cross Disaster Director, regarding the need of Red Cross nurses. Mr. Shepard did not feel that nurses were needed at that time. Miss Beattie also contacted the chairman of several Red Cross nursing committees to advise having nurses in readiness. Mrs. LaBella, Chairman of the Middlesex County Red Cross Nursing Service, stated that plans for giving adequate nursing service in the Armory—the proposed refugee shelter—had been completed, although as yet it was not needed.

Miss Louise Curcio, Chairman of the Stamford and Greenwich Local Red Cross Nursing Service, stated that her nurses were ready in case they were needed.

Miss Dudley, as Red Cross and Health Department representative, also left for New London to ascertain the nursing situation and the need for additional help. There she interviewed the director of the local public health nursing association, the health officer, and the supervisor of the department of health nurses, and found that they were covering first-aid work. All the homeless were being cared for in private homes and there seemed to be no need for additional nursing service. As no word had been received from Norwich Miss Dudley next proceeded there. At Norwich Miss Dudley found that many Red Cross nurse volunteers were assisting with first-aid immunization work. The chairman and secretary of New London-Norwich local Red Cross nursing committee were requested to place one Red Cross nurse, beginning September 24, to head this group. Miss Dudley visited the acting health officer, acting director of public health nursing and the chairman of the Red Cross Chapter. It was reported that outside of Norwich, at Taftville, 250 people were being fed, the majority being sheltered in private homes. Immunization clinics were being planned and the New London-Norwich Local Red Cross Nursing Committee was asked to place one Red Cross nurse to assist with this clinic beginning September 24.

Reports on conditions in Baltic received from the officials in Norwich were to the effect that 300 people were homeless, 75 were sheltered in the Town Hall and the local public health nurse was neglecting her regular duties to take charge. A nurse from W. W. Backus Hospital had been assisting the local nurse. The New London-Norwich Local Red Cross Nursing Committee was requested to assign three Red Cross nurses to assist in the shelter and at immunization clinics being planned by the health officer.

Miss Dudley called Mr. Laughlin at Red Cross headquarters in Hartford and reported on conditions. Norwich was in dire need of food, needing meat, bread, yeast for bread, and butter was low. There was no electricity and the supply of gas would be gone the next day. In Baltic 2100 were homeless and in Occum 500. Cots for the homeless were obtained from Niantic. One thousand pounds of chloride of lime was needed, antitoxin serum for 100 and antitoxin vaccine for 900, there being enough on hand for 250.

Meanwhile Alfred L. Burgdorf, M. D. epidemiologist, had been sent to Norwich to check on conditions as there was no telephone connection. Access to Norwich was through New London. Late that evening he telephoned from New London, there being no wire available at Norwich, and reported that Norwich had had the worst flood in its history, the flood being 8 feet higher than in 1936, but the water then had dropped 10 feet. The center business square was under 4 to 5 feet of water.

Back in Hartford flood conditions were assuming alarming proportions and each hour of the morning brought people nearer to the realization that the flood of 1936 was to repeat itself. Finally at noon the only direct connection between Hartford and East Hartford was cut off when the Bulkeley Bridge was closed to all traffic. Those living across the river were warned to leave at once or to make necessary arrange-

ments for remaining in Hartford. Mrs. Ann George, Mrs. Anna G. Detweiler and the Misses Elsie Lewis, Dorothy Twele and Ruth Kearns took the opportunity of reaching home safely and were not again available for office duty until Monday, September 27.

In this central zone of the state like conditions prevailed as in the flood of 1936 except that there was not the general failure of power, which previously had brought such destruction to heating and lighting and power systems, due to the precautions taken by the Hartford Electric Light Company in the past two years. Scattered sections throughout the state and in some cities, however, were completely lacking in electric power and telephone service due to trees uprooted by the hurricane and destruction of service poles and wires.

When the East Hartford Bridge was closed the difficulty of reaching flood areas to give assistance increased 100 per cent. Although the bridge was closed at 1:00 P. M. James M. Cunningham, M. D., Director of the Bureau of Mental Hygiene persuaded the police guarding the entrance of the bridge to allow him to cross through the water as it was necessary to deliver tetanus antitoxin to the health officer in East Hartford, F. Wellington Brecker, M. D. The trip over and return was made successfully at 3:30 in the afternoon although every minute of the trip made it seem impossible of accomplishment. Miss Margaret Moulton and Mr. Edward S. Kip from the Bureau of Mental Hygiene who had been doing routine mental hygiene work in New London the day before and had been held there over night returned to Hartford in the afternoon via New Haven. They brought the first eye witness story of the extent of the damage in New London.

Meanwhile Doctor Talbot had taken up headquarters with the Health Officer, Doctor Benjamin N. Pennell, in order to assist there and in the surrounding towns, particularly Groton and Stonington where the tidal wave had done great damage. He telephoned from New London that there was no power and electric light and said that batteries, oil stoves, oil lamp chimneys and candles were needed by the merchants.

Friday, September 23

Beside pressing into service the two emergency chlorinators of the State Department of Health, two more chlorinators were rented from Wallace and Tiernan Company of Newark, New Jersey. These were sent up by personal messenger and one of their chlorinator engineers was placed at the department disposal. Another manufacturer's representative had arrived from Bridgeport to help on disinfection.

Several tons of chloride of lime had been purchased and already some of this material has been distributed. Two cases of a strong chloride compound had been secured and one of these used at Mansfield.

State Forestry Department was contacted and they promised 1000 CCC boys to help local health officers in cleaning up vacated houses.

Five thousand "Unfit for Occupancy" signs and 30,000 circulars on disinfecting were ordered and distribution begun. Two portable emergency chlorinators were rented for use in the state.

Water supplies in flood areas were being checked by sanitary engineers Almquist, Giles, Lehr, Wiggin and Sherman. Mr. Wiggin took one of the emergency chlorinators supplied by Wallace and Tiernan to Canaan for Mr. Almquist to install on the supply being pumped from wells of the North Canaan Water Company. The supply was heavily disinfected. Mr. Wiggin checked on Avon Water Company supply and found that the power was being restored.

Mr. Giles relayed to the department through police information that he had found water supplies in Putnam and Danielson satisfactory. He was checking on the supply in Grosvenordale and other parts of eastern Connecticut.

Mr. Lehr reported from Willimantic that emergency power had been provided and was supervising chlorination of Willimantic public supply. He was also making efforts to get them to cut down on water consumption as the hospital on the hill could barely get water. Mr. Lehr was remaining in Willimantic until the water supply situation was satisfactorily cleared up. Disinfection of the Storrs supply had been supervised by Mr. Giles and was reported safe.

Mr. Sherman went to Cromwell where he had the assistance of Mr. E. F. Rothman of Wallace and Tiernan Company in repairing and putting back into service the chlorinator which was clogged.

Mr. Noonan was dispatched to check up on sanitation of shellfish plants, upon receipt of telegrams and messages from the South Norwalk Oyster Farms Company, the health officer of Norwalk and the United States Public Health Service. Mr. Miller of the United States Public Health Service was advised by telegram that all shellfish plants were being checked.

Upon receipt of a telephoned report from Mr. Noonan, a telegram was forwarded to the New York City Health Department stating that the shellfish plants of the South Norwalk Oyster Farms Company, Tallmadge Brothers, Estate of David B. Decker, and Frederick E. Lovejoy were all checked and found in sanitary condition. Mr. Scott notified Mr. Miller of the United States Public Health Service that boiling notices had been issued on New London public water supply.

Meanwhile in the southeastern part of the state several members of the department staff were assisting local health authorities in their attempt to meet the serious situation caused by tidal wave, fire and floods. Doctor Talbot and Mr. VanKleeck with headquarters in Health Officer Pennell's office, New London, were assisting him to organize inspection work and placarding of wholesale food and liquor houses whose stock had been damaged by flood waters.

Mr. VanKleeck supervised installation of emergency chlorination on New London water supply. This failed because of power interruption. Assisted by Mr. John Masterson of Wallace and Tiernan Company, he used one of the two chlorinators shipped by the company. Mr. VanKleeck reported that Mystic Valley Water Company filter plant had to be by-passed but chlorination was kept in operation.

Every available professional person in the department was placed in service to deliver typhoid and chloride of lime as calls came in for materials. Russell C. Carter transported large quantities of chloride of lime both day and night by department truck. Traffic to Norwich was now being routed via Meriden, Middlefield, Middletown, Portland, Cobalt and Colchester.

Miss Dudley on Red Cross field duty service and still assisting in the New London area proceeded with Doctor Talbot to Mystic to confer with the health officer, Louis M. Allyn, M. D., who said he could not yet even estimate the extent of the damage. There seemed to be no unusual illness and no need for additional nursing service. They left instructions regarding clean-up and some tetanus serum to use in case of emergency. From Mystic they went to Stonington and got in touch with William T. Veal, M. D., health officer. Miss Dudley contacted the chairman of the Red Cross Branch, was unable to reach the local public health nurse, but received a message that no additional nursing service was indicated. Fifteen people were sheltered at Red Cross headquarters.

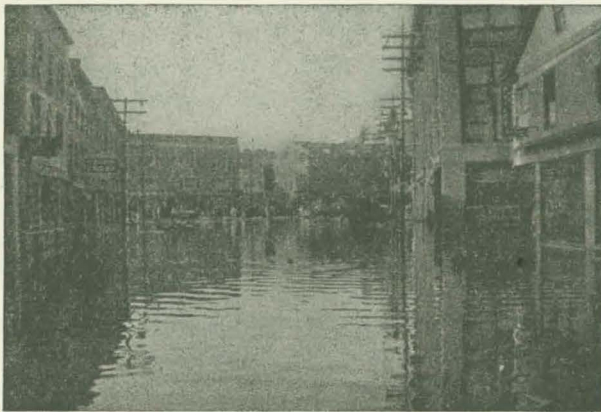
Pamphlets on clean-up were left with the health officer and tetanus serum arranged for. At Stonington Red Cross Headquarters they learned that Stonington did not need additional nursing help.

Later being unable to reach Norwich by telephone, Miss Dudley returned there to arrange for relief Red Cross nursing service.

To get first-hand information about conditions due to flood and hurricane, Millard Knowiton, M. D., Director, Bureau of Preventable Diseases of the State Department of Health and Doctor Burgdorf who had returned from Norwich at 4 A. M. that morning, proceeded to the eastern part of the state visiting enroute Willimantic, Danielson, Putnam, Plainfield, Jewett City, Norwich and New London. In these various places the health officers were contacted, typhoid vaccine was left, the extent of the damage was secured and plans for the emergency services of sanitary engineers and public health nurses were reviewed as well as the immediate plans of the health officers for meeting the health situation. At Willimantic advice was given about keeping the tetanus antitoxin as electric power was off. The health officer, Nathan Specter, M. D., planned to keep his supply at the hospital and Mr. William B. Sweeney, Superintendent of the Hospital made provision for dry ice for his refrigerator and was leaving the refrigerator door open to avoid the danger of freezing the antitoxins.

At Danielson, apparently the chief flood damage was in the village of Goodyear. The health officer George S. Lambert, M. D. was visited and typhoid vaccine, chloride of lime and printed instructions were left with him. In Putnam the emergency relief situation was being well cared for by the local Red Cross, at whose headquarters the health officer Mrs. Ellen T. MacDonald was located. One hundred and fifty people or 60 families whose homes were under water were being cared for at the Armory. There were three nurses and many volunteers caring for the refugees. Miss Coderre and Miss Grace McGrath, public health field nurses from the department located in that area assisted in Dr. Lambert's typhoid immunization clinics.

At Plainfield and Jewett City the health officers, A. A. Chase, M. D. and J. H. McLaughlin, M. D. reported that they did not have a very serious situation as a result of the flood, Doctor Chase only having treated two tornado victims, one in Canterbury and one in Plainfield.



Business Section of Norwich Flooded

During Friday, department assistance was given the health authorities at Norwich which had been very hard hit by a combination of floods from broken dams to the north and the effect of the tidal wave from the south. Doctor Burgdorf had visited Norwich the day before and reported to Doctor Osborn that he found great need of typhoid vaccine, chloride of lime and other supplies. The polluted waters had flooded Franklin Square in the heart of the residential and business district to a height of eight feet on the first floor in the food stores. Edward J. Brophy, M. D., health officer

of the Town of Norwich and acting health officer of the City of Norwich, had been caught by the hurricane in New Haven where he had been attending the Clinical Congress. So Mr. Hibberd R. Norman, County Health Officer had appointed William V. Wener, M. D., health officer pro tem and on Doctor Brophy's return next day, Doctor Wener was made deputy health officer in charge of medical emergency Red Cross work.

Franklin M. Foote, M. D., Chief of the Division of Local Health Administration had been sent to Norwich to stay as long as the local situation required. On arrival on Friday he immediately contacted Health Officer Brophy and together they went along the river into Taftville and Occum (parts of Norwich) placarding private houses and a slaughter house and meat house with "Unfit for Occupancy" signs. In many instances a row boat was needed to reach these places. That evening an emergency meeting of the City Council was called and Clarence G. Thompson, M. D was appointed health officer of Norwich City for the remainder of the present term.

Doctors Knowlton and Burgdorf who had been at Putnam arrived in Norwich to check on conditions and Doctor Burgdorf remained in Norwich to assist in the organization work required for the sanitary clean-up of the city arrangements for this hav-
zation work required for the sanitary clean-up of the city, arrangements for this hav-
ing been made by Doctor Osborn at Doctor Foote's request. A message was sent to the CCC camp in Voluntown requesting workers and trucks and a sanitary engineer from the department was dispatched for continued service.

On telephone advice of Doctor Osborn from Hartford, Doctor Talbot at New London called a conference in Doctor Pennell's office of all the members of the staff who had been assigned to emergency service in that area of the state. This conference took place at midnight as the members were too busy before that time to leave their posts. Those present were Doctor Talbot, Mr. VanKleeck, Miss Dudley and Doctors Foote, Burgdorf, Knowlton, McPartland and Hillman.

After this midnight conference Miss Dudley and Doctor Knowlton returned to Hartford.

Meanwhile an attempt was being made to supply the Red Cross disaster service with information regarding the need for emergency nursing services in the flood-hurricane area in Connecticut.

In addition to the work Miss Dudley was doing in the southeastern part of the state, Miss Irena S. DeRonde and Miss Gertrude Beattie from the Bureau of Public Health Nursing of the State Department of Health contacted the following nursing associations in the other disaster areas in the state: Clinton, Cromwell, East Hartford, East Hamptom, Hartford, Haddam, Old Saybrook, Portland, Rockville, Windsor and Windsor Locks.

At Clinton, Madison, Guilford and Westbrook, with the damage largely to summer cottages, there were only minor casualties and no serious nursing problems in connection with the disaster.

At Cromwell there were 65 families out of their homes. Thirty-three women and children slept at the school and about as many men at another place, a volunteer nurse being placed in charge of the shelters. She was assisted by one or two other volunteer nurses and arrangements were made for responsible women to be at the shelters at all times. The local nurse was to assist at the immunization clinics planned for the next day.

At East Hartford it was found that 200 refugees were being cared for in the Woodland School, and the usual staff was augmented to include three extra visiting nurses, two during the day and one at night. As emergency work was claiming all of their time with a twelve hour service, the regular public health nursing work was being neglected. Two Red Cross nurses were assigned to East Hartford and the nurs-

ing director was advised to accept the volunteer services of a nurse who had had some previous public health nursing training at Simmons College.

At East Hampton the president of the public health nurse association reported that they had no need for extra help and they felt very lucky that they had had only one accident.

At Red Cross headquarters in Hartford, Miss DeRonde conferred with Mr. Shepard regarding the plans for supplying emergency nursing service. The local disaster committee placed Miss Marion Douglas, executive director, Hartford Visiting Nurse Association, in charge of the nursing service in the shelters.

In Haddam there were a few people out of their homes but they were being cared for by private families. The local public health nurse was caring for all local nursing needs. At Old Saybrook Miss McLean, the public health nurse, reported that the local community was meeting all nursing demands.

At Portland it was learned that three refugee families consisting of 15 people were housed in Swedish Hall and St. Mary's Hall and the local service was adequate for this emergency. They were advised to accept Red Cross assistance if more refugees had to be cared for, or a more serious situation developed after school opened on Monday. In Rockville they reported very little damage; there was practically no need for additional nursing service.

At Windsor there was no great problem; typhoid immunization had been quite complete two years before and there were no group shelters as only two families were being cared for. At Windsor Locks it was found that ten refugees were being cared for at the Town Hall and five in the public health nurse's home.

As many wires were down, telephone contacts were difficult; some messages were carried by the State Department of Health staff. Unsuccessful attempts were made to reach public health nursing associations in Suffield, Stafford Springs, Manchester, East Windsor, Somers, Willington, Enfield, Mansfield, Deep River and Essex. It was learned however, through other health representatives in the field that the local nurses were handling the situation at the moment without need for further assistance.

Up in Putnam area, Misses Coderre and McGrath spent time in Quinnebaug, Fabyon and West Thompson advising people to boil water as the wells in those sections were flooded.

At the Commissioner's office in Hartford, S. Percival Bard, M. D., health officer of Stafford Springs arrived for anti-typhoid vaccine, he having "walked the plank" over the river to get out of Stafford and from there went to Somers to reach Hartford.

During the day Doctor Osborn had attended the Governor's Emergency Committee to report on health conditions in the state.

At headquarters in Hartford the office of the State Department of Health was kept open night and day and various members of the staff, Doctors McPartland, Griswold, Cunningham, Hillman, Gray, Souther and O'Malley and Doctor Erlenbach, the staff department dentist, also Messrs. Hirsche, Coleman, Massaro, Press, Kip, Carter and Misses Belden, Moulton, Schroeder and Peterson were assigned to field service in connection with distribution of serums and vaccines, chloride of lime and printed circulars about clean-up and house occupancy after the flood.

Doctor Cunningham took typhoid vaccine to the health officer in New London and left supplies there for Groton and Stonington. He also left a supply of "Unfit for Occupancy" cards for these districts. He then proceeded to Norwich to leave cards and typhoid vaccine. There he received word that typhoid vaccine, and chloride of lime were needed in Putnam. After a telephone call to Hartford at which

time request for chloride of lime and typhoid vaccine for Danielson were added, he proceeded to Danielson and Putnam. He received chloride of lime from the W P A in Norwich and delivered chloride of lime and typhoid vaccine and "Unfit for Occupancy" cards to the health officer of Danielson, then proceeded to Putnam. There chloride of lime was left and the first aid supplies which had been requested. It was discovered that the typhoid vaccine had already been left by Doctor Burgdorf earlier in the day.

A survey of houses vacated and other data concerning the flood disaster in the state was initiated by Commissioner Osborn to be gathered by those in the field and results as received tabulated in a summary report to be presented to the Governor at his emergency relief committee. Questionnaires were to be distributed Saturday and Sunday by Doctors McPartland, Hillman, Griswold and Erlenbach and Messrs. Coleman, Hirsche, Press, Kip and Massaro. The questionnaires were filled in by the health officers. Summary information is given on page 26.

Saturday, September 24

With the exception of Mr. Scott who was needed at the central office in Hartford to direct sanitary activities in all stricken areas, all the sanitary engineers from the department were in the field giving assistance in the most urgent sanitary problem—restoration of public water supplies and aiding in emergency sanitation and clean-up as well as checking on the need for chloride of lime, clean-up circulars and other supplies.

Mr. Almquist was in Norwich assisting in sanitation work there. Mr. VanKleeck in New London was chlorinating New London water supply which was well in hand and residuals being obtained. It was planned to discontinue boiling notices late in the afternoon or Sunday.

Mr. Giles was checking on water supplies in Grosvenordale, Putnam, Attawaugan, Wauregan, Moosup, Plainfield, Jewett City and Occum. In Goodyear the power loss had shut down the pumping system. The well at Goodyear was flooded but the water had receded. Mr. Giles arranged for disinfection of the well. In Occum the power loss had shut down the supply. The well was disinfected and arrangements were made to check later both here and in Goodyear.

Mr. Lehr continued his check-up on the Willimantic water supply. A fire pumper was used to get water to the filter plant and the filter plant was started with hand application of chemicals. The steam pump was used to pump water to the city. The water supply was low and Mr. Lehr endeavored to get the public to reduce the consumption. He also checked up to get water to the Willimantic Hospital, and supervised chlorine disinfection of the Willimantic water supply.

Mr. Sherman started supervision of disinfection of Cromwell standpipes, and then delegated this to Mr. Wiggin. Cromwell was still boiling water. Portland water supply was checked and found satisfactory so boiling notices were released. Meriden supply was back to normal but the health officer wished to continue boiling until the supply was analyzed. Mr. Sherman checked on water supplies in Durham and found that families served by the Durham Center Water Company and Durham Aqueduct Company were without water due to lack of power. There was reported to be no hardship as the people were carrying water from wells. Power was later restored fairly promptly. Mr. Wiggin chlorinated Cromwell standpipes and reported some trouble with chlorinator and steps were taken to fix this.

Mr. Noonan checked up on shellfish plants between New Haven and New London. He reported that all shellfish plants along the shore were unharmed with the excep-

tion of five plants affected by flood water. The shops of Malloy in New London and Ball in Stony Creek were virtually destroyed.

Mr. Rothman of Wallace and Tiernan Company installed dry feed chlorinating equipment on the Roaring Brook supply of the Town of Manchester. A heavily chlorinated raw water was admitted to the clear well at the filter plant. The main was then flushed and this heavily chlorinated water was held in reserve in case of fire. The town was being supplied from Porter reservoir.

Mr. Masterson of Wallace and Tiernan Company spent the day supervising the repair of emergency chlorinating equipment of the Hartford Metropolitan District.

Mr. Scott telegraphed Mr. Miller of the United States Public Health Service that the New London Water supply was now safe. The system was being flushed.

New London was still headquarters for restoration work in the southeastern part of the state with Doctor Talbot remaining to assist Doctor Pennell. In the morning the first clinic for typhoid immunization of those working in the polluted areas was held. Chloride of lime was distributed from there in amounts required locally and 5000 more pounds were delivered by truck from Hartford for this purpose. Chloride of lime was taken to Danielson by state police.

The delivery service was still maintained during the day and night. Large trucks were hired to deliver five tons of chloride of lime to New London.

Doctor Hillman assisting in this area, went to Groton to interview the health officer, W. F. Hewes, M. D. who was busy rendering first aid. Later, containers for sampling the water supply were delivered to Doctor Hewes. From Mystic Doctor Hillman brought back an account of plans being carried out by Doctor Allyn and interviewed Doctor Veal at Stonington who reported no further damage from the storm. In New London he inspected a six family dwelling house and condemned the building because it was in danger of collapsing and had no means of being heated.

Doctors Burgdorf and Foote cooperating with the local health officials were placed in charge of the quarantined areas in Norwich until satisfactory clean-up could be established.

About 50 CCC boys reached Norwich at 8:30 A. M. and were put to work cleaning up and disinfecting the Shannon Building. Mr. Almquist arrived early that morning and a survey of conditions in the warehouses and stores in the business section was made. Fifty-six business buildings in this section of the city had cellars flooded and 43 additional business buildings had both their cellars and first floors flooded. It was felt that strong measures should be taken immediately to clean up this section and destroy contaminated food and materials capable of carrying disease germs brought in by the flood waters. The local health officers had issued printed notices for boiling water. Mr. Almquist made a check not only of the city water but also of the Ponemah Mills supply and the Inland Paper Board Artesian Well in Occum. He reported later in the day that the city water supply was perfectly safe and subsequent notices were issued that boiling of the water was no longer necessary.

Mr. Louis A. King, Jr. of the State Dairy and Food Commission and Mr. Fred J. Delmore of the Food and Drug Administration of the United States Department of Agriculture, came to see that no contaminated foodstuffs were moved out of Norwich to other towns or cities until properly disinfected; the only foodstuffs allowed to be moved were those in impervious containers following thorough disinfection. All foods in paper, cellophane, or cardboard containers were to be destroyed if they had been in flood waters, as well as foods in any containers with screw tops or crown caps.

At about 3:00 P. M. a conference was held in the Mayor's office with Mr. Leon Lewis, Acting Mayor, Chief of Police Murphy, Captain Dennison of the National Guard, Captain Johnson of the National Guard, one or two other national guardsmen and First Selectman John McWilliams. Lieutenant Rush of the National Guard was

assigned to help inaugurate a new pass system to make the quarantine zone strict. Entrance into this was to be limited to owners or employees actually engaged in clean-up work or disinfection, to utility and telephone people, to street department workers, and to disaster personnel only. Everyone—with no exceptions—had to present a pass to enter this area. This went into effect at midnight, September 24.

That evening a conference was again held, this time with department engineers, the food and drug inspectors, health officers, the acting mayor and Messrs. D. J. Brunnick and C. A. McIntyre, W P A officials, resulting in a program which was to be put into effect for cleaning up the city. At this time a start was made in ordering trucks, shovels, lanterns, rubber boots, gloves, goggles and other material necessary. The mayor arranged for all gasoline to be obtained from a central fire station, to be paid for by the city. By this time two secretaries had been assigned and two telephones made available. Headquarters on Bath Street were established. During the evening C. C. Pierce, M. D. of the United States Public Health Service spent about two hours at the headquarters.



Clean up in Norwich a Difficult Problem

Miss Dudley discussed the nursing situation with Miss Margaret Dizney, R. N., Nursing Supervisor from National Headquarters of the American Red Cross, Mr. Robert Shepard, Doctor Benjamin Horning, Health Officer of Hartford, Miss Grace Clock, Red Cross General Field Representative, Doctor DeKleine, Medical Director of the American Red Cross who gave directions regarding survey for disaster patients, and Miss Marion Douglas who had been placed in charge of the nursing service in the five shelters, by the local Disaster Committee.

Though smaller projects, the nursing service in other temporary shelters in the state was carried on similar to that in Hartford. Recruiting nurses through the Hartford Red Cross Nursing Committee and supplying others from her own staff, Miss Douglas and her assistant saw that each shelter was supplied with a nurse night and day and the activities of the nurses were supervised daily by these two. A first-aid room was set up in each shelter. Signed standing orders for simple first aid treat-

ments were obtained from the physicians who visited several times each day. A total of 1941 first-aid treatments were given in Hartford shelters. The nurses constantly watched for signs of illness, and persons found sick were removed to a hospital. Only two cases of communicable disease (mumps) were found. Infants and small children were segregated and given the special care they needed by capable volunteers. In this way the nurses kept the standard of health high in the shelters.

At Middletown, Miss DeRonde learned that 250 persons were sheltered in the armory and that one nurse was needed. Miss Dudley arranged for the assignment of a Red Cross nurse.

Meanwhile, the efforts to learn nursing needs were continued and all available departments of health nurses were in active service securing this information. Miss Beattie visited several public health nursing associations not reached by telephone. No nursing assistance was found necessary in Suffield, Enfield, Willington, Mansfield and Stafford Springs. Miss Beattie observed the facilities and service provided for refugees at the shelter in Willimantic.

It had been reported, apparently via an amateur short wave radio, that nurses were needed in Putnam. So Miss Dudley dispatched Miss Rowena Belden, R. N., public health nurse in the Bureau of Venereal Diseases, as a Red Cross and department representative to learn what the situation was. She was instructed that the Red Cross policy was to have a nurse in attendance at all times where 25 or more people were housed. Doctor Knowlton had reported that 100 refugees were being cared for temporarily at the Armory. Miss Belden took with her an extra supply of typhoid vaccine for this area and followed instructions to reach Putnam by way of Berlin, Meriden, Middletown, Portland, East Hampton, Colchester and Norwich. At Norwich Miss Belden interviewed Miss Grace Anslow at the William W. Backus Hospital securing from her the names of Red Cross nurses who could serve if needed. Four hours after leaving Hartford, Miss Belden arrived at Putnam and went immediately to the Red Cross Headquarters where it was reported that everything was being taken care of satisfactorily. The chairman of the Red Cross Nursing Committee as well as Miss Esther S. Welles, R. N., public health nurse were surprised at the nature of the radio message as they said the present service was adequate. While 50 to 60 had been cared for at the Armory numbers were diminishing so there would be no need for extra nurses. Miss Belden called on the health officer, Mrs. Ellen T. MacDonald, who said that she had an ample supply of typhoid vaccine.

Miss DeRonde succeeded in reaching Mr. James Lee, Chairman of the Red Cross in Willimantic, by telephone. He reported that 160 people were housed in the American Thread Company Boarding House, that many children had colds, and that there was no nurse in attendance. Miss Ruth Olson and Miss Dora Webster were released by the State Department of Health to give Red Cross nursing service at this shelter until other nursing service could be arranged.

Two of the thread company nurses had been on duty and the people were being well cared for. Everyone was instructed to wash their hands before meals as many were working in flooded areas cleaning out their homes. The main obstacle was lack of running water. Temperatures were taken of all children inspected for rashes and some assistance with diets was given. Fortunately there was little illness. Miss Frances Gazarian, public health nurse from the Bureau of Child Hygiene, also assisted the Misses Olson and Webster at the "Elms" in Willimantic.

The department personnel which had been doing road service each day to reach distant points with necessary supplies continued on to dispatch chloride of lime and typhoid vaccine and to assist in making the survey of flood conditions. Doctor Cunningham stopped in Norwich and left additional typhoid vaccine and brought back a message to Doctor Osborn from Doctor Foote to the effect that CCC boys would be

needed for clean up, also a message to Mr. Scott from Mr. Giles at Danielson. On the way back to Hartford he stopped and left typhoid vaccine with M. L. Palmieri, M. D. Health Officer of Middletown.

Mr. Kip visited the health officers of Brooklyn, Killingly, Putnam, Pomfret, Thompson and Woodstock and left printed circulars and chloride of lime at the same time securing data concerning the flooded areas, thus completing the sanitary survey data for the far northeastern part of the state.

Sunday, September 25

Sunday found most of the State Department of Health staff still in the field more or less scattered throughout the flood areas where services were most needed. Delivery service for chloride of lime and vaccine still continued.

Clean-up activities and restoration of water supplies was still the urgent need and the whole staff of sanitary engineers was on duty. Messrs. Sherman, Almquist and Giles were in Norwich supervising sanitation work, as the center of the city had been flooded with a wave of polluted water rising to the first floors of the business section. Many retail and wholesale establishments were affected. Mr. Sherman also helped to check up water supplies in Occum and Baltic.

Mr. VanKleeck returned from New London that night, reporting that chlorination of New London supply was accomplished and boiling notices had been released.

Mr. Lehr was in Willimantic checking on the water supply and supervising sanitation work there.

Mr. Wiggin chlorinated Cromwell standpipes. He was assisted in repairing the chlorinator by Mr. Masterson of Wallace and Tiernan Company who also checked on the chlorinating equipment of the Hartford Metropolitan District.

Mr. Noonan assisted health officers in Glastonbury and East Hartford to lay out a sanitation program.

In Norwich, with Doctors Burgdorf and Foote assisting the local authorities, 100 city employees and 68 CCC boys were working on the sanitary clean-up within the quarantined area. There had been some discussion about the system as it was considered too strict. However, those in charge felt that it was not advisable to release quarantine yet.

A conference of all inspectors and engineers was held in Norwich on Sunday night to map out the work for the following day. Mr. A. Ravenelle and Mr. J. Mara were appointed as chief and deputy purchasing agent and stock clerk, to procure and keep track of all materials necessary for the conduct of the clean-up. All these materials were paid for by the city. By this time the augmented staff included, beside the State Health Department engineers—Almquist, Giles and Sherman,—Messrs. Louis A. King, Jr., and Mr. Fred J. Delmore of the Federal Food and Drug Administration. Each of the sanitary and food men was given a district and was assigned a definite number of men and trucks to conduct the clean up and disinfection. In order to speed up the work it was felt that merchants should be dissuaded from salvaging material unless this could be done without too much trouble, as in the case of hardware, machinery and foods canned in completely impervious containers.

In the New London area, Doctor Talbot and Mr. VanKleeck were still on duty at the health officer's office. They inspected the water on the two trunk lines from the reservoir, held a conference with Mr. Waters at the Lake Konomoc dam and Mr. Peters, one of the engineers of the water department, after which it was decided that since the chlorinator was restored, notices to release boiling of water should be given to the New London Day for publication on Monday.

Doctor Talbot visited Waterford and left chloride of lime with John F. O'Brien, M. D., to chlorinate his water supply in the standpipe. He also visited Niantic where it was reported that everything was under control. Doctor Talbot left some chloride of lime there for emergency use and also with Dr. Hewes at Groton.

Matthew H. Griswold, M. D. and Herbert F. Hirsche visited Doctor Pennell's office in the afternoon and left typhoid vaccine.

Up in the Putnam area typhoid inoculations were arranged for during the day. The public health nurses from the Bureau of Child Hygiene, Misses Coderre and McGrath assisted the local nurses on duty at these inoculation clinics, for which three local physicians had volunteered their services.

Miss Belden remained over in the Putnam area checking on Red Cross nursing services. On Sunday morning a Boston paper carried a statement that the Dyer Dam in Danielson had gone out flooding Danielson and surrounding towns, also Jewett City and Norwich. Later, this was found to be a false rumor. Mr. James J. Charron, Town Health Officer of Putnam, was asked to trace the amateur broadcast rumor about extra nurses being needed. He thought he might be able to locate it.

At Hartford, the State Department of Health office had been in continuous operation day and night since the flood started. On Sunday various members of the staff reported for duty, many of these going at once into the field as directed. Dr. Hillman first reported there, then left to visit the health officers of Wallingford and North Haven. Sterling P. Taylor, M. D., Health Officer of North Haven, was located at Overbrook and stated that 21 families had to be evacuated and 21 wells were flooded. He had called for the assistance of Stanley Williams, sanitary inspector from New Haven. Doctor Taylor was given printed instructions and was advised as to methods of procedure in regard to purification of the water supply and as to the sanitary control of contaminated foods. He requested that chloride of lime and typhoid vaccine be sent to him. This request was telephoned to Doctor Osborn.

Moving on to Chester, Doctor Hillman then visited W. J. Tate, M. D., Health Officer leaving typhoid vaccine and chloride of lime. Doctor Tate requested that more typhoid vaccine and chloride of lime be sent him as he expected to substitute for the Essex health officer who was away in Canada. Tetanus antitoxin was next taken to the health officer of Groton and also left with him for the state police to deliver to Doctor Veal, Health Officer of Stonington.

During Sunday, various members of the staff were out in the field gathering information on flood conditions from every town health officer east of the Connecticut River, all health officers in the Farmington River area and then to towns bordering on the Connecticut River and the shore west of the Connecticut River to the New York State line, to complete the sanitary survey which was to be used by Doctor Osborn when he presented his report to the Governor on Monday. Mr. Kip interviewed the health officers of Putnam, Eastford, Ashford, Mansfield, Windham, Chaplin and Hampton and also left chloride of lime where requested. Though health officers had been so strenuously occupied during the week they were most cooperative in giving the desired information.

Doctor Talbot had conferences with Doctor Allyn in Mystic and Doctor Veal in Stonington regarding clean up. He contacted W P A representatives who agreed to release CCC men to assist in those places, to spray down the walls of the cellars with disinfectant after they had been cleaned. The CCC regulations did not permit of clean-up work, only disinfection to be carried on. Doctor Talbot made arrangements for these men to be inoculated against typhoid before undertaking this work.

In the northeastern part of the state Doctor Lambert planned for weekly typhoid clinics in Goodyear, Pomfret Landing and Putnam until the three doses were given.

Miss Beattie remained in Stafford Springs over night and returned to Hartford on Sunday, stopping at Somers and Rockville to learn from the public health nurses and Red Cross representatives that there were no unusual nursing needs.

Miss Dudley and Miss DeRonde conferred with Miss Margaret Dizney from National Headquarters of the American Red Cross and made further plans for the nursing service. Water and shelters in East Hartford and Cromwell were visited and the nursing service reviewed with the person in charge.

The Connecticut River Bridge was reopened to department workers Sunday afternoon.

Monday, September 26

By Monday morning the height of the flood had been reached and waters were receding as shown by the fact that at midnight Sunday the bridge was again opened. This meant that all the workers from the State Department of Health who had been held in their homes since the Thursday previous could return to Hartford and take up their duties. This also meant much easier traveling for those who were still working in the field since the closed bridge meant many more hours and much more mileage to reach points even a short distance away.

Mr. VanKleeck had returned from New London and was assisting in Glastonbury supervising sanitation work there. Mr. Lehr was in Willimantic checking on water supply and assisting in sanitation work. Mr. Sherman also went to Guilford to check chlorination of the water supply with Mr. John Moran of the Guilford-Chester Water Company and the Health Officer F. DeWitt Smith, M. D. Mr. Wiggin checked on chlorination of water supply at Cromwell in the morning and in the afternoon assisted Mr. VanKleeck who was supervising sanitation work in Glastonbury.

Sanitary Engineers Almquist, Sherman, Giles and Noonan were still at Norwich giving assistance in the work of cleaning up the center of the city. A large group there included city employees, W P A and N Y A workers, navy men and coast guardsmen making a total of 575. Extra trucks were made available and some of the workers were divided into two work shifts. At night Doctors Foote and Burgdorf held conferences to map out the work for the next day.

Doctor Talbot continued on at New London making arrangements for further packing of chloride of lime in five pound bags and distributing it to the surrounding towns as needed. Additional supplies of posters and clean-up instructions were left with Doctor Allyn of Mystic and Doctor Veal of Stonington and arrangements were made with W P A workers to help out in these two towns. Although arrangements had been made through Doctor Pennell for the New London Day to print a notice to the effect that water need no longer be boiled, the brief notice was printed in such an inconspicuous place in the paper that many people continued to call in about this. No mention in the paper was made of the release of the order to boil milk. A personal visit was made to the New London Day and the cooperation of Mr. John W. Sheedy and Mr. G. E. Watters secured in giving a more conspicuous notice in the paper so that people would be relieved of the extra burden of boiling water and milk.

Miss Beattie visited South Windsor and a temporary shelter in East Windsor. No additional nursing service seemed necessary. Miss DeRonde learned via telephone that the Stamford Visiting Nurse Association was giving nursing assistance at the temporary shelter there.

Tuesday, September 27

By this date the flood waters had rapidly receded and the organization work for clean-up was well on the way to completion. The "Unfit for Occupancy" signs were

kept posted on all buildings in Norwich until they had been cleaned up to the satisfaction of the local health officer and he could be assured that it was safe for the family to return.

While there were scattered requests for the sanitary engineers to assist with sanitation work, their services were largely concentrated at Norwich where the most difficult sanitation problem was being handled. In fact, from this date until the end of the week most of the engineers were on duty in Norwich.

On Tuesday in Norwich further streets were released from quarantine. There was a force of 485 at work cleaning up the city. Approximately 30 trucks were in operation. The CCC boys were assigned the job of spraying polluted walls, ceilings and floors with a solution of chlorinated lime, approximately one pound to 10 gallons of water.

Sanitary inspector Noonan worked in the Town of Norwich outside the city limits assisted by Miss Winifred M. Egan, school nurse, who knew the people and the streets. A plan was drawn up to send 100 men into this area on Wednesday to clean up two or three streets and a number of private dwellings. When quarantine was lifted in Norwich there were still several stores that bore placards "Unfit for Occupancy" which could not be removed until these were completely disinfected.



The Faithful Staff on Duty in Norwich for Over a Week

Front row left to right:—D. O'Brien, Clarence G. Thompson, M. D., Alfred L. Burgdorf, M. D., William V. Wener, M. D., (Chairman District Committee) Franklin M. Foote, M. D., Edward B. Noonan.

Back row:—Frederick O. A. Almquist, C. A. McIntyre, J. Mara, Emery Davis, Leslie K. Sherman, A. Ravenelle, D. J. Brunnock, J. Henry L. Giles Louis A. King, Jr., Fred J. Delmore.

Meanwhile other members of the staff continued to do yeoman service in delivery of chloride of lime, typhoid vaccine and tetanus antitoxin.

Field nursing service had continued for many days, Misses Olson, Webster and Gazarian being on duty at the Elms, Willimantic where many refugees had been taken care of.

In Putnam Miss Coderre had been assisting the health officer of Thompson, Joseph L. Roy, M. D. by distributing 300 pounds of chloride of lime to the flooding areas in West Thompson, Quinnebaug and Fabyon.

Miss Dudley conferred with Mr. Shepard, Miss Dizney and others of the Red Cross staff, as well as members of the state nursing staff, on procedures. Miss Dudley accompanied Miss Dizney to New London and Norwich in the interests of the Red Cross nursing service.

Doctor Osborn reported to the Governor at his emergency committee meeting the results of the survey of all the towns obtained by members of the staff from the health officers over the week end. The results of this survey are given on pages 40-43.

Wednesday, September 28 to Saturday, October 1

Doctor Osborn attended a meeting called by Colonel Thomas Hewes, State Relief Coordinator a position created by the Governor as clearing house for all state relief agency activities. The meeting which was attended by various state and federal officials and was held in the House of Representatives, State Capitol. Later, the State Relief Coordinator set up a temporary emergency office in the Old Senate Chamber.

Clean-up work at Norwich required the continued services of Doctors Burgdorf and Foote and some of the sanitary engineers and sanitary inspectors.

At Norwich on Wednesday, 27 trucks, two horse-drawn dump trucks and 408 men were at work; on Thursday; 329 men; Friday 150 men; on Saturday 138 and on Monday 115 men; all of these under the supervision of the trained personnel who had been on continuous service there since September 23.

Sanitary engineers and inspectors not on duty at Norwich were assigned for clean-up activities at Glastonbury, Willimantic, Colebrook River and Mystic for the rest of the week.

Doctor Talbot continued on at New London supervising clean-up there and in surrounding towns. He delivered typhoid and clean-up literature to Samuel S. Farago, M. D. health officer of Pawcatuck. During his stay in New London, 1500 pounds of chloride of lime had been put up and distributed in five pound lots from the health officer's garage. New London became the distributing center for upwards of three tons of chloride of lime to supply the need in the New London and Windham Counties, much of this being shipped in large drums.

Under the direction of Miss Dudley, Miss Rowena Belden from the Venereal Disease Bureau assisted with the survey conducted by the Red Cross. Four days, September 28 through October 1 were devoted to this, and a total of six hospitals in four towns in New Haven County were covered.

The statewide Red Cross survey for the purpose of determining the total number of disaster victims treated in hospitals, shelters or emergency stations was made by four nurses—Misses Beattie, DeRonde, Belden and Mrs. Van Meter whose services were donated by the State Department of Health, and by the Chairman of the State Red Cross Nursing Committee.

Every general hospital (45 hospitals in 28 towns) in the state was contacted and if there were such patients, the hospital was visited. A record was made out for each patient whom the hospital felt was there as a result of the disaster. Shelters, emergency treatment stations and Red Cross Chapters were also contacted for records on patients with conditions that might become serious. Additions to the list were also made by public health nursing associations. While at the hospital the nurse also con-

tacted the superintendent and arranged an acceptable per diem rate for Red Cross beneficiaries.

Miss DeRonde and Miss Beattie continued to do Red Cross nursing work for two weeks.

Miss Dudley, who was responsible (as the Nursing Field Representative) for the disaster Red Cross nursing service in Connecticut, continued to give practically full time to the Red Cross work for another month, and part time for two months following. Close contact was maintained with hospitals caring for disaster victims. Through the cooperation of local public health nursing services, arrangements were made for the nursing follow-up of 367 selected persons injured or ill due to the disaster, to make sure that they had every advantage for complete recovery. An American Red Cross nurse was assigned to visit patients living in communities without a local public health nursing association. Information supplied through these professional contacts was used by Red Cross case workers in planning for those who became Red Cross beneficiaries.

SUMMARY OF FLOOD AND HURRICANE CONDITIONS IN THE STATE

Damage to Public Water Supplies

Metropolitan Supply, Hartford. Water supply conditions O. K. and Sand Filters in use. Emergency chlorination checked by Wallace and Tiernan Company.

East Hartford Water Supply. Furnishes water to East Hartford and Glastonbury. Emergency chlorinator installed by State Department of Health. Boiling notices issued as added precaution. Emergency connection made with South Glastonbury Water Company system.

South Glastonbury Water Company. Dam gave way and connection made to East Hartford supply. Boiling notices issued.

Portland Water Company. Difficulties with chlorinator. Boiling notices issued as precaution.

Cromwell Water Company. Difficulties with chlorinator. Boiling notices issued. Chlorinator repaired and standpipes disinfected.

Meriden. Boiling notices issued by local health officer as added precaution.

Willimantic. Complete power failure. Emergency treatment of water.

Mansfield State Training School. Ground around well flooded. Chlorine disinfection supervised.

Connecticut State College. Power failure. Chlorination interrupted. Boiling notices issued. Emergency chlorinator installed.

Mystic Valley Water Company. Filter shut down due to power failure but chlorination continued.

Guilford-Chester Water Company. Chlorination along shore supplies interrupted. Boiling notices issued. Chlorinator functioning and standpipes disinfected.

North Canaan Water Company. Supply completely shut off by break in main. Wells flooded. Emergency chlorinator installed.

Farmington Water Company. Chlorination temporarily interrupted but supply shut off from clear well. Chlorinator repaired.

Salmon Brook Water Company, Granby. Temporary interruption of supply due to power failure.

Avon Water Company. Temporary interruption of supply due to power failure.

Bridgeport Hydraulic Company. Small sections of system. Temporary interruption of supply due to power failure.

Durham Center Water Company. Temporary interruption of supply due to power failure.

Durham Aqueduct Company. Temporary interruption of supply due to power failure.

New Haven Water Company. Small sections of system. Temporary interruption of supply due to power failure.

Lakeville Water Company. Main broken. System supplied from two ends, wells and reservoir. Winsted. Breaks repaired.

Northern Connecticut Power Company. Installed temporary power for Thompsonville, Windsor Locks and Suffield.

Goodyear. Power failure. Well disinfected.

Occum. Power failure. Well disinfected.

FLOOD SURVEY INFORMATION QUESTIONNAIRE TO DETERMINE EXTENT
OF ASSISTANCE NEEDED BY LOCAL AUTHORITIES

Date

1. Name of town
2. Estimated number of houses vacated
3. Estimated number of houses occupied but only partially flooded
4. Estimated number of private wells flooded
5. Are any additional nurses needed
6. Are any additional physicians needed
7. Who will supervise health precautions to be taken prior to re-occupancy
8. Do you need chloride of lime How much
9. Do you need typhoid vaccine How much
10. Do you need tetanus antitoxin How much
11. If your food supplies in stores and warehouses were flooded have you inspected them Do you need help
12. Do you want C. C. C. men to help
- If so, how many (estimate)

The State Department of Health offices will be open each night until 11 P. M.

Telephone — Hartford 7-6341.

Information obtained from

Information obtained by

DAMAGE TO HOUSES AND WELLS

Extent of Damage to Houses and Private Wells as revealed by questionnaire survey, September 23-26.

Fairfield County

City or Town	Number of Houses Vacated	Number of Houses Flooded but not Vacated	Number of Private Wells Flooded
Bridgeport	1	200	25
Darien	10	25	....
Fairfield	15	20	....
Greenwich	150	150	....
Norwalk	200	....	....
Stamford	42	400	....
Stratford	12	150	....
Westport	11	15	....

Hartford County

Berlin	2	2	2
Bloomfield .....	....	2	....
Canton .....	....	10	....
East Hartford	200	40	....
East Granby	2	....	....
East Windsor	25	12	....
Enfield	2	6	....
Farmington	25	50	50
Glastonbury	160	25	12
Hartford	2500	....	1
Rocky Hill	7	1	2
Simsbury	12	10	2
South Windsor	25	15	30
West Hartford	1	3	....
Wethersfield	50	75	25
Windsor	15	20	....
Windsor Locks	13	11	8

Litchfield County

Barkhamsted .....	....	10	12
Colebrook	5	40	....
New Hartford	40	10	10
Winchester	6	....	....

Middlesex County

Chester	4	12	25
Clinton .....	....	4	....
Cromwell	125	40	....
East Haddam	15	10	30
Essex	6	50	12
Haddam	15	15	15
Middletown	175	60	....
Portland	65	25	15
Saybrook	1	2	6

New Haven County

City or Town	Number of Houses Vacated	Number of Houses Flooded but not Vacated	Number of Private Wells Flooded
East Haven	30	....	....
Guilford .....	....	....	5
Meriden	2	150	....
Milford	75	15	....
New Haven .....	....	24	....
North Haven	21	....	21
West Haven	4	25	....

New London County

Groton	12	....	....
Lebanon	3	....	....
Lisbon .....	....	5	....
Lyme	8	4	12
Montville .....	....	....	1
New London	80	50	....
Norwich*	30	139	29
Pawcatuck	12	100	....
Preston .....	....	....	....
Sprague	60	40	....
Stonington	25	....	....
Waterford	1	25	....

Tolland County

Bolton	10	....	....
Columbia	1	1	....
Mansfield	3	....	....
Rockville	40	20	....
Somers .....	....	....	2
Stafford	2	....	....
Willington	4	....	1

Windham County

Ashford .....	....	....	5
Brooklyn	1	....	10
Chaplin	1	....	....
Eastford	1	3	3
Killingly and Danielson	1	30	....
Pomfret	1	....	....
Putnam	50	150	10
Thompson	4	12	50
Windham	20	....	12

SUMMARY OF SURVEY

Counties	Nnumber of Houses Vacated	Number of Houses Flooded	Number of Private Wells Flooded
Fairfield	441	960	25
Hartford	3039	282	132
Litchfield	51	60	22
Middlesex	406	218	103
New Haven	132	214	26
New London	231	363	42
Tolland	60	21	3
Windham	79	195	90
Totals	4439	2313	443

* also one school flooded
 10 mills and factories
 86 business buildings (cellars)
 47 business buildings (cellars and first floors)

CHLORIDE OF LIME AND BIOLOGICS DISTRIBUTED

Town	Chloride of Lime		Typhoid Vaccine Sent Out	
	Pounds	20 cc First Doses	3-Vial Complete	
Barkhamsted	15	....	....	....
Bloomfield	10	....	....	12
Bozrah	45	....	....	....
Branford	100	....	....	....
Brooklyn	25	....	....	....
Canton .....	....	....	....	12
Chester	125	2	....	....
Colchester	50	....	....	25
Colebrook	125	....	....	....
Coventry .....	....	....	....	12
Cromwell	2148	5	....	....
Danielson .....	....	10	....	....
Eastford	25	....	....	....
East Haddam	675	....	....	....
East Hartford	1050	10	....	....
East Lyme	20	5	....	25
East Windsor	500	....	....	30
Ellington .....	....	1	....	....
Enfield	100	....	....	....
Essex	25	....	....	....
Farmington	200	2	....	....
Fairfield	100	....	....	....
Franklin	20	....	....	....
Glastonbury	800	12	....	25
Haddam	35	....	....	....
Hartford	32000	337	123	....
Killingly	360	25	....	....
Lisbon	50	....	....	....
Lyme	35	....	....	....
Manchester .....	....	....	....	24
Marlboro	225	....	....	....
Meriden	500	....	....	....
Middletown	3000	20	....	10
Milford	350	....	....	....
Montville	15	....	....	....
New Hartford	150	....	....	20
New Haven	358	....	....	75
New London	6750	36	....	48
North Branford	25	....	....	....
North Haven	75	....	....	....
Norwich	4200	215	....	....
Old Lyme	20	....	....	....
Old Saybrook	20	....	....	....
Plainfield .....	....	....	....	4
Portland	358	....	....	....
Putnam	1266	76	....	100
Rocky Hill	75	1	....	....
Saybrook	25	....	....	....
Simsbury	25	....	....	25

Town	Chloride of Lime Pounds	Typhoid Vaccine Sent Out	
		20 cc First Doses	3-Vial Complete
South Windsor	350	....	15
Sprague .....	....	10	....
Stafford	1300	....	50
Stafford Springs .....	....	....	25
Stamford	3000	....	25
Stonington .....	....	....	12
Stratford	350	....	....
Suffield .....	....	....	15
Vernon	716	20	....
Wallingford	50	....	....
West Haven	100	....	....
Wethersfield	716	....	....
Windham	458	....	....
Windsor	458	8	....
Windsor Locks	100	....	25
Totals	63,673 lbs.	795	737

(or a total of 15,900
first doses)

Workers also distributed to health officers "Unfit for Occupancy" signs to be posted on all houses and buildings which were ordered vacated and no family could return until this card had been removed by the health officer after the premises had been cleared up to his satisfaction. Five thousand of these cards as shown below were distributed:

This Building Is Declared

UNFIT FOR
OCCUPANCY

By The Health Officer

It Is Not to Be Reoccupied Without
Permission of the Health Officer

SUMMARY OF NURSING SERVICES

For the most part emergency nursing services due to flood and disaster were taken care of by local public health nurses. In certain areas, however, additional services were required and the extent of this service is shown below:

Hartford County

Town	Patients in Shelters	Disaster Nurses On Duty	Special Assistance	
			First Aid No. Patients	Typhoid Inoculation
East Hartford	235	8 (plus 1 Co.)	92	....
East Windsor	45	1	....	35
Glastonbury	80	4	15	....
Hartford	2400	39	1941	....
Windsor Locks .....	....	1	....	....

New Haven County

Guilford .....	....	1	....	....
New Haven .....	....	1	....	....
North Haven .....	....	2	....	....

Middlesex County

Cromwell	90	3	6	....
Middletown	281	6	69	....
Portland	30	2	....	....

Tolland County

Rockville	2	103
-----------------	------	---	------	-----

Fairfield County

Stamford	150	2 (plus 3 Co., 1 Pr.)
----------------	-----	-----------------------	------	------

New London County

Mystic .....	....	3	....	141
New London .....	....	6 (plus 1 Co.)	46	....
Norwich .....	....	19	430	3709
Sprague .....	....	8	324	1721
Stonington	450	1	10	50

Windham County

Putnam .....	....	7	10	225
Willimantic	160	7	16	....
At Large .....	....	2	....	....
Totals	4242	131	2959	5984

Remembering how valuable the specific instructions for clean up after the flood of 1936 proved to be, copies of these were revised to meet the present conditions and 15,000 of each of these two bulletins were printed to be distributed to local health officers in the disaster areas. All workers going into the field were given a supply for this purpose.

These, printed under the date of September 21, are shown on this and the next page:

CLEAN UP

I—DESTROY ALL MATERIAL NOT WORTH SALVAGING.

II—BOIL EVERYTHING THAN CAN BE BOILED, SUCH AS CLOTHING AND BEDDING.

FLOODED DWELLINGS

Clean up and disinfect as described in separate notice.

FLOODED FURNITURE—Rugs and hangings

- | | |
|-----------|--|
| Curtains | (a) Boil all that can be boiled without injury to fabric. |
| | (b) Dry thoroughly in the open air and sunshine. |
| | (c) Press with hot iron, or dry clean. |
| Rugs | (a) Flush off with clear water while still on floor. |
| | (b) Dry thoroughly in the sunshine. |
| | (c) Use a mild soap and luke warm water to shampoo—then rinse and dry. |
| Furniture | (a) Wash with strong soap and water all surfaces that can be reached and will not be harmed, such as wood, metal, leather, cane and composition materials. |
| | (b) Upholstered materials. Wash whatever materials can be surface-washed and dry thoroughly, preferably in open air and sunshine. |

DISCARD WHATEVER CANNOT BE CLEANED AND DRIED SUCH AS BADLY SOAKED MATTRESSES AND UPHOLSTERED MATERIAL.

FLOODED CLOTHING

Boil immediately everything that can be boiled without injury. Otherwise, dry thoroughly, in the sunshine, all clothing that cannot be boiled. Then sterilize by pressing with a hot iron or by dry cleaning.

FLOODED FOODSTUFFS

No foodstuffs subjected to contamination from flood waters should be used unless such foodstuffs have been stored in watertight containers, in which case the outside should be thoroughly sterilized with boiling water or disinfectant. It is best to "play safe" and discard any questionable foodstuffs. No flooded foodstuffs are to be sold to the public.

Sept. 21, 1938

CLEANING UP AND DISINFECTION AFTER FLOODS

Where to Obtain Chlorinated Lime. This is a chlorine disinfectant known as chloride of lime or chlorinated lime and is not ordinary lime or hydrated lime. This disinfectant can be obtained through drug concerns, grocery stores and chemical supply houses.

Disinfection of Wells Affected by Flood Waters. Wells and springs exposed to floods should be disinfected with a solution of chloride of lime and water. Six to eight ounces of chloride of lime (or about two tumblersful) dissolved in a pail or two of water strained through cloth and poured into an average size dug well will disinfect it heavily. Large quantities of the disinfectant are not injurious. The chlorine odor will soon disappear. Effort should be made to stir up the disinfected well water and it should be allowed to stand for thirty minutes to obtain adequate contact. If the well has been badly polluted, it is safer to pump it out after disinfection and disinfect it again. Any debris entering the well should be removed.

Boil for five minutes all well water that may be polluted by river water, until it is disinfected and it is certain the water is safe, to avoid water-borne typhoid, dysentery and diarrhea.

Flooded Cellars. After these are drained or pumped out, wash them down with a hose with clean water and brush and scrub them. Then finish up by applying with a brush, broom or rags a disinfecting solution of chloride of lime and water. This can be made up with 1 lb. of chloride of lime in 6 to 10 gallons of water. Do not throw a lot of chloride of lime into a lot of cellar water as the strength of the disinfectant will be rapidly wasted by the dilution. Clean out the cellar or house first.

Cresol Disinfectants. If chloride of lime is not used, such disinfectants as lysol or cresol can be used to wash down any surfaces exposed to flood waters and sewage. Four tablespoonsful or two ounces of such disinfectants per gallon of water can be made up for a disinfecting solution. Care should be taken to avoid burns which may be caused by full strength of the disinfectants without dilution with water.

Precautions by Flood Workers. Flood workers should be cautioned to guard against infection. They should not get their hands near their mouths after handling polluted surfaces or polluted water until their hands have been washed with soap and clean water. They should also not handle food without clean hands.

Sept. 21, 1938

