"Alert to the Necessities of the Emergency": U.S. Nursing During the 1918 Influenza Pandemic

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SYNOPSIS

In 1918, excellent nursing care was the primary treatment for influenza. The disease was not well understood, and there were no antiviral medications to inhibit its progression or antibiotics to treat the complicating pneumonia that often followed. The social, cultural, and scientific context of the times shaped the profession's response. The Great War created a severe civilian nursing shortage: 9,000 trained white nurses were sent overseas and thousands more were assigned to U.S. military camps. The shortage was intensified because the nursing profession failed to fully utilize African American nurses in the war effort, and refused to use nurses' aides in the European theater. Counterbalancing these problems, excellent nurse leaders, advanced preparations for a domestic emergency, infrastructure provided by the National Organization for Public Health Nurses and the Red Cross Town and Country Nurses, and a nationwide spirit of volunteerism enhanced the profession's ability to respond effectively to the emergency on the home front.

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On December 2, 1918, New York City's health commissioner Royal Copeland wrote to nursing leader Lillian Wald, director of the Henry Street Settlement and chair of the New York City Nurses' Emergency Council (formed in mid-October 1918 to coordinate the nursing response to the influenza epidemic), expressing his appreciation for the nurses' work. "I found your organization alert to the necessities of the emergency and ready day or night to respond to the urgent calls for help. . . ."[1] Copeland's remarks echoed other letters filed immediately after the epidemic subsided. Indeed, trained nurses, as well as untrained volunteers, constituted the front-line response when thousands of Americans succumbed to flu. Skilled nursing was essential for influenza patients; in 1918, there was minimal understanding of the disease, and no antiviral medications to inhibit its progression or antibiotics to treat the complicating pneumonia that often followed. Instead, Vick's® Vapo Rub, aspirin, bed rest, sponge baths, whiskey, cough medicines, clean bedding, and hot soup were among the therapies most often prescribed—all administered most effectively by trained graduate nurses who had learned to use these therapies in nursing school.

The problem was that there were not enough trained graduate nurses available to deliver that care. The first nurse training schools in the United States—based on the apprenticeship model used by Florence Nightingale in London—had opened only 45 years earlier in 1873, and the profession was still struggling to set educational standards and criteria for registration. Many "professed" nurses did not have the training they needed.[2] In 1918, because of the deployment of large numbers of graduate nurses to U.S. military camps at home and abroad, and the failure of the profession to utilize trained African American nurses, the country was experiencing a severe shortage of professional nurses.

Indeed, when the epidemic arrived in the United States in the fall of 1918, professional nurses were stretched thin. Hospitals were deluged with flu victims; wards overflowed and graduate nurses had to use both medical students and "pupil nurses" to help. In the community, there were simply not enough Visiting, Public Health, Red Cross and Blue Circle nurses to provide care. Not only the poor needed nurses; middle-and upper-class families also sought help, many requesting the private-duty nurses they had come to expect. According to the assistant superintendent of the Chicago Visiting Nurses, ". . . physicians could not get around to all of the people needing them." When the nurses entered a neighborhood ". . . the people watched at their doors and windows, beckoning for the nurses to come in. One day a nurse who started out with 15 patients to see, saw nearly fifty before night . . . Sometimes, before getting out of her first case, the nurse was surrounded by people asking her to go with them to see other patients . . ."[3]

Counterbalancing these problems, excellent nursing leadership, advanced preparation, the infrastructure supplied by the National Organization for Public Health Nurses (NOPHN) and the Red Cross Town and Country Nurses, as well as a widespread spirit of volunteerism, enhanced the profession's ability to respond.

Red Cross nurses in Army camp. Source: The Center for Nursing Historical Inquiry, The University of Virginia.

THE COMPLEXITIES OF THE SITUATION

The war in Europe had placed an enormous demand on nursing services and, since 1917, almost 9,000 trained nurses had been deployed overseas and thousands more had been sent to military camps in the United States, leaving civilian hospitals seriously depleted. To meet the growing demand, in the spring of 1918 Army Surgeon General William C. Gorgas recommended that nurses' aides be utilized. The idea sparked heated debate within the profession.[4] Nursing had only recently gained professional recognition and status through registration and licensure, and nurse leaders were trying to raise nursing educational standards (much as the medical profession had done based on the Flexner Report).

Moreover, the nursing leaders knew that it would take skilled, highly trained nurses to deal with the trauma of war, and assist in major operations in the base hospitals in Europe. Now, as increasing numbers of young society women were enrolling in short Red Cross courses with the hope of serving their country, nurse leaders were concerned. "Everyone seems to have gone mad," Director of the Bureau of Red Cross Nursing Clara Noyes told her colleague M. Adelaide Nutting:

> ". . . There are moments when I wonder whether we can stem the tide and control the hysterical desire on the part of thousands, literally thousands, to get into nursing . . . the most vital thing in the life of our profession is the protection of the use of the word nurse . . ."[5]

Nutting was the right person to involve. President Woodrow Wilson had appointed her in June 1917 to lead a Committee on Nursing of the General Medical Board of the Council of National Defense, and, as such, she was in a position of power. In an attempt to forestall the use of nurses' aides in the military, Nutting and her colleague, Anne Goodrich, proposed the establishment of an Army School of Nursing, whose graduates would be the reserve for the Army and Navy Nurse Corps. Debate ensued within the profession and, in May 1918, three national nursing organizations (the American Nurses' Association, the National League for Nursing, and the NOPHN) voted to support the idea of the Army School of Nursing.[4]

Meanwhile, the American Red Cross (ARC)—the supply route for nurses to the military—had also launched a major recruitment campaign, intensifying it that summer when Gorgas ordered "one thousand nurses a week for the same period of eight weeks."[6] Applicants to the Armed Forces Nurse Corps (managed by the ARC) had to be between 25 and 35 years of age, unmarried, and graduates of hospital training schools that had more than 50 beds.

Nothing in the ARC application criteria actually banned African American nurses, but the criterion that a nurse had to have graduated from a school associated with a hospital with more than 50 beds essentially eliminated black nurses, most of whom had graduated from small segregated hospital training schools. Indeed, for years the nursing profession had been restricting black students' acceptance into white nursing schools. According to historian Darlene Clark Hine, in the early 20th century ". . . most white nursing schools in the North adopted racial quotas, while all such schools in the South denied admission to black women."[7] Thus, despite the increased recruitment efforts, black nurses were refused entrance into the Army or Navy nurse corps—ostensibly because they did not meet the admission criteria. As a result, by August 1918, civilian hospitals were left with minimal staff—not nearly enough to meet the demands that would follow when flu patients flooded into hospital wards.

The shortage notwithstanding, in other respects the nursing profession was prepared for a pandemic. In 1918, the profession had experienced leaders such as Jane Delano and Clara Noyes making decisions at the national level. Delano, former superintendent of the Army Nurse Corps, was chairing the National Committee on Red Cross Nursing. Noyes was directing the Bureau of Nursing Service of the American Red Cross.[8] Both women were members of the Council of National Defense, and both had formed excellent working relationships with other leaders in nursing throughout the country. They had an established network of colleagues to whom they could turn in a crisis.

The profession also had a strong infrastructure in place: it had the resources of the NOPHN, established in 1912, and the American Red Cross Town and Country Nursing Service, started in 1914. The NOPHN had set standards and published treatment guidelines for public health nurses nationwide, while the Town and Country Nursing Service had prepared thousands of women in small towns through a short course in Elementary Hygiene and Home Care of the Sick.[9] These women could be called on to help in an emergency situation.

Because of the war, the profession had also begun planning for emergencies at home. In November 1917, the Committee on Nursing of the Council of National Defense had endorsed (*1*) a survey of nursing resources in the nation, (*2*) a plan for recruitment of educated young women into nursing, (*3*) an increase in hospital training school facilities, and (*4*) suitable publicity for nursing.[10] The profession had also established a plan

to use "Home Defense" nurses—professionally trained nurses who ". . . through physical disability, age, marriage, or other causes, were disqualified from military duty,"—to meet emergencies at home.[11] The leaders had also agreed that the 6,000 U.S. Public Health Nurses should *not* be used by the military; in an emergency the Red Cross would turn to them for support.[12] Included among these were the Blue Circle Nurses, black public health nurses working through the Blue Circle Nurses group, established by nurse Ada Thoms in 1917 to serve segregated black communities.

All would be needed when the epidemic struck. On September 25, 1918, the ARC National Committee met in Washington, D.C., to implement the emergency plan. Afterward, Noyes telegraphed all Red Cross divisions: "Suggest you organize Home Defense nurses . . . to meet present epidemic. . . . Provide nurses with masks."[13]

NURSING IN MILITARY CAMPS AND CIVILIAN HOSPITALS

The first demand for nurses came from military camps and the second from civilian hospitals. In military camps, thousands of young, previously healthy recruits were particularly susceptible and the disease spread rapidly.[14] In its Central Division, where the camps were inundated with sick and dying men, the Red Cross assigned "1050 graduates and senior pupil nurses" to provide nursing care.[15] The situation at Camp Dodge, Iowa, was typical and a post-epidemic report showed the strain. On September 29, the total number of patients in the Base Hospital was 1,254, with a nurse force of 245. On October 10th, there were 7,863 patients, 37 deaths, and 442 nurses on duty. But by October 16, there were 5,100 patients, 56 deaths, and 505 nurses on duty. Patients had increased fourfold, but the number of nurses had only doubled.[14]

Nurse at tent hospital. Source: National Archives and Records Administration, 165-WWW-269B-5.

The work was arduous, requiring the most basic of nursing skills as the flu "rendered some patients incontinent and others nauseous," while simultaneously causing patients to hemorrhage through the nose and mouth. As Head Nurse Mary E. Hallock later recalled: "It was a nightmare."[16] And it was a nightmare being repeated in camps throughout the country as the flu traveled from north to south, from east to west.

As the epidemic wore on and the demand for nurses increased, the Army dropped its refusal to enlist black nurses and sent one troop of African American nurses to Camp Sherman in Ohio, and another to Camp Grant in Illinois. There, the nurses were permitted to care for both black and white patients, but were assigned to segregated living quarters. Black nurse Aileen B. Cole remarked, ". . . We have met with individual prejudice, but generally speaking, every one so far has been exceedingly kind."[17]

During the course of the epidemic, hundreds of nurses became ill themselves and many died. Of the 100 nurses serving at Camp Cody hospital in New Mexico, 75 caught the flu and five died. Five others died at Camp Jackson, South Carolina, in late September. All told, 127 Army nurses died as a result of the disease. In the civilian sector, other nurses would also be casualties of the epidemic.[14]

Within days of the onset of flu in major East Coast cities, civilian hospitals were filled to capacity; 20-bed wards stretched to accommodate 40 to 50 patients, and the nurses responded. Because of the critical nursing shortage, as well as the common practice of hospitals relying on student nurses as "an indispensable, loyal and obedient unpaid labor force,"[7] pupil nurses did the bulk of the care, working under the supervision of the few graduate nurses who had not gone off to war.[18] In Boston, nurses' aides and trained nurses—some of whom had been recruited from as far away as Halifax and Toronto in Canada—worked in emergency

hospitals, including an open-air tent hospital set up in Brookline, Massachusetts.[19]

When the epidemic exploded in Philadelphia, every hospital in the city was overcrowded and nurses were in high demand. When hospitals were filled to capacity, the city set up 32 temporary emergency hospitals in schools, warehouses, and churches.[20] In New York City, hospitals were also spilling over. The experience of one student nurse who worked 12-hour shifts in a flu ward was typical:

> ". . . Almost overnight the hospital was inundated. . . . Wards were emptied hastily of patients convalescing from other ailments . . . and only emergency operations were performed. Cots appeared down the center of wards . . . vacations all cancelled . . . classes disrupted. . . . Care was mainly supportive: we gave heart and respiratory stimulants, or sedation as the condition dictated. A variety of cough medicines . . . were ordered. Camphor in oil and caffeine by hypo [hypodermic injection] were in constant use, and we were forever balancing the advantages of forcing fluids against the disadvantages of edema, as kidneys or heart became overtaxed and the lungs showed congestion. . . . Victims came on stretchers . . .their faces and nails as blue as huckleberries."[21]

Conditions in Chicago were much the same. On October 1, Cook County Hospital reported 260 influenza cases, 60 of which had arrived that day.[22] Provident Hospital, the hospital for the large black community on Chicago's South Side, was also inundated.[23] Indeed, the hospitals' capacity was nearly exhausted. That same day, Chicago's Commissioner of Health John Robertson ordered "every victim . . . to go to his home and stay there."[22] As was the case in cities and towns all over the country, most patients would have to be cared for at home.

VISITING AND PUBLIC HEALTH NURSING

With hospitals overflowing, public health nurses and visiting nurses assumed the major responsibility for providing care. In cities, where immigrant ghettos were known to be "hives of sickness,"[24] nurses visited patients in their overcrowded tenement flats and row houses. In rural areas, nurses called on families in distant farmhouses, log cabins, and shacks. In all settings, they provided basic nursing care: changing linens, bathing patients and dressing them in flannel pneumonia jackets, checking temperatures, counting pulses and respirations, and feeding them soup and other liquid nourishments. Following medical standing orders, or relying on their own nursing expertise and making do with what they had on hand, the nurses administered such treatments as ice packs and aspirin to reduce fever, and mustard plasters and cough syrups to alleviate lung congestion. They also taught families basic hygienic practices, educating them about the importance of covering coughs and spitting into handkerchiefs, boiling soiled linens, and opening windows for fresh air. When death came, the nurses closed the eyes of the dead and comforted the bereaved.

In Boston, the Instructive District Nursing Association (IDNA) was central to the nursing response. Begun in 1886 to provide home nursing care to the city's sick poor, by 1918 the association had a main office and nine branches, serving practically the whole of Boston.[25] The epidemic was noticeable as early as September 5, and by September 19 "had attained overwhelming proportions." In fact, compared with the 1,492 patients the IDNA nurses saw in August, the number of new patients they saw in September was 4,664.[26] On October 6, when influenza was rampant in the city, Director of Nursing Mary Beard reported that IDNA nurses were caring for "3,074 patients ill with influenza or pneumonia." By the end of the month, the nurses had made "39,690 visits, as against 15,713 visits in October 1917."[27]

On September 15 in Philadelphia, the Visiting Nurse Society was inundated with work. In fact, the demand for its services was so great that the society, which ordinarily did not provide home care to patients suffering from contagious diseases, began the home nursing of flu patients. By October 3, the city had more than 75,000 cases. Three days later, Health Commissioner Krusen assigned his entire staff of 120 city nurses to the Visiting Nurse Society.[28] Under the direction of Superintendent Katherine Tucker and Assistant Director Elizabeth Scarborough, the visiting nurses made 16,165 visits to 4,050 patients during the course of the epidemic, in one instance taking on 200 new cases in one day.

In many families, more than one member was ill and, when both parents succumbed to the flu, the nurses not only had to care for the sick, but also for the entire family. In one account, Tucker described the stress when a nurse found four out of seven in the family, including both parents, a baby, and two small children, ill:

> ". . . In a crib beside the mother's bed was a six-week-old baby who had not been bathed for four days and was wet and cold. Though the father . . . running a temperature of 103 degrees, had to get out of bed . . . to care for his wife and children. . . . The family had no coal, and the three well children were shivering and hungry. The nurse gave care to the sick and bathed and fed the baby. She made a wood fire in the stove

> and prepared food for the other children. She then found a kind neighbor to continue to look after the children. . . ."[29]

And, as family after family was affected, Philadelphia's social infrastructure crumbled. Thousands of city workers were out sick, including street car drivers, telephone receptionists, shopkeepers, and garbage collectors. In the already overcrowded tenement districts, conditions simply got worse. When the nurses also became sick, the situation became critical. At one point, Krusen remarked:

> "If you would ask me the three things Philadelphia most needs to conquer the epidemic, I would tell you 'Nurses, more nurses, and yet more nurses.' Doctors we have enough of. Supplies are plentiful, buildings are offered us everywhere. We have many beds that might be opened to patients. But without enough nurses to tend those we already have, we are helpless."[30]

In New York, the situation was nearly identical. When the flu attacked in late September, the Henry Street Settlement (HSS) visiting nurses, directed by Lillian Wald, were among the first to respond. The HSS nurses had been working on the Lower East Side since 1893, and had well-established connections with social agencies and churches there. When the flu hit, the nurses used all the help they had.[31]

In the first four days of October, when the Settlement nurses received "calls from 467 diagnosed cases of pneumonia and influenza," Wald wrote to New York City Health Commissioner Royal Copeland to inform him of the work the nurses were doing, noting: ". . . Our entire staff is nursing influenza and pneumonia cases. . . . We are doing the best that we can; nobody is hysterical. The supervisors themselves are carrying the bag. . . ."[32]

"Carrying the bag" meant literally carrying medicines and nursing supplies in the black "District Bags" lent to the nurses for their use. Besides such articles as dressings and thermometers, the bag included alcohol for sponge baths, Listerine®, whiskey, and other medications. With these simple medications and supplies, the nurses provided care to hundreds of young immigrant families.[33] In some cases, the nurses were the first and only ones to do so. Wald explained a situation in upper Harlem where the mother had flu, the father had lobar pneumonia, two children had measles, and one child was only four weeks old. The family, she said, "had been without care of any kind until the case was reported to the visiting nurse," adding, "This is a situation duplicated in hundreds of homes."[34]

Six days after Wald informed Copeland about the nursing situation, the Red Cross Atlantic Division assembled New York City nursing leaders to "consider ways and means of mobilizing to combat the epidemic."[35] The result of that meeting was the formation of the Nurses' Emergency Council, which then coordinated all requests for nurses, food, and ambulances. [36] The cooperative response, from diverse groups across the city, was seemingly universal. Among numerous others, the Bureau of Communicable Disease, the Bureau of Child Welfare, the Association of Aid to Crippled Children, the New York Diet Kitchen, the Social Service department of Beth Israel Hospital, the Catholic Sisterhoods, and the Salvation Army all responded to the council's requests.[37]

To conserve the nurses' time and energy, the council organized a motor corps of Red Cross volunteers "to carry them from house to house in the districts." Automobiles also made it possible for nurses to carry supplies. During the month of October, nurses distributed linens and pneumonia jackets as well as "12,241 quarts of soup and 2,255 quarts of cereals, junkets, and custards."[38]

Like their counterparts in East Coast cities, the Chicago visiting nurses were also reeling under the demands of the epidemic. There, under the direction of Superintendent Edna Foley, the Visiting Nurse Association (VNA) had 93 nurses working out of 10 dispensaries.[39] Using these as stations where they could receive messages, restock their nursing bags, and contact physicians, the nurses worked from early morning until late at night. By October 10, Chicago was reporting "1,421 cases of flu and 340 of pneumonia, with 72 deaths from pneumonia and 55 from influenza." As Assistant Superintendent Mary Westphal described:

> ". . . . We were very hard hit on the west side of Chicago, and are still getting calls where entire families are ill. Dirty streets, dirty alleys and just as dirty houses…have made our work more than usually difficult. . . ."[40]

Key to the nurses' routine was the use of gauze masks, mandated by the Red Cross to be worn "constantly in congested homes [when] . . . doing anything for the patient."[41] It was a mandate created in the hope of preventing the nurses and others from contracting the fatal disease. Unfortunately, it was of minimal usefulness, and, in fact, resulted in a set of tedious procedures to be completed by the nurses. As Superintendent Edna Foley later recorded:

> "We began by using a stitched mask with four strings. This involved carrying two bags, one for fresh and one for soiled masks, and a supply of about sixteen masks for each nurse. It also required someone to boil these masks and dry them daily, and before long we conceived the idea of folding squares of gauze on the

> bias, making strips of six thicknesses of gauze, which were tied over the face or pinned to the hair. Each one of these improvised masks was folded in a paper towel, and after the mask was discarded, it was burned."[42]

Actually, the tedious process of using the masks was the least of the nurses' concerns. Obtaining enough help was the critical issue as the epidemic wore on and the number of VNA home visits increased from the usual 12,000 per month to 25,750 in October. By mid-month, the *Chicago Daily Tribune* was reporting that the limit of nursing service had been passed in Chicago, and the Red Cross appealed for additional volunteers.

NURSING IN SMALL TOWNS AND VILLAGES

In remote areas of the country, the few public health nurses that were available to provide care worked with minimal help, often serving in makeshift hospitals where they tried to implement the standards of infection control they had been taught in school. Two reports are illustrative. One, from a Red Cross nurse in Denio, Oregon, reflected some of the difficulties she encountered there:

> "Our patients are . . . sheep-herders who live in miserable cabins scattered in most inaccessible places. . . . There is no food, no bedding and absolutely no conception of the first principles of hygiene and sanitation, or of nursing care. I have taken over the hotel as a hospital and the Big Boss, who employs the sheep-herders, is having all who are not too ill to be moved, brought in here. . . . Our greatest need (next to fruit and malted milk) is feeding cups and drinking tubes. . . . We also need lots of gauze…and cotton for pneumonia jackets; also rubber sheeting. . . ."[43]

The second came from a public health nurse in South Dakota who worked as superintendent in an emergency hospital: ". . . for five weeks we used the dormitory and the State Normal School, then moved to an old residence. The patients were brought in from all over Lake County . . . many farm hands with pneumonia. We treated 175 cases with 4 deaths. . . ."[43]

The Red Cross also sent nurses to coal-mining communities and small towns in Kentucky, West Virginia, and Alabama that housed munitions plants. According to one report, hundreds of miners were coming down with influenza and the country's industrial output could be seriously affected.[44] By November 1, conditions were so serious in certain mountain communities that the Red Cross begged for extra help. Twenty four graduate nurses, 45 practical nurses, and 83 Catholic sisters responded. In another Kentucky town where almost half of the 2,500 inhabitants were ill, one nurse cared for the sickest patients in an emergency hospital set up in the YMCA; she visited others in their homes. Neighbors helped whenever possible.[45]

In southern towns, where the number of sick African Americans was great and black nurses were much in demand, local Red Cross chapters set up emergency hospitals for black patients.[46] In Greenville, Mississippi, where more than 1,800 African Americans succumbed to the flu during the month of October, the local Red Cross opened an emergency hospital and put out a special call for black nurses.[47] Euphemia Davis, a black nurse from Montgomery, Alabama, recalled a similar situation in that state, noting how she was "on duty four weeks in succession during the influenza" at the St. Bernard Mining Company Hospital. Another African American nurse, Bessie B. Hawse, recounted her experience, noting:

> "Eight miles from Talladega in the back woods, a colored [sic] family of ten were in bed and dying for the want of attention. No one would come near. I was asked by the health officer if I would go. I was glad of the opportunity. As I entered the little country cabin I found the mother dead in bed. Three children buried the week before. The father and remainder of the family running a temperature of 102–104. Some had influenza, others had pneumonia. . . . I rolled up my sleeves and killed chickens and began to cook. I forgot I was not a cook, but I only thought of saving lives. I milked the cow, gave medicine, and did everything I could to help . . . I didn't realize how tired I was until I got home."[48]

CONCLUSION

The nursing response to the 1918–1919 influenza pandemic in the U.S. was shaped by social and political factors, as well as by the state of the art of nursing and medicine at that time. Inside hospitals, where wards were overflowing, graduate nurses supervised pupil nurses, medical students, and lay volunteers in the provision of care. Outside, in the community, visiting nurses, public health nurses, and Red Cross and Blue Circle Nurses delivered care. Overall, the nursing profession relied on its well-established public health nursing infrastructure, leadership from the National Red Cross Committee and the PHS, and previously established national plans to meet the emergency. The nurses also utilized a widespread network of social agencies, churches, and lay volunteers. Their experience can serve as a lesson.

Today, as the nation and the nursing profession respond to the current H1N1 epidemic and prepare for others, the importance of a strong public health

nursing infrastructure, a nationwide planning process that includes representatives of the nursing profession in addition to those from medicine and public health, should not be overlooked. Moreover, the possibility of organizing lay volunteers for support should be given serious consideration. Indeed, recycled solutions from the past may prove beneficial today.

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