Montanans and "the

The Influenza Epidemic

by Pierce C. Mullen and Michael L. Nelson

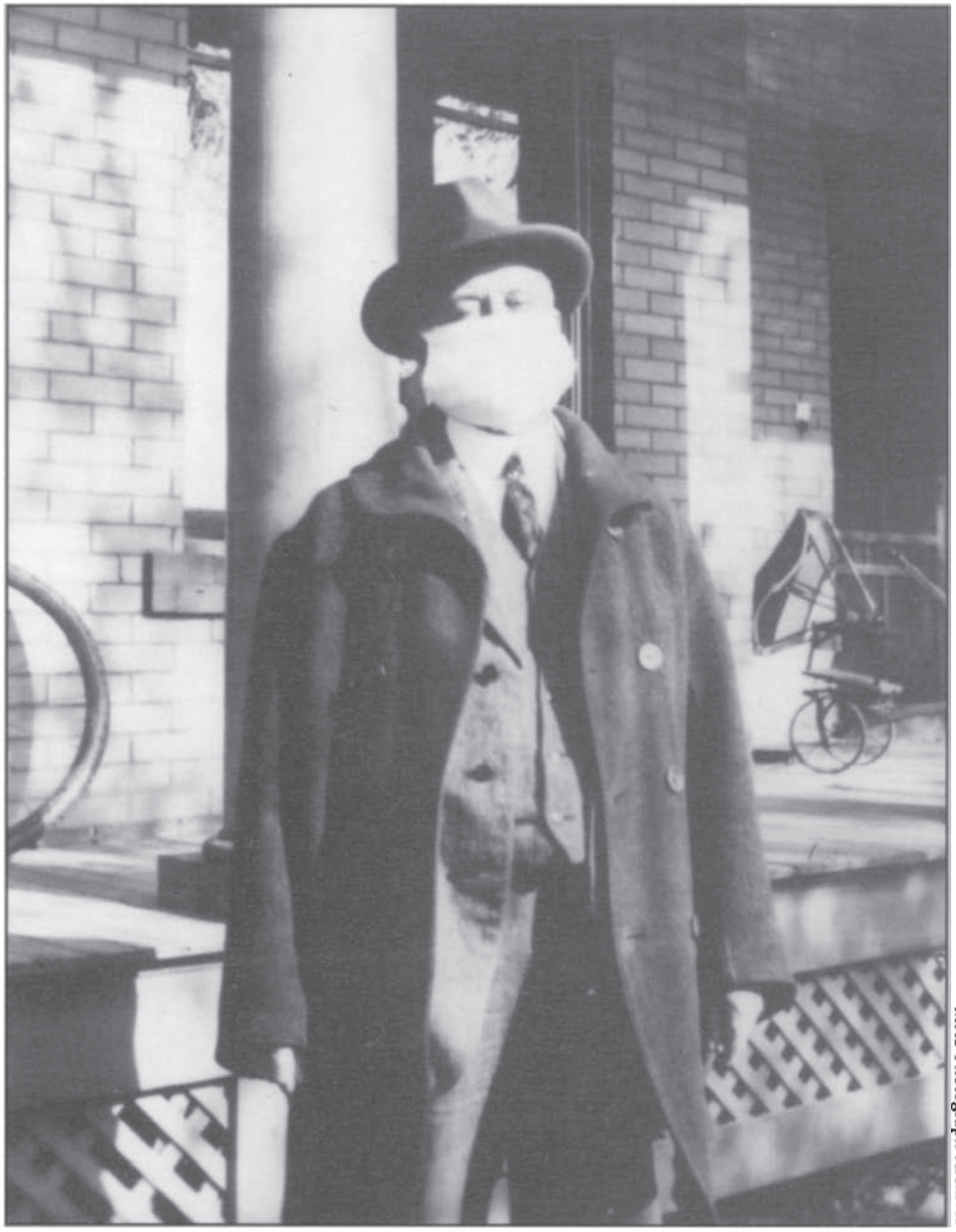
The influenza pandemic in 1918-1919 was the world's most serious natural catastrophe of the twentieth century.[1] Experts place the rate of infection of humans at just about 50 per cent. In this country, Montana had a high level of infection and ranked as one of the four hardest hit states. Survivors still recall with horror their brush with mortality.[2] They remember vigorous and energetic young men and women awakening in good health and succumbing to the disease at nightfall. The seeming randomness of affliction and conflicting explanations by authorities contributed to a sense of vulnerability and unease. In some Montana communities, it appeared that certain occupations conferred immunity to infection, but in other areas these same workers died. Whether they lived in rural seclusion or in urban flats, Montanans at the end of World War I wondered if they would enjoy the benefits of peace.

There is historical irony in this desperate situation. When influenza visited Montana during the previous two decades, it was not considered a disease important enough to report. Just after the turn of the century the state had established the Montana State Board of Health. During the board's early years, dedicated health care professionals and scientists had cut their teeth fighting Rocky Mountain Spotted Fever and developing plans and procedures for combating other diseases. In short, the state was as well prepared in 1918 as any in the nation.

Yet, Montana reacted to influenza in a manner similar to other states.[3] There was confusion, conflicts between business interests and authorities, and indecision by those entrusted to safeguard public health. In all fairness, however, there was little more than what was attempted at the time that could have been done. Montana was populated by young people, the age group that was most susceptible to the disease. Montana was a new state and its open, frontier living conditions attracted those people who proved to be most likely to contract and die of the disease. In Montana, influenza's swath was broad, swift, and devastating.[4]

Most Peculiar Disease"

and Public Health, 1918-1919



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A. B. Kimball of Missoula during the influenza epidemic, 1918

Influenza was not new to Montana in 1918. It had been reported in the 1890s and was on the rise again in 1917, but the 1918-1919 form was particularly virulent. A virus caused the disease and viruses are deadly. They are composed of two major components: the outer, protein coat protects the inner, genetic material. When this genetic material is injected into a cell it uses the cell's machinery to reproduce more viruses. Natural metabolism produces so many viruses that they literally overwhelm the body's immune system. In the case of influenza this led to the depletion of immune mechanisms, especially those protecting the upper respiratory system. Pneumonia often was the result and the actual cause of death.

The virus that mutated to such a lethal form in 1918-1919 originated in far western China. Apparently, it began as an avian infection, and as it moved through animal and human populations its rapid mutation endowed the virus with terrible qualities. During the pandemic, many noted that influenza affected animals as well as humans; the name "swine" flu, it turns out, is accurate. Richard E. Shope, M.D., isolated and identified influenza virus in swine in 1931. Because this virus is airborne and because man is only an incidental host for the infection, it can be ubiquitous and widespread. Countering it is a difficult task.[5]

Present-day medical scientists classify three strains of influenza: "A," "B," and "C." The first two are most important for humans, and it was type "A" that caused the pandemic in 1918-1919. The classification scheme is based on morphological features of the virus. On the surface of its protein coat are spike-like appendages. There are two types. One, labeled "H" for hemagglutinin, clumps or agglutinates blood, and the other, labeled "N" for neuraminidase, contains enzymes or chemicals that act on the nervous system.[6]

All of this was yet to be discovered in 1918-1919. Viral mechanisms were not understood, and it was generally accepted that infectious diseases were more often than not caused by bacteria. During autopsies of flu victims, medical scientists thought that they saw a bacterium (these organisms are larger than viruses and, hence, more readily seen). They named it *Haemophilis influenzae*. Influenza, an Italian word meaning influence, had been part of scientific literature since 1504. Influenza connoted the influence or cause of disease; this influence, it was thought, radiated from the stars, miasmas, night air, or even cold weather as a general atmospheric phenomenon. Not until about a century ago did the germ theory of disease displace this belief in atmospheric influence.

During the spring of 1918, an early, mild form of the type "A" virus moved through Montana, as it did elsewhere around the world. It appears that some Montanans contracted the disease at that time and did not know it, and thereby they acquired an immunity. A second wave, the real killer, arrived in late August and early September and passed about Thanksgiving time. A final, third wave, came about Christmas time and lingered until nearly spring.

About half a million people in the United States died of influenza during those ten months, from August 1918 to June 1919. During this period, approximately five thousand Montanans succumbed, about 1 per cent of the state's population. It was a severe loss to Montana, for the majority of those who died were between eighteen and forty years of age, the age group that included Montana's current and future leaders.[7]

As recorded in the Board of Health's annual report in 1918, the first cases of flu in Montana were in Scobey.

> It was in the latter days of September that the disease made its first appearance in Montana, appearing in the northeastern part of the state. In the early days of November the disease spread rapidly to the rural districts. An increase in the number of cases in these districts being particularly noticeable after the state-wide celebration of the Peace Armistice, probably due to the fact that the people from the rural districts gathered in the towns for the celebration.[8]

A week later, the *Scobey Sentinel* alerted the community: "High School will open Monday as planned,

1. William Ian Beveridge, *Influenza: The Last Great Plague*, rev. ed. (New York: Prodist, 1977), 32; Edwin O. Jordan, *Epidemic Influenza: A Survey* (Chicago: American Medical Association, 1927), 214-256. This work is dedicated to Dr. David B. Lackman, Public Health Service Officer, and to Ludwig Hektoen, M.D., a physician who sponsored Dr. Howard Taylor Ricketts at the University of Chicago. Dr. Ricketts was to have great influence on Montana's public health program prior to World War I.
2. Beveridge, *Influenza*, 94-106; Alfred W. Crosby, Jr., *Epidemic and Peace, Nineteen Eighteen* (Westport, Connecticut: Greenwood Press, 1976), 264-294; John Toland, *No Man's Land: 1918 and the End of the Great War* (New York: Doubleday, 1980).
3. Richard Collier, *Plague of the Spanish Lady: The Influenza Pandemic of 1918-1919* (New York: Atheneum, 1974), 7.
4. Beveridge, *Influenza*, ix, 126-127; John H. Walters, "Influenza 1918: The Contemporary Perspective," *Bulletin of the New York Academy of Medicine* 54 (October 1978): 855; "The Influenza Pandemic of 1918-1919 in Perspective of a Half- Century," *American Journal of Public Health* 58 (December 1968): 2193.
5. Raymond Pearl, "Influenza Studies I: On Certain General Statistical Aspects of the 1918 Epidemic in American Cities," *Public Health Reports* 34 (August 8, 1919). Population figures for Montana are from Joseph Kinsey Howard, *Montana High, Wide, and Handsome* (New Haven, Connecticut: Yale University Press, 1943), 202-204. Also see United States Bureau of the Census, *Mortality Statistics 1919* (Washington, D.C.: Government Printing Office, 1921), 28. There are several monographs on the national situation: William R. Noyes, "Influenza Epidemic 1918-19: A Misplaced Chapter in United States Social and Institutional History" (Ph.D. diss., University of California at Los Angeles, 1968); Dorothy Ann Pettit, "A Cruel Wind: America Experiences the Pandemic Influenza 1918-1920" (Ph.D. diss., University of New Hampshire, Durham, 1976). Especially recommended is a fine article on New Mexico's experience: Richard Melzer, "A Dark and Terrible Moment: The Spanish Flu Epidemic of 1918 in New Mexico," *New Mexico Historical Review* 57 (July 1982): 213-236.

MHS Photograph Archives

Medical workers and Red Cross volunteers in Sidney, Montana, set up a field hospital during a fund-raising campaign in 1918.

but grade school will not open until later, due to the Spanish influenza outbreak. . . . Already [there have been] several deaths in the area." Within a week, six died and the paper reported that "many others are gravely ill." City health officials ordered that cases and suspected cases of influenza be reported, so that quarantine regulations could be enforced.[9]

The flu soon struck other communities. By early October, for example, Glendive's "churches, schools and the picture shows were closed on account of the flu." By that time, four deaths and fifty cases had been reported there. "Where ten days ago there was not a well-defined case of Spanish influenza in or about Wolf Point," the *Great Falls Tribune* noted, "the local physicians now have about 90 cases under their care and two deaths have already resulted."[10]

The infection spread rapidly to other areas in the state. Calls for assistance came from smaller communities and larger cities throughout Montana. In October, the *Missoulian* reported that volunteers were needed to go into homes of the stricken "where mothers were often confined to bed and other family members were sick also."[11] By the third week of the month, the height of the flu epidemic in Montana, authorities had tallied 860 cases and 38 deaths in Missoula. As his counterparts in other communities had, Missoula's mayor asked for advice and information about which measures seemed most useful in combating the disease in other towns.[12] But many were slow to recognize the peril. A cartoon in the *Great Falls Tribune* on October 16, 1918, summed up the confusion: "An old friend under a new name: 'grip.' "

The State Board of Health, acting on information received from around the nation, urged city fathers in Montana to restrict assemblies to check the spread of the flu. These restrictions slowed business activity and in some cases brought it to a halt. Nonetheless, the Board of Health remained adamant, pressuring local health officials to close saloons, churches, schools, and other places where people congregated. On election day, officials even had polling places fumigated to prevent the spread of illness. Of all preventive measures, the regulation of assembly generated the most hostility. Local officials needed courage to do their jobs. Nearly every community that imposed efficient regulation of assembly could report

6. Sir Macfarlane Burnet, "Virus Classification and Nomenclature," *Annals of the New York Academy of Science*, 56 (1953), Article 3, 371-622.

7. *Ninth Biennial Report of the State Board of Health for 1917-1918* (Helena: Independent Publishing Company, 1918). The original copy with covering letter is in Montana Governors' Papers, Montana Historical Society Archives, Helena [MHSA].

8. *Scobey Sentinel*, September 27, 1918.

9. *Scobey Sentinel*, October 4, 1918.

10. *Great Falls Tribune*, October 10, 1918.

11. *The Missoulian*, October 25, 1918.

12. *The Missoulian*, November 1, 1918.

MHS Photograph Archives

Public health authorities, worried about the spread of influenza at events such as the Armistice Day parade in Butte in November 1918, restricted public assembly, ordered quarantines, and even tried to close saloons in Butte.

opposition to these restrictions. In Missoula, the newspaper reported in early November:

> Additional quarantine measures put into effect: all saloons, poolrooms, bowling alleys closed, as well as card rooms in these places and in cigar stores; no sales are allowed for ice cream or soft drinks for consumption on premises; all clerks, barbers, messenger boys and deliverymen must wear gauze masks on duty. All special sales of merchandise are abolished.[13]

In Libby, the *Libby Times* advised,

> stores are closed because of the flu. Children must stay in their own yards and all should avoid public gatherings. Do not go into stores for longer than necessary. Businesses are advised to avoid letting crowds gather for any reason.[14]

And in Bozeman, the paper informed residents in mid-October:

> Gallatin County High School in Bozeman will be used as a hospital. City and county health officials have recommended: (1) Close schools, churches, movie picturehouses and ban all public gatherings. . . . (2) Regulate saloons and soda water fountains. . . . (3) Close the reading room in the library but allow patrons to check out books. . . . (4) All rules and regulations shall be published and posted in all hotels and rooming houses and posted in conspicuous places.[15]

City and county health boards instructed quarantine wardens to enforce health ordinances. Wardens posted quarantine notices, identified individuals from households with influenza cases, and reprimanded those who lived in a quarantined house for lingering in public. Evidently, Montanans respected orders from these officials, for there were few reports of untoward incidents. Children who were unable to withstand sustained confinement usually had to be reminded to return to their homes to play. As the *Butte Miner* put the case succinctly: "Nowhere to go but out, and nowhere to stay but in."[16]

Montanans could not escape the epidemic. There was little that they could have done to avert the plague, for all the nostrums and quacks in the world could not cope with the deadly virus. In town after town and city after city across the state, the epidemic ran much the same course and this doleful tale had about the same ending.

13. *The Missoulian*, October 24, 1918.
14. *The Libby Times*, October 19, 1918.
15. *Bozeman Daily Chronicle*, October 17, 1918.
16. *Butte Miner*, December 6, 1918.
17. *Butte Miner*, October 14, 1918.
18. *Butte Miner*, November 1, 1918.
19. *Butte Miner*, December 18, December 19, December 26, 1918.
20. *Great Falls Tribune*, October 20, 1918.

Butte, the state's largest and most cosmopolitan community, had one of the foremost medical scientists in the country, Silver Bow County Pathologist Dr. Caroline McGill. Butte also possessed a large, skilled, and organized labor force. Yet, the city responded to quarantine restrictions and public policy in about the same manner as did other Montana communities. People were vocal about their resentment of regulation. Authorities closed public places with the exception of saloons—a public necessity—although saloons could not sell liquor by the drink but only by the package "for consumption elsewhere." Authorities threatened saloon owners with closure if they allowed crowds to form in their establishments. The ministerial association railed against the exemption of saloons, but barkeeps mustered powerful support to protect their special status. The *Butte Miner* reported that ministers and priests "were up in arms over discrimination of quarantine and threatened to take snapshots of crowding in saloons." Mayor W. H. Maloney took up cudgels for saloons, arguing that there was good precedent for their exemption from quarantine. He had recently visited Vancouver, British Columbia, and saloons there had remained open during the worst of their local epidemic because "reasonable consumption of liquor was better than too much medicine."[17]

Butte women who managed small neighborhood grocery stores also proved to be influential. Forced to close at six o'clock in the evening, they argued successfully that they were the sole support of their families, that housewives in the neighborhood needed their services, and that their shops were hardly places where crowds gathered. These and other predictable disputes occupied Butte officials on a daily basis. Their decisions were bound to leave some unhappy, but meanwhile the disease ground its way through Butte.[18]

On the last day of November, officials made a very difficult decision to shut Butte down. The county attorney, sheriff, city police chief, and five members of the city council drove through the ordinance. Mayor Maloney, the city attorney, city physician, and five other council members disagreed. The *Butte Miner* reporting on this division of opinion editorialized: "No one knows whether Butte is open or closed, sick or well, wet or dry." After furious debate the city council voted, six to five, to remove the closure ban. County authorities, taking separate action, stood firm for closure and ordered the sheriff to prepare John Doe warrants for violators. The State Board of Health, seeking compromise but also desirous of effective health policies, sustained the county's decision. A powerful governmental body, the Board of Health understood the political danger of evasion or confrontation. It took responsible action and worked out agreements on the regulations.[19]

The people of Butte suffered terribly during the epidemic. At the height of the crisis, the city and county governments took every available preventive effort. Extra street cars circled their routes in order to avoid overcrowding, and some of them towed spare cars to prevent crowded conditions. During the Christmas rush, the larger stores posted armed guards to secure effective crowd control. As the lethal second wave passed through the city, the grisly statistics mounted. Over a third of the influenza-related deaths in Montana during this period occurred in Butte-Silver Bow.

On December 17, 1918, city officials could report for the first time that there had been no influenza-related deaths. That was in sharp contrast to the thirty-five hundred cases reported in October. Montana's largest city had suffered grievously. Given the size of its population, Butte had been stricken on a par with San Francisco and Philadelphia, both of which were among the hardest hit cities in the nation. At the height of the plague, the *Great Falls Tribune* reported that in Butte "undertakers no longer garage their 'dead wagons,' but leave them in the street as calls are so frequent, twenty and more per day. Dusty streets are blamed by some doctors for the spread of disease, so the street department employees soaked down principal thoroughfares. Not one of these street department employees is ill, though they have been breathing much dust." But what bemused the reporter was the comparative absence of flu among "butchers, Methodists and underground miners."[20]

It seemed to some during the epidemic that certain occupations were charmed. In search of a folk explanation for a complex scientific phenomenon, some sought explanations like the Great Falls reporter's. The onslaught was disorienting and to ally fears it was better to have an incorrect explanation for the mortalities than to have none at all. It was a natural human response.

Other Montana cities fared better than Butte. In the smelter city of Anaconda, for example, the plague seemed less omnipresent. Local physicians believed that the gases emitted from the smelter might explain Anaconda's escape from the epidemic's severity.[21] In Great Falls, main street merchants swept, mopped, and hosed their streets, hoping to rid their atmosphere of germs. For no apparent reason and despite such precautions, influenza struck some communities with more deadly results than others.[22]

In Billings, for example, the city promulgated a preventive ordinance on October 11, but within ten days there were over a thousand cases. The healthiest young men proved to be the most common victims. "John Todd, Jr.," the *Billings Gazette* reported, "twenty-five, prominent local merchant died of influenza-pneumonia on October 20, he was the son of county commissioner John Todd."[23] During October and November, the paper reported that there

21. *Butte Miner*, December 18, 1918.

22. *Great Falls Tribune*, October 28, 1918.

23. *Billings Gazette*, November 4, 1918.

Photo Collection, Mansfield Library, University of Montana

After much deliberation, University of Montana officials closed the school temporarily in the fall of 1918, but students in the Student Army Training Corps had to remain on campus, where they lived in tents during the epidemic.

were 12,000 cases in Billings and the surrounding area and 170 deaths definitely attributable to influenza. During the worst of the plague, the Billings Rotary Club volunteered its services to the Red Cross, which had issued an appeal to men to "handle patients." No sooner had he volunteered than "Andrew Sullivan, flu victim, became delirious during the night and left his house in his nightclothes, wandered for hours, and finally was picked up by police over a mile from his home. He was apparently obsessed by the idea that he was needed in a search for some missing horses."[24]

To accommodate the increasing number of cases, communities converted public buildings into hospitals. Butte used schools, and officials housed patients in the Billings Congregational Church and later in the Methodist Church. Larger communities had the added responsibility of supplying health care to outlying areas. Hysham, Ekalaka, and other small communities appealed to larger towns nearby for assistance.

The need for health care workers, especially physicians and nurses, had been foreseen by state authorities, but there was really little they could do once the full force of the epidemic had hit the state. Home of the State Board of Health, Helena had the benefit of central health guidance and was well prepared. "If you feel a sudden chill, followed by muscular pain, headache, backache, unusual tiredness and fever," the *Helena Independent* warned its readers, "go to bed at once. See that there is enough bed clothing to keep you warm. Open all windows in your bedroom and keep them open at all times, except in inclement weather. Keep away from crowded places. See to it that your children are kept warm and dry. Avoid a person who coughs or sneezes."[25] Despite careful preparation, Helena suffered 350 cases of influenza and 8 deaths during the dreadful third week of October.

Inability to prevent the spread of disease was interpreted by some highly placed health officials as evidence that restrictions might not be an effective deterrent. Even the staunch wavered, including the redoubtable secretary of the State Board of Health, who had second thoughts. Dr. William F. Cogswell, a doughty Nova Scotian and driving force behind state health policy, returned from a meeting of the American Public Health Association and announced that because no one knew for certain what caused influenza it would be best to lift closing restrictions "so that business can go on." In fairness, however, he made this statement after the worst of the second wave had passed.[26]

24. *Billings Gazette*, October 27, 1918.

25. *Helena Independent*, October 19, 1918.

During the epidemic, college administrators had a special burden to bear, because college-age students were particularly at risk. Concerned about economic uncertainties at the end of the Great War and reluctant to dismiss school lest they lose students permanently, university authorities in Missoula sent conflicting signals to the state. Even though Missoula County schools were closed, University President Edward O. Sisson resisted following suit:

> Our situation is vastly different from the public schools; their pupils remain in town and can be recalled any morning to resume their work. If the University would have to close the students would scatter to all parts of the state. The break in the work would be most serious. Meanwhile we are instructing as to all proper precaution. Students, parents, friends and the general public may rest assured that no pain and care will be spared to safeguard the interests of all concerned.

Nevertheless, five days later, as the second wave of flu began to reach into the community, Sisson, Dr. Cogswell, Chancellor Edward C. Elliott, Dr. Harry Farnsworth, and the physical director, W. E. Schneiber, agreed that the university would have to close. They also agreed to keep Craig Hall open to house women students but to maintain a quarantine. Alert to the importance of public relations, the president issued a sober statement: "Do not let any injustice be done by erroneous report about the effects of influenza on the campus. Students would continue their classes through correspondence and personal conferences." He also devised and sent a form to all parents, indicating that their sons or daughters should be presumed to be healthy unless the university notified them.[27]

Some on campus jeopardized their health to aid the sick. The Student Army Training Corps (forerunner of the Reserve Officer Training Corps) lived in pitched tents and worked as nurses in the gymnasium, which had been fumigated and fitted out to receive the sick. Ironically, university officials were more preoccupied with an outbreak of scarlet fever, which coincided with the second wave of influenza. The first death at the university took place shortly after the middle of October. Sidney W. Dunbar, a student from Potomac, died and was followed by Virgil W. Bostwich from Dillon, Samuel L. Hiebert, Ian Guy Anderson, Harry Higman, Lillian Halse, and Lajola Reiquam. The university reported 130 cases of influenza; a mood of crisis gripped the campus.

President Sisson made special note of the performance of SATC student adviser, Lieutenant Harry Kirkham. Writing to the young officer's superior, Sisson lauded Kirkham:

> I feel I ought to report to you the courage and resolution with which Lt. Kirkham has stuck to his post in spite of the fact that at the first terrible onset of the disease he was practically broken down. He was concerned only for the welfare of his men. It is not my official duty to do this, but it is due him.[28]

When all was said and done, deaths among male university students were fewer per capita than among a similar population at Fort Missoula. The university had pursued a risky course in order to prevent loss of revenue from student fees. Had things worked out otherwise, university administrators might have been called to account for their resistance to closure.

In Bozeman, Montana State College adopted a more pragmatic policy. After students had registered for the fall term, they were furloughed until after Christmas and received a full year's credit because their work was accelerated and the "least important" material was deleted from course requirements. SATC students, however, were required by Army regulations to remain on campus, and they suffered from the flu. The school used sewing rooms in the home economics department as a ward. Townspeople donated linens and volunteer students from the foods classes cooked. Statistics indicate that the campus in general suffered less than the town and the county.[28]

Gallatin County reported 650 cases of influenza. Including students at the college, 87 died in Bozeman. There were plenty of horror stories. One family named Brown lost three children, aged eleven, thirteen, and fifteen, within a forty-eight hour period. Those family members who survived were too ill to attend to them.[29]

Perhaps the most severe tests of human endurance took place in remote areas, where medical aid was minimal and nurses were particularly scarce. A Miles City citizen, for example, found a neighbor family of five all dead. Having become ill they were so weak that they starved to death. Their unattended stock also starved and were found in dying condition. A story circulating in medical circles during early November told of a nameless physician traveling some distance out of town to visit a patient. En route, a rancher flagged the doctor down and asked him to examine his family immediately. "Are they in serious condition?" "They sure are," the rancher replied, "and it won't take you but a few minutes to give them the once over." The doctor responded that he would visit his patient and then drive over to the

26. Pierce C. Mullen, "Bitterroot Enigma: Howard Taylor Ricketts and the Early Struggle Against Spotted Fever," *Montana the Magazine of Western History* 32 (Winter 1982): 2-13; *Helena Independent*, December 16, 1918.

27. Records of the Montana University System, 1907-1966, Record Series 72, MHSA.

28. *The Missoulian*, October 27, 1918.

29. *Bozeman Daily Chronicle*, December 22, 1918. See also the Montana State College *Weekly Exponent*, January 31, 1919; *Bozeman Daily Chronicle*, November 13, 1918.

ranch. The distraught cowboy pulled out his six gun and ordered the physician to examine the family "right now." The physician obeyed, examined, and handed out a prescription, whereupon the rancher apologized and paid the bill.[30]

The State Board of Health had foreseen the need for medical reinforcements in early September, when Cogswell asked for six physicians and twenty-five nurses from the U.S. Public Health Service. The Surgeon General of the United States responded immediately, sending eight doctors. It was easier to obtain physicians than nurses because a special wartime program had attracted a number of medical volunteers from physicians' ranks. They were called to duty in the national influenza emergency rather than the combat casualty work they had expected.

According to the Montana State Board of Health report in 1918, "these doctors were ordered by the Public Health Service to report to the Secretary of the State Board of Health who was put in charge of the activities of the United States Public Health Service in the State of Montana." The surgeon general had issued these military-style orders because such physicians were regarded as military personnel and they wore a modified naval officer's uniform. Doctors who came to Montana were A. E. Baldwin, Kettle Falls, Washington; May Barnhart, Portland, Oregon; H. A. Beauchamp, Stayton, Oregon; Edward Bennett, Monroe, Oregon; H. E. Currey, Baker, Oregon; Homer Denman, Spokane, Washington; W. H. Heckman, Central Point, Oregon; and J. H. Seiffert, San Diego, California.

At the same time, Cogswell appealed to Montana physicians for volunteers to take roving assignments within the state. There was a pool of physician volunteers because by early 1918 civilian doctors who were deferred from national service because of age, physical status, or local need were required to serve at a dollar a day in the Volunteer Medical Service Corps. When the pandemic struck, this *ad hoc* force aided states across the nation. Responding to Cogswell's appeal were Montana physicians O. M. Lanstrum, W. M. Copenhaver, and Mary B. Atwater (all of Helena); E. M. Wilson of Twin Bridges; A. C. Jones of Butte; M. W. Freeman of Anaconda; J. J. Leiser of East Helena; B. F. Rundle of Billings; P. F. Metz of Miles City; A. C. Dogge of Polson; L. R. Carson of Wilsall; and W. H. Blackmore of Ingomar.[31]

The demand for nurses was even greater because it was recognized that little could be done to prevent or treat influenza. Patients needed intensive nursing care, and there were too few nurses to provide it. But nurses were also desperately needed in France to aid troops fighting in the Meuse-Argonne campaign. Consequently, during the pandemic, nurses were in chronic short supply throughout the nation. The Red Cross, which mobilized early, had begun sending nurses into stricken areas at the onset of the second wave of influenza. Miss Margaret Hughes, who was Field Nursing Director of the Northern Division of the American Red Cross, worked cooperatively with Cogswell. Despite the need, Montana was not a high priority state for the Red Cross. Although more highly populated areas had first call on their attention, the American Red Cross Nursing Service dispatched seven nurses to Montana. Attempting to fill the nursing void, the State Anti-Tuberculosis Society donated $2,000 to the State Board of Health to hire additional nurses in Canada and the state of Washington.

The measures taken during the epidemic were only palliatives. Flu cases swamped Montana's health care facilities. The Board of Health report for 1919 surveyed the influenza-caused case load:

> Now that the epidemic has apparently, to some extent, subsided, it might be well to look back and see what a swatch it cut in the State of Montana. In October 19,980 cases were reported; in November 12,177 and in December 5,410 for a total of 37,567. But this does not represent the full number of cases as reports were incomplete.

The reports make a distinction between deaths due to influenza and deaths due to influenza with pneumonic complications. Because the most widely accepted etiological explanation of flu suggested that two organisms were present, morbidity and mortality statistics are confusing. After sifting them carefully, it appears that 1,032 died in October, 1,471 in November, and 719 in December. In stark terms, 3,222 Montanans succumbed to flu and its complications in a period of six weeks.[32]

The epidemic overwhelmed Montana communities. Dr. Alfred C. Dogge provided a vivid picture of influenza at its height. In early November, Cogswell sent him to Rapelje in Stillwater County. When Dogge arrived he found the small community without doctors or nurses. Disease was everywhere. He estimated that there were over three hundred cases. He converted the school and church into emergency hospitals and recruited women who had some experience caring for the sick. During the first few hours of his stay, he commandeered a large farm wagon to use as an ambulance. Drivers worked 'round-the-clock shifts to bring in the sick from the countryside. "People stood in line at his headquarters pleading for medical attention for those in their homes. Dogge worked single handed for ten days until another physician could be brought in." Mortality was held to five

30. *The Missoulian*, December 15, 1918.

31. *Ninth Biennial Report of the State Board of Health*, 6; *Helena Independent*, November 19, 1918.

32. *Ninth Biennial Report of the State Board of Health.*

Al Lucke Collection, MHS Photograph Archives

The influenza epidemic increased the need for nurses, such as these Red Cross nurses who posed in front of the Havre Commercial Company in 1917. But by the fall of 1918 Montana had a shortage of nurses because the war in Europe had called many overseas.

deaths. Dogge, who was later accused of politicking for office on the merits of his work during the pandemic, would have his detractors, but they certainly did not come from Rapelje.[33]

Miss Pamelia A. Clark, Superintendent of the Frances Mahon Deaconess Hospital in Glasgow, offered a similarly graphic account of conditions in Valley, Phillips, and Sheridan counties. She set up an improvised hospital in Wolf Point and appointed a nurse to head it. Then she rode the Great Northern trains to tie her healing network together. In Bainville, she took over a hotel and used it as a hospital.

> I will try to tell you something of the situation, for it is dreadful, to say the least. A week ago five of my nurses and the housekeeper came down with the flu. I immediately established a detention ward and went into quarantine with them, but on Thursday there came such an urgent call to Malta (twenty died there within ten days) that I felt I must go up and see what could be done. I arrived there Friday morning. You know there is no hospital at Malta, but we managed to get control of a rooming house which will make a fair sort of one. I canvassed the town for nurses and found two who were not graduates but had some training. In Malta saloons and pool halls were open, lobbies of hotels full of school children and adults and patients were being taken in the hotels and allowed to run at will. Do you know that this is the most peculiar disease I have ever seen? Some persons hardly know they are sick until they're dying. We have had only three fatalities in Glasgow, but Malta and Wolf Point are suffering dreadfully.[34]

Stories of remarkable efforts and successes by trained and untrained medical workers are legion. Dr. Maynard in Choteau, for example, was one of those charmed healers who never seemed to lose a patient. Dr. McNalley in the Madison Valley is remembered with respect for his untiring efforts "to treat patients throughout the valley. Driving from one end to the other of the valley, he went for thirty-six hours without rest except for what he could get on his long drives."[35] In Havre, Mr. Christler routinely traveled with a medical bag in hand to minister to all and sundry in the outlying districts. In early November, for example, he sought out farms and ranches from which nothing had been heard. "At 4:00 AM he came upon a family of eleven, all ill, packed three or four to a bed where they had been for several days without even removing their clothes, too sick to help themselves or one another." He built a fire, heated water, bathed them, changed them, and left medicine. The family recovered.[36]

Assistance to the sick also included non-medical aid. J. J. Ballenger from the First National Bank in Lewistown, for example, took over the operation of the First State Bank in Winnett when that bank's staff fell ill with flu. Community aid extended, as would be expected, to the ministry too. "In Hingham, Rev. R. I. Stone held services over the telephone, as church services were still prohibited. He was able to reach forty homes and his service included music by a mixed quartet and a brief sermon."[37]

33. *Helena Independent*, December 16, 1918.

34. *Helena Independent*, October 25, 1918.

35. *Madisonian Times* (Virginia City), December 20, 1918.

36. *Great Falls Tribune*, November 21, 1918.

37. *Great Falls Tribune*, November 5, 1918.

Only after the fact, when historical data were available, was it possible to see any pattern in the spread of influenza across the state. Cogswell and his associates correlated epidemiological data and discovered that Montana had been hit hard indeed. On a per capita basis, Montana and Maryland suffered on the same level and ranked just behind Pennsylvania, the state with the highest mortality ratio in the nation. Within the state there were communities that suffered intensely, while nearby towns experienced relatively mild rates of infection. A decade later, when the final tally was made, it was discovered that Montana ranked among the four hardest hit states in the nation.

In such a confusing situation, some people turned to quacks and nostrums. Using "Tanlac," for example, supposedly built up general strength so that the customer would be more resistant to flu. By stimulating the appetite and thickening the blood, so the claims went, Tanlac also helped flu victims recover more rapidly. Makers of Horlick's Malted Milk claimed that their product fought flu. The Hyomel Inhaler, which contained oil of hyomel, purportedly would "absolutely destroy germs of influenza" and let customers breathe "pure healing air." Advertisements for an old standby, Vick's Vaporub, claimed that rubbing it on the chest allowed medicated vapors to "loosen phlegm, open air passages and stimulate the mucous membrane to throw off the germs." These remedies were not harmful, and some of them probably gave considerable comfort to dazed and bewildered flu victims.

Physicians, of course, were also looking for some sort of relief for their patients. Given the knowledge of immunology at the time—and there was a considerable body of good literature available—it appeared that a vaccine would be the most appropriate preventive. Cogswell and his advisers would have welcomed vaccines, but they were skeptical of the claims advanced by those who had produced them. By the time the vaccine was available for general use, the epidemic would have passed through the state. In the 1890s, a German researcher, Dr. R. F. J. Pfeiffer, had suggested that a bacterial agent was the cause of influenza; he argued that a vaccine based upon that model of the disease would be efficacious. Others argued that the disease was viral and that only material of that nature would be effective. While this debate was of interest to medical researchers, the public demanded more immediate action.

In early November 1918, the army released a preventive vaccine with the warning that it was "experimental" and may or may not produce immunity. The Montana State Board of Health took the warning at face value and decided not to use it. Instead, the state imported small dosages of a vaccine produced in Rochester, Minnesota, at what would later become the Mayo Clinic. Dr. Charles McCray of Cogswell's staff spent a couple of weeks there working with Dr. E. C. Rosenow who was responsible for developing the vaccine. The Board of Health then made available ten quarts of the fluid with the qualification that

> the attitude of the State Board is that this vaccine is in the experimental stage. It will do no harm and may do good. We do not urge you to take it, but we wish to be in a position to furnish it if wanted.

This vaccine was mainly dispensed in Havre, when on December 2, 1918, about three hundred people were inoculated. Other cities offered a few vaccinations at the time—Helena, for instance—but vaccines were never available in quantity nor did they seem to be very useful.[38]

By Christmas of 1918 larger communities in the state reported an abatement of the disease. The State Board of Health was determined not to be caught napping if another outbreak occurred, so it took a very cautious stance. All preventive measures short of restrictions on assembly remained in force. They allowed schools to open after Christmas; in some cases, they permitted other forms of assembly. But the Board of Health was determined to retain control. Businessmen chafed and complained about undue restraint of trade, but Cogswell was adamant. When the plague returned, as he was certain that it would, he wanted the state to be ready.

When the third wave returned in the winter and spring of 1919, it was not nearly so severe as the second wave had been, but it did claim a number of victims. In some cases, those who were already weakened from the disease were re-infected and died. It was a terrible time for those who could not muster the physical and mental resources to fight it off yet another time.

When state epidemiologist Dr. John J. Syppy tabulated the final count for the *Tenth Biennial Report of the State Board of Health*, he found that 1,266 more Montanans had died in this last wave. As he reviewed reports from physicians responding to his request for statistical data, he came to the conclusion that the hard-pressed doctors who were treating patients during the outbreak were so busy that they reported only about half of their cases. If Syppy's estimates were correct, about one-third of the population in the state contracted the disease, many more than the death rate

38. *Ninth Biennial Report of the State Board of Health*. After World War II, when effective vaccines were available, they were not often used. They posed quite a danger to some groups of the population and could infect some susceptible individuals. President Gerald Ford authorized the use of vaccines in the mid-1970s; and while epidemic never raged, quite a few older Americans died of influenza contracted through the vaccine. Arthur M. Silverstein, *Pure Politics and Impure Science: The Swine Flu Affair* (Baltimore: The Johns Hopkins University Press, 1981).

MHS Photograph Archives

Many towns in Montana had small hospitals, such as this one run by Christine Carberry (right) in Sidney, Montana. During the influenza epidemic, these hospitals were filled to capacity and many victims had to remain in their homes without adequate care.

of 8.6 per thousand might suggest. Montana's death rate was double that of states such as Michigan, Minnesota, and Indiana, which were more fortunate.

During the epidemic, the state had distributed 25,000 pamphlets on influenza, its cause, symptoms, and therapy. It is unclear whether or not they did any good, although they must have been useful to those who had had no experience with the disease. Public health doctrine had decreed that prevention was vital for the protection of the population. Earlier work on Rocky Mountain Spotted Fever had proven this contention. But getting people to pay attention before it was too late was quite different from offering good advice.

In research conducted later, what was confusing or paradoxical at the time became clear. Farm animals could and did become infected with influenza. Like their human masters, horses that had displayed symptoms of the disease—listlessness, for example—could die if returned to hard work too soon. Some age groups within the human population suffered more than others. At conferences during the 1920s, most experts thought that this was due to acquired immunity from the milder spring wave or even from the outbreak in 1889-1890. Thus, older citizens may have acquired immunity from a much earlier outbreak. Research during the 1930s indicated that the pandemic was due to a type A viral influenza. This same kind of serum archeology indicated in some cases that victims died from secondary infections contracted after influenza had weakened their immune systems. Flu victims in this weakened condition were prey to staphylococci and hemolytic streptococci. Further, one reason for some patients' rapid decline and death was that, while earlier influenza forms had infected the mucous surface of the lung, the 1918-1919 strain entered that organ itself.

From today's perspective it is difficult to evaluate the overall impact of the great influenza pandemic on Montana. At the time, Montana was intensely concerned with the Great War and its conclusion. Newspapers of the day did not dwell on flu. Rather, they devoted front pages to the war news, to Montana's sons in France, and to efforts to negotiate a peace. It appears as if people saw influenza first as a nuisance, then as a local disaster, and finally as a nagging worry. But it is just possible that the influenza experience reinforced Montana's desire after the war to isolate itself, to look inward, to find a sense of balance, to seek a place from which to survey a broken world.

PIERCE C. MULLEN, Professor of History at Montana State University, is a specialist in the history of science and biology and is interested in the development of the biomedical community in the West. Mullen published an article on Rocky Mountain Spotted Fever in the winter 1982 issue of *Montana*. MICHAEL L. NELSON holds a M.A. degree in history from MSU and is a research librarian at the University of Wyoming, Laramie.