Voices From a Disease Frontier

Kansans and Cholera, 1867

by James N. Leiker

In the summer of 1867 as the Union Pacific Railway, Eastern Division, pushed westward to establish a transportation link between Kansas City and the Colorado gold fields, the Kansas Plains filled with railroad workers, settlers, soldiers, and camp followers. With their weaponry and adaptive farming techniques, the new arrivals sought to extend their version of "civilization" to the area west of Fort Riley, known colloquially as "no man's land." These voyagers transported more than their technology and their cultural and social values; they also carried in their bowels thousands of tiny, invisible, swirling organisms known to a later age as Vibrio comma or Vibrio cholerae, the comma-shaped bacilli that transmit cholera. Under normal, healthy conditions, the bacillus poses little threat to humans, yet when it comes in contact with decaying matter, usually found in contaminated food or water, the cholera becomes deadly.

In 1866-1867 Kansas was the site of a devastating cholera epidemic that killed hundreds of persons, the total of which is still debated. During its first year the disease struck at the older, established communities of eastern Kansas, sending their citizens into dreadful anticipation of a renewed outbreak in 1867. But people transport part of the environment with them in their travels, and in that year Kansans traveled west. The advancing railroad camps and rugged military outposts practiced the worst of hygiene, allowing conditions that rarely would have been tolerated in the filthiest of nineteenth-century communities. Common misperceptions about cholera's spread and health officials' confusion regarding its treatment aided the disease's prevalence in

James N. Leiker is an instructor of western civilization at the University of Kansas and an adjunct instructor at Ottawa University. He received his B.S. and M.A. degrees from Fort Hays State University, and currently is pursuing doctoral studies in history at the University of Kansas, researching the role of Buffalo Soldiers in western race relations.
The advancing railroad camps and rugged military outposts practiced the worst of hygiene. Thus in 1866–1867 Kansas was the site of a devastating cholera epidemic that killed hundreds of persons.
eastern U.S. cities as well. But Kansas at this time differed from eastern areas in that the coarseness of life on the expanding frontier provided a compatible atmosphere for cholera, producing death rates high in proportion to its meager yet growing population.

Studies of disease on the frontier are relatively rare compared with studies of urban areas, primarily because rural epidemics generally were less destructive due to lower population density. Although disease claimed far fewer lives in places such as Wyoming and Montana than in Pittsburgh or New York City, the study of disease in the West offers a valuable opportunity for examining what happens when settlers carry new organisms into unfamiliar areas, bereft of institutions and mores that could encourage hygienic practices found farther east. Locked in debates about definitions of “frontier” or “the West,” western historians have not explored such phenomena sufficiently, perhaps due to a lack of alternate meanings for what constitutes a frontier. For examining medical history through a social approach, a useful model could be the “disease frontier,” a region of social disorder or rapid population growth that allows disease to thrive.

The disease frontier model will be applied here to the Kansas cholera epidemic of 1867. Documented nearly exclusively through military records, the epidemic’s chronology has been well developed by earlier historians. However, the scarcity of civilian accounts has led to speculation that it was an aberration producing few or no social effects. By interpreting the epidemic through a social history approach, it can be seen that the cholera epidemic was a natural result of confusion about the disease’s spread, manifested in the poor sanitation and hygienic procedures that accompanied westward-moving railroad and military camps. To this day no one has determined how the disease entered Kansas or how many lives it claimed. But cholera’s dependence on new places of primitive living conditions was proved by its prevalence in areas of the state that experienced sharp increases in settlement. While a measure of the epidemic’s causal impact on medical thinking and other social attitudes may not be tenable, the 1867 outbreak clearly was part of a larger pattern of poor health that added to fears about contagious travelers and physical uncleanliness. Both of these concerns became targets of progressive reformers at the turn of the century.

A disease frontier, as it applies to the 1867 epidemic, can be defined as the relationship between migrating humans and the organisms they carry into new environments. Understanding this relationship necessitates a thorough description of cholera’s epidemiology. Symptomatically, cholera in its earliest stages bears great resemblance to gastrointestinal ailments such as common diarrhea, a similarity that frustrated the diagnoses of nineteenth-century doctors. The cholera bacillus is a water-borne organism—one of dozens of parasite-types that reside in the human body—that cannot live for long periods of time without a human host. Once activated by unsanitary conditions, the bacillus goes through an incubation period that lasts from a few hours to several days. It then begins releasing a toxin that expels bodily fluids via massive vomiting and diarrhea, resulting in rapid loss of fluid as high as one liter per hour. As tissues dry out, the blood becomes thick and concentrated, manifested in the victim’s gaunt, whitish appearance and cold, shriveled outer extremities such as the fingers. The heavy fluid expulsion overburdens the kidneys to a point where they cease functioning, and the victim expires either from dehydration or kidney failure.

Modern physicians treat cholera with tetracycline antibiotics, which effectively kill the bacterium. If lost body fluid is replaced intravenously, the disease rarely becomes fatal. In the nineteenth century, however, cholera was feared widely as a killer. Although it afflicted less than 1 percent of the total populations of Great Britain and the United States, the disease, once contracted, had a mortality rate of about 50 per-

---


The sudden, explosive nature of cholera struck rich and poor alike seemingly at random. As medical historian Charles Rosenberg stated, “Cholera was the classic epidemic disease of the nineteenth century, as plague had been of the fourteenth.” Like the Black Death that swept Europe in 1348, an epidemiological chart of cholera’s path in the 1800s roughly corresponds to major routes of world travel, particularly along roads leading into areas not developed previously by Europeans. Commonly believed to have originated in India (hence its synonym, asiatic cholera), the disease first appeared in western civilization in British garrisons of the East India Company during the late eighteenth century. Cholera spread through Arabia and Europe in the 1820s, first infecting New York residents in 1832. The poor sanitary facilities of most American cities permitted numerous epidemics over the next few decades. Cholera’s high level of natural portability along routes of expansion proved significant for study of the American West.

Aiding cholera’s spread was popular confusion over how exactly it transmitted. Some people believed that high humidity or intense summer heat caused a spontaneous generation; others thought digging in the earth allowed the disease to “escape.” A common theory during the 1867 epidemic held that dust churned by railroad construction caused the disease’s spread. Those of a puritanical bent even claimed the disease indicated God’s displeasure with the lowly and the dirty. Most people, however, connected cholera with unsanitary conditions.

To some extent, the range of popular opinions reflected the educated theories of medical professionals. English physician John Snow established in the 1850s that cholera is transmitted through water, but he never discovered the comma-shaped *Vibrio cholerae* organism that causes it. Lacking this key scientific knowledge, the medical profession polarized in subsequent years as to cholera’s spread and the proper means of treating it. One school emphasized the disease’s contagion, maintaining its spread through casual contact with infected carriers. Most field doctors during the Kansas epidemic held this belief and recommended quarantine as the primary means of prevention.

The second school, proved in retrospect as closer to the truth, minimized the impact of carriers, stressing that an unhealthy environment sustained the disease. The miasmatic theory claimed that cholera fermented itself in contaminated atmospheres of filth and putrid matter. Such an approach, having little regard for the effectiveness of quarantines, instead recommended careful disposal of waste and protection of food and drinking water from contaminants.

Although both theories had strong evidentiary support, the truth actually lay somewhere in between. Unsanitary conditions could and did create cholera epidemics, but only if the bacillus was present in a human host. Advocates of the quarantine school struggled for years to determine precisely how infected carriers transmitted the germ. In his early observations, Dr. Snow correctly surmised that the disease spread through the patient’s diarrheal evacuations. The painful and violent discharge of a cholera victim’s feces ejected a watery spray that could infect material as far as three to four feet away.

AFTER discovering the cholera organism in the 1880s, researchers developed sophisticated methods for handling, removing, and disinfecting choleraic discharges. Prior to that, few physicians on either side of the argument saw the need for such measures, although some professionals did suggest combining the two approaches. Just a few months before the 1866 outbreak, an author for *The Nation* insisted that cholera was indeed spread by humans but required filth to activate it, demanding both sanitation and quarantine for its prevention:

8. Ibid.
Cholera spread with the westward expansion of the Union Pacific Railway and the military troop migration that followed railroad construction. Proper sanitation often was neglected both by army and railroad officials.

Cholera first appeared at Fort Riley in August 1866. Small numbers of troops died at the fort in contrast to the fatalities that occurred when the disease ravaged Kansas in 1867. Pictured here is the Fort Riley hospital, ca. 1867.
With this help it is not difficult to explain why the cholera selects the great routes of travel; why its advance from place to place is no faster than a man may journey the same distance . . . why its pace has been quickened since the introduction of railroads; why the common atmosphere of a ship does not ensure the sickness of all the passengers; and other similar problems. Quarantine, therefore, has its uses, but, of course, entire dependence cannot be placed upon it; . . . for scientific and prudential reasons, it is advantageous to consider the cholera contagious, and, as much as possible, to isolate patients afflicted with it.9

Placing blame on the doorsteps of 1860s physicians is not the task of the historian, but confusion over cholera’s nature did contribute to its prevalence. Contemporary theories viewed the disease either as mobile- or place-oriented when in fact it was both. A contaminated pond could not generate an epidemic by itself, nor did an infected carrier necessarily pose a public hazard. But when brought together, the probability for cholera ran high.

A frequently overlooked issue in western history has been the extent of safe health practices in the beginning stages of land occupation. As white settlers penetrated undeveloped areas, safety precautions with regard to potable water supply and proper food preservation received low priority. Distance from medical care and government health authorities hindered treatment of sick, rendering an epidemic’s disastrous effects on the frontier proportionately greater than those in urban areas. While superstitions of the day explained cholera’s westward migration as its natural tendency to return to the Orient, a more basic explanation exists: the organism accompanied Americans on their journeys westward, and as the first arrivals altered their new environment ever so slightly, they inadvertently opened a “disease frontier,” an area extremely conducive to the rampaging onslaught of disease.

The persistence of cholera and other diseases has been well documented in western history.

Ramon Powers and Gene Younger examined its presence on overland trails from 1832 to 1869 and illustrated its adhesion to railroad and military routes.10 Treatment by army doctors was based sufficiently on sound medical knowledge of the time. Most remedies merely provided relief from the horrifying abdominal cramps, producing little curative effect.11 Preventive medicine proved more successful when physicians isolated cholera patients. But even when doctors practiced quarantine, the possibility of epidemic still existed as long as food and water supplies remained contaminated.

Kansas’ central position as a major avenue of transport ensured its vulnerability as a disease frontier. The state shared in a huge epidemic that afflicted the eastern United States in 1866. Believed to have entered the country on a ship from England to New York City, the disease spread throughout the East and then into the Ohio and Mississippi valley regions. Evidence of cholera’s strong connection to political and social events can be seen in the increased movement of army troops westward. With the end of the Civil War, military authorities could more easily address the needs of western settlers and railroad developers, who increasingly demanded protection from Indian attacks. As military forces were redistributed to forts farther west, the new strain of cholera accompanied them. Spreading as far as southwest Texas, the disease claimed 1,269 lives in the army alone during 1866, only about thirty of those at Fort Leavenworth and Fort Riley.12 The 1867 epidemic, by contrast, inflicted far less total damage, killing an estimated 230 in the army, but more than half of those fatalities occurred in Kansas.13

What factors account for Kansas’ high losses in 1867, after emerging from the previous year relative-
by most doctors, held that Buffalo Soldiers carried the disease into the area.

Even though blaming blacks for social problems usually resulted from nineteenth-century racial attitudes, the specific theory concerning their transport of cholera into Kansas had some scientific basis. In the spring of 1867 black troops of the Thirty-eighth Infantry entered Kansas en route from Jefferson Barracks, Missouri, to Fort Union, New Mexico. Jefferson Barracks’ location near St. Louis, a virulent cholera site, left the troops there vulnerable to infection. Cholera’s advance across western Kansas in the summer and fall of 1867 followed almost precisely the route taken by the Thirty-eighth Infantry in its march to the Southwest.

Nevertheless, identifying with certainty the bacilli’s carriers remains a nearly impossible task. Black troops may indeed have transported the disease across the state, but the original germ could have been transmitted just as easily via civilian laborers or white soldiers. Powers and Younger’s study minimizes the Buffalo Soldiers’ influence on the epidemic. Racial segregation at Jefferson Barracks kept the Thirty-eighth in relative isolation from white troops and civilians, lessening the likelihood that they became infected. While cholera did follow the arrival of blacks at each Kansas fort, most first cases were reported in the civilian communities. Since it was unlikely that the Thirty-eighth could infect others without first contracting the illness among themselves, Powers and Younger conclude that cholera may well have been imported by white civilians.15

A contributing factor to antipathy toward the black units was that most army medical personnel adhered to the contagion theory, which recognized contact with carriers as cholera’s primary cause rather than poor sanitation. The extreme isolation of the new forts may have created overconfidence that cholera would not spread west. Public health authorities in eastern Kansas, by contrast, accepted the miasmatic theory that cholera fermented itself in conditions of filth. Although proponents of the miasmatic theory minimized the influence of carriers, their re-

15. Ibid., 357–60.
sponse to the disease ultimately proved more successful at preventing outbreaks.

As news of cholera’s prevalence on the Atlantic Coast reached the Midwest in 1866, citizens of eastern Kansas adopted sanitation procedures that helped curtail the disease. Leavenworth especially survived with few casualties. Residents burned refuse, drained stagnant pools, and disinfected their belongings with carbolic acid or chloride of lime. Not all precautions were clinically wise; waste and manure were thrown into the Missouri River, used by some as a source of drinking water. Still, Leavenworth’s low affliction and fatality rate, only five dead in 1866, testifies to the success of proper sanitation.

Local capitalists managed to exploit the new concern for cleanliness to their economic advantage. In the early weeks of the summer of 1867, advertisements in the Leavenworth Daily Conservative reminded fearful readers that cholera season approached and Dr. Renaud’s French Cholera Specific, acclaimed by the greatest physicians of Europe, sold for one dollar per bottle at Egersdorff’s drug store. Likewise, Mrs. Broad’s disinfectants were guaranteed to prevent cholera, yellow fever, and smallpox, or consumers would receive a cash rebate of one thousand dollars. Merchandisers must have been quite confident, either about their product or the inability of cholera victims to collect their rebate.

The mobility of the cholera bacillus aided its “search” for an environment favorable to an epidemic, such as the West’s sprawling frontier conditions. The area around Fort Harker, located on the Smoky Hill River bank and a crossing of the Santa Fe Trail stage route, provided such an environment. The Smoky Hill at this time was known for its pollution. Farther upstream the river flowed through bogs of quicksand, where animals became trapped and the water washed their decaying carcasses downstream. Harker’s supply of potable water derived from a spring about fifteen feet above the surface of a creek bank. Water testing later proved the spring actually was contaminated surface water. After a twenty-four hour exposure to sunlight, the water emitted an unpleasant odor and left a trail of organic slime on the sides of the pail holding it. An unusually heavy rainy season left most of the low-lying areas covered with water. The hot, humid atmosphere quickened the decomposition of carcasses and food supplies.

The soldiers’ and laborers’ poor personal hygiene increased the area’s disease vulnerability. Major George Sternberg, assistant surgeon at Fort Harker, wrote early reports on sanitary conditions during the epidemic. Railroad workers frequently defecated in nearby springs and then used the water for drinking and bathing. The fort also built stables on sloping ground that drained horse manure into the water supply. These conditions, in violation of army health policy, resulted from the lack of enforcement by health officials at Fort Harker, as well as the haste with which sanitary facilities were established. Indian raids along the Union Pacific route had increased during the summer, requiring units to remain on guard duty. This left few troops available for sanitation policing and constructing better located latrines.

Sternberg’s position as chief surgeon at Fort Harker makes him the central figure in the crisis of the summer of 1867. A young man in his late twenties during the epidemic, George Miller Sternberg probably welcomed his transfer to Fort Harker in April 1866 as a permanent assignment, evidenced by his purchase of a six hundred-acre ranch along the Smoky Hill. Enamored of the rolling Kansas Plains, Sternberg convinced his father and brothers to relocate there from New York state. His wife, childhood sweetheart Maria, joined him at their new home in May, shortly before the epidemic that would change both their lives.

17. Leavenworth Daily Conservative, July 17, 1867.

19. Ibid.
As chief medical officer, Sternberg held primary responsibility for the garrison's health. His attitude about the proper treatment of cholera remains unclear from his correspondence. Apparently he never adhered completely to either approach, maintaining the innocence of the black soldiers accused of transporting the disease. But Sternberg evidently also placed little value in the miasmatic theory. While he possessed ample authority for enforcing better sanitation, Sternberg permitted unhealthy conditions to flourish. His reports after the start of the epidemic describe his frantic clean-up efforts, yet he offered no defense for the accumulated filth that prompted the outbreak.

Although a case could be made against Sternberg for failing to enforce stringent hygiene, the disease remained beyond his direct control. Quartermaster food provisions consisted of typical army fare: sour, moldy bread and decaying meat. Moreover, since the influx of laborers and camp followers into the area occurred outside of usual military jurisdiction, Sternberg would have had little success at enforcing hygienic measures in that social atmosphere.

The first diagnosed case of the disease struck a civilian beef contractor, George Keeton, early on Friday morning, June 28. Keeton died about twelve hours after the symptoms first appeared. Soldiers then began exhibiting symptoms over the weekend of June 29–30. Captain George Armes, a white company commander in the Tenth Cavalry (Buffalo Soldiers), received a visit from his younger brother William, who planned to begin fall classes at West Point. Captain Armes' diary described the tragic surprise and rapidity with which the disease moved:

I returned this evening from my scout, and after making my report to Gen. A. J. Smith, he broke to me the sad news of the death of my brother, whom I had left yesterday morning, in the best of spirits and apparently in excellent health. He was taken with cholera and died before three o'clock that afternoon . . . . I reached his camp just in time to see his dear face again before they took him to his grave, but was unable to see him buried, being overcome with grief and completely prostrated. 23

Armes was not alone in his grief. Sternberg's official report confirmed forty-six cases and thirty-one dead that summer, but these figures included only army personnel, not civilian employees or nearby townspeople. As civilian communities along the route lacked newspapers, most reports on civilian cases came from the eastern Kansas press, which lacked substantiated eyewitness accounts. Thus, the precise number of dead remains open to speculation.

While accurate statistics are not available, little doubt exists about the cholera's destructive force. Ellsworth, established in January 1867 about a mile west of Fort Harker, suffered more than any civilian community. Located on bottomland that received drainage from Harker's waste water, the town was extremely vulnerable. Following a flood in June, residents were relocating the town when the epidemic began. One report estimated that from June 28 to July 16, six Ellsworth citizens perished daily. As panic over the epidemic set in, hordes of residents fled the area. A popular story tells how Ellsworth declined in population from over a thousand to about forty within two weeks. While that version may be exaggerated, reliable sources indicate that Ellsworth was almost deserted during this time. A Leavenworth Times correspondent wrote that all the city's councilmen and the local postmaster had departed the town.26

One of the few recorded accounts of the Fort Harker epidemic by a nonphysician was provided by Elizabeth Custer, whose famous husband was patrolling with the Seventh Cavalry in the vicinity of Fort Wallace. Traveling through Harker in late July, Elizabeth recalled it as "the most absolutely dismal

22. Ibid.
26. Leavenworth Times, July 31, 1867.
and melancholy spot I remember ever to have seen."  

She described corpses lined up awaiting burial since lumber was unavailable for coffins. Undertakers simply wrapped bodies in army blankets before interment, followed by a hurried service since all available people were needed as nurses.  

As the epidemic wore on through July, Sternberg and other medical personnel could do little more than administer tinctures that lessened the cholera's severe cramping pain. Regular policing action began, including disinfecting sinks and privies and burning rubbish. Choleraic victims were quarantined from other patients, and fecal matter was disinfected and buried in a safe location. As in most cases where cholera struck, the biggest problem lay in finding enough help to tend the sick. As volunteers from Topeka and Manhattan traveled west to assist in the epidemic, the *Leavenworth Times* made this appeal:

```
Now is the time for physicians to show heroism and win honor. They are wanted in Ellsworth; wanted probably at other cities near it. Two—honor to them! from Topeka have gone up to Ellsworth. Who will volunteer from our city?

The truth is, death has occurred, from all we can learn, in seven cases out of ten in Ellsworth for want of good nursing and good physicians. This has created a panic, and caused a fearful loss of life.

Who then, we ask again, will volunteer?  
```

A correspondent from Ellsworth later corrected this account by stating that one of the "volunteers" from Topeka insisted on receiving pay for his services. Even so, the appeal produced a favorable response. Two Catholic priests and four nuns of the Sisters of Charity from Leavenworth donated their help to the Ellsworth victims.

Various personalized accounts describe the terrible summer at Fort Harker. George Sternberg, who had battled the epidemic tirelessly but had done little...
to prevent it, experienced personal tragedy when his wife, Maria, contracted cholera and died suddenly on the afternoon of July 15. When relief surgeons arrived at Harker a week later, they noted that Sternberg remained in a state of grief and fatigue, and again had allowed sanitary and medical conditions at the fort to deteriorate. Shortly thereafter, Sternberg requested a leave of absence from the army. The replacement surgeon, J.W. Brewer, ordered new procedures for disinfecting privies, boiling water, and handling choleraic excretions. Brewer's inspection report details the extent to which Sternberg's incapacity allowed sanitation to lapse:

As soon as evening settled in, a horrid stench settled down on the fort. The source of this for a time was veiled in obscurity; it could not be accounted for by the emanations from the sinks and privies, (though these last were not in a cleanly condition,) for the same odor continued after disinfection had been practiced. The Medical Director soon discovered the source of this impurity, which was a large pit, situated directly in the quarter whence came the prevailing wind, from one-quarter to half a mile from the post; this was and had been (for how long a time is not known) the receptacle of every kind of filth, decomposing meats, offals, &c. This hot-bed of disease swarmed with large maggots, and the stench emanating therefrom was intolerable.31

As Brewer and other physicians initiated new sanitation procedures, citizens throughout the state reacted to the news from Ellsworth. Originally eastern newspapers regarded the early reports with skepticism. During the height of the epidemic in mid-July, the Leavenworth Times expressed its belief that fatalities had been exaggerated and condemned a competitor newspaper, the St. Louis Democrat, for erroneous reporting.32 Part of this skepticism originated from the obviously wild reports of panic-stricken refugees fleeing the area. By the last week of July, however, it became clear that a major catastrophe was developing out west. Newspapers advised all persons to remain calm and continue boiling their drinking water. The state board of health warned that all material coming in contact with choleraic excretions should be thoroughly disinfected, indicating a new awareness among health officials about how the disease actually spread.33

While genuine insights might have been gained by a few physicians, most laymen remained confused about the disease's basic epidemiology. One writer expressed bewilderment over why Kansas, with its fresh air and open spaces, suffered cholera to the same extent as the tenements of big cities: "Its grim secret seems past finding out. . . About all we know of cholera is that it is a great circumnavigator; and that it seems to be ravaging the plains now because it has got that far on its dreadful journey back to the Orient."34 In some respects cholera even injected a sense of state pride, albeit one generated out of defensiveness toward easterners. An article in the Boston Journal attributed the epidemic to the rough demeanor of Kansas citizens. Like most westerners, the newspaper maintained, Kansans had little knowledge of personal hygiene, rarely engaged in exercise, and allowed their prairies to become strewn with rotting carcasses. Their nonsensical aversion to fruits and vegetables prompted consumption of meat that was buried in fat and burned to a crisp. The Journal claimed that filthy clothes and premises also were common among frontier people. The Leavenworth Daily Conservative answered with the following reply:

Poor Bostonians! . . . Don't you think you had better go to Braman's and take a bath, before our western winds blow this dreadful state of things into the midst of your nice, clean, vegetable-eating community? . . . The writer of that article knows less about Kansas than swine do of paradise, and we advise him to get his mamma to furnish him a clean pinafore. . . . As for the "carcasses" which this truthful Bohemian described, we occasionally find

32. Leavenworth Times, July 16, 1867.
33. Ibid., July 26, 1867.
34. Ibid., July 25, 1867.
the remains of an eastern loaf on the plains.  

While accounts such as this certainly testify to the opinion of journalists and boosters, discovering the epidemic’s effects on the general population remains much more difficult. Virtually no records exist about the reception refugees found in distant communities. Since most information on the frontier still traveled by word-of-mouth, news of the epidemic usually spread no farther than the cholera itself.

Settlers fleeing the Fort Harker region generally sought refuge farther east, many presumably carrying the organism. For all the fears of residents in towns like Leavenworth and Topeka, however, the 1867 epidemic spared eastern Kansas, largely because adequate sanitary precautions had been taken that allowed the bacilli to pass without incident. Locales west of Ellsworth were not so fortunate. As the Harker epidemic abated in late July and people began returning to their homes, the Union Pacific’s advance ensured the continued westward movement of military and civilian workers. Although none matched Fort Harker in terms of poor hygiene, conditions at the westernmost forts and camps proved sufficiently conducive for the epidemic’s geographical expansion.

Fort Hays, for example, located about sixty miles west on the Smoky Hill River, experienced a devastating outbreak beginning about mid-July. A civilian teamster became the first casualty on July 11, followed by extensive affliction among black troops of the Tenth Cavalry and Thirty-eighth Infantry. Health officers at Fort Hays permitted civilians to receive treatment at the post hospital, which at that time consisted of several tents that offered little protection from the strong Kansas wind. A shortage of medical attendants ensued once the quarantine ward began filling in late July. Local volunteers aided in the work, even though surgeons often complained that inexperienced attendants hurt patients more than helped them. Simon Motz, an early resident of Hays City, expressed surprise over the charitable efforts of some fellow volunteers:

Few, indeed, that possessed the fortitude equal to the demand of the calamitous occasion. The work of these few will stand in commendation of the inherent, inner, better self when contrasted with outward of a dual life. As strange and surprising as it was unexpected, the charitable work was rendered by those from whom it was least and last expected. All day long they did their utmost to assuage and comfort the sick. At night the flickering rays of light could be seen moving from place to place as these women ministered to the wants of those afflicted. Surely the higher and better attributes of noble womanhood had withstood, and, for the time, absorbed the degradation of their outward life.  

Presumably, the women to whom Motz referred were prostitutes, a sizable number of whom accompanied the railroad camps through western Kansas.

Personal accounts also reveal the diversity of popular myths about the nature of disease. Although nineteenth-century beliefs sometimes held that alcohol weakened the body’s resistance, Motz recalled Hays City residents’ conviction that stimulation with alcohol served as an efficient preventive to illness. Motz maintained that during the height of the epidemic, local merchants placed kegs on the street, with signs reading, “free, help yourself”—part of saloonkeepers’ contribution to better public health in the Hays area. Even so, Motz stated that few locals actually imbibed to excess:

Strange as the statement may seem, there was not a drunken man in the town. This was before prohibition in Kansas, but it was unqualified temperance in defiance of every inducement. The universal feeling was, “if my time has come, I want to go sober.”

Captain Henry Corbin, post commander at Fort Hays, had a much different view about the sobriety level in the Hays City area. As an officer in one of the


**Voices From a Disease Frontier**
The cholera epidemic struck Fort Harker in June 1867. Elizabeth Custer described corpses lined up at the fort that summer, wrapped only in army blankets as they awaited burial.

George Miller Sternberg was the chief medical officer in charge at Fort Harker during the cholera epidemic. Unfortunately he allowed unhealthy conditions to flourish at the fort, which undoubtedly aided the spread of the disease.
black units, Corbin held his men blameless for the cholera, believing that drunken railroad workers carried the disease. Corbin complained in August that Union Pacific employees, all of them in dire need of baths, loitered about Fort Hays when they should have been at their camps. By August 9, the cholera had abated somewhat, but Corbin feared a renewed outbreak if the workers were permitted to stay:

They cannot but contract the cholera and thereby lay the post liable to another siege from that terrible disease. For ten days we have not had a case among the soldiers but several citizens brought to hospital with it, and our medical people are confident of more if these people are permitted to hover around as I have mentioned. 38

The workers that so aroused Corbin’s ire congregated in the small village of Rome on the outskirts of Hays City. There they remained in an almost constant state of intoxication by patronizing local whiskey stands and relieving themselves in Big Creek, which flowed less than a quarter of a mile into Fort Hays’ water supply. Corbin claimed he had evidence that the whiskey merchants planted rumors about vicious Indians preparing to attack the construction camps. The fearful crews, some possibly carrying cholera, then fled to the relative safety of the fort vicinity where they imbibed at the whisky stands to the delight and profit of the merchants.

When two more civilian workers and one black infantryman contracted cholera, Corbin decided he had enough. On August 12 he ordered a small party of Buffalo Soldiers from the Thirty-eighth Infantry to confiscate all liquor that belonged to any merchant without a civilian or military trading license. The troops seized all liquor held by the illegal traders, one of whom was a young scout and buffalo hunter named William F. Cody, who later gained fame under the sobriquet Buffalo Bill. 39

Corbin’s raid produced the desired effect of dissipating the congregation of railroad workers and serves as an example of the drastic actions that frequently were taken as fear of the cholera spread. Other such instances occurred after the epidemic extended to areas farther south in late July and early August. While confusion still exists as to precisely how cholera was transmitted along the Union Pacific route between Hays and Fort Harker, little doubt remains that Buffalo Soldiers did transport the organism south along the Arkansas River on their journey to New Mexico, despite extensive precautions. Colonel George McGill, a surgeon traveling with those companies of the Thirty-eighth Infantry, had chief responsibility for the unit’s health. McGill conducted rigid troop inspections and left all suspicious cases behind at Fort Harker. Departing on July 10, the command included more than two hundred enlisted men, a dozen officers, and nearly a hundred wives, children, and assorted quartermaster employees. 40

McGill’s strenuous efforts minimized cholera’s impact en route to New Mexico but failed in halting it completely. As troops and civilians began contracting the disease, McGill directed the command in disinfecting all patients’ discharges with carbolic acid and emptying them into pits covered with fresh earth. All soiled bedding and articles were burned. To prevent spread into forts and civilian communities, the command camped two to three miles from each settlement and limited direct contact with other military personnel to medical officers and quartermasters. 41 Nevertheless, the epidemic still extended into new areas. Fort Larned experienced a mild outbreak that inspectors attributed to the Thirty-eighth’s poor location choice upriver from the post’s water source. McGill expressed his regret for the error but stated that he had been in a hurry to select a campsite and provide the troops some rest. 42

As the command moved west along the Arkansas toward Fort Lyon, Colorado, McGill himself became a victim. The surgeon’s wife contracted cholera on the

38. Henry Corbin to T.B. Weir, August 5, 9, 1867, Letters Sent, Fort Hays, T-713, roll 1, National Archives, Washington, D.C.
39. Mirand W. Savo to J. Milton Thompson, August 12, 1867, Letters Received, Fort Hays, T-713, roll 5, National Archives.
41. Ibid., 106.
morning of July 17, west of Dodge City. Sending the rest of the troops ahead, McGill set up a solitary camp and remained behind to care for his wife, who died later that evening. Riding alone the next day, McGill attempted to catch up with the rest of the group but eventually succumbed to the disease. His body later was discovered about eighteen miles west of the crude marker he had posted on his wife’s grave.  

As the infected infantry units neared the vicinity of Fort Lyon, near Bent’s Fort in southeastern Colorado, an angry reception awaited them. A buffalo hunting party from Kansas had brought news of the epidemic and the approach of its infected carriers. William Bell, a geographer and surveyor for the Southern Pacific Railroad, described the events. Fort Lyon’s commander, Colonel William H. Penrose, sent a messenger ordering the units to proceed no farther. The troops’ commanding officer responded that daily changes of camp were necessary for preserving the men, and that the disease was abating. Penrose eventually relented, but for convenience’s sake he insisted on quartering the party near the fort’s burial ground to eliminate unnecessary work in hauling the dead.  

From all indications the companies of the Thirty-eighth Infantry traveling through Kansas in the summer of 1867 took reasonable precautions to prevent cholera’s spread. Upon arrival at their final destination of Fort Union, New Mexico, in mid-August, the regiment camped at a quarantined location for two weeks before entering the garrison on August 31. By that time the epidemic had dissipated. Some mild cases occurred after the command crossed the Kansas border but none proved fatal. Sanitation conditions gradually improved once the troops left Fort Harker. Lacking a contaminated environment, the cholera organism’s disastrous effects diminished along the cleaner waters of the Arkansas and Santa Fe Trail.  

As stated previously, more than half the recorded deaths in the 1867 epidemic occurred in Kansas alone. The rest died in areas farther south, such as Indian Territory, Texas, and eastern Louisiana. Of the 146 who perished in Kansas, nearly all contracted the disease in the forts and outlying camps along the Union Pacific route. Army records reveal no definitive statistics on numbers of civilian dead. Even less remains known about the epidemic’s effect on Native American groups. One undocumented account claimed that emigrants passing through the state in 1869 viewed scores of unburied corpses. Guides supposedly informed the travelers that the bodies were those of Wichita Indians killed by cholera.  

Unlike the previous year’s epidemic that concentrated in the more populous eastern part of the state, the 1867 outbreak thrived as a frontier phenomenon, inseparable from the crude hygiene of the developing West. The military physicians responsible for the public health at that time worked diligently in tending the sick but, either out of neglect or misunderstanding about cholera’s cause, failed in implementing sanitary precautions that might have allowed the cholerae bacilli to pass without harm. The new forts and towns under construction attracted people faster than improvised waste disposal facilities could accommodate. Cholera’s dual nature both as a mobile and a locale-oriented disease permitted it to find a destructive niche on the disease frontier that opened briefly in western Kansas during 1867.  

Besides its impact on hundreds of grieving families, the cholera epidemic left significant legacies for the state and the country. Most noticeable was the concern it generated for improved sanitation in the western forts. An 1870 War Department study reported that Fort Harker practiced daily disinfection of contaminated material. A permanent police sergeant stationed at the post oversaw regular waste and manure removal and conducted frequent water inspections. The same study reported that Fort Hays received shipments of spoiled beef and bread, and that  

45. Wendt, Treatise on Asiatic Cholera, 106.  
46. William MacLeod Raine and Will C. Barnes, Cattle (Garden City, N.Y.: Doubleday, Doren, and Co., 1930), 93–94.  
47. War Department, Surgeon General’s Office, A Report on Barracks and Hospitals, with Descriptions of Military Posts, circular no. 4 (1870).
soldiers continued urinating in the drinking water.\textsuperscript{48} A similar study five years later stated that conditions at Fort Hays had improved greatly, with refuse transported to and burned in a ravine one mile west.\textsuperscript{49}

The Buffalo Soldiers’ role raises a question about the epidemic’s influence on racial attitudes. Like many western states, Kansas experienced its share of race conflict during the late 1860s and the 1870s, especially in communities near forts with a high number of black troops.\textsuperscript{50} But the specific extent to which cholera strengthened white prejudice remains a subject for speculation. Examination of newspapers and personal correspondence reveals no evidence that the epidemic reinforced racist views about black inferiority. The \textit{Leavenworth Daily Conservative} never connected the Buffalo Soldiers’ presence with cholera; rather it complimented black settlers during the height of the crisis, praising them as hard-working farmers and good soldiers, and it welcomed their migration to the state.\textsuperscript{51} Although it seems reasonable to assume that the blacks’ purported role increased white resentment in some instances, explicit cases of prejudice linked directly to cholera have not been recorded.

The epidemic’s impact on individual lives remains too immense to measure, but its impact on one individual bears mention. Dr. George Sternberg, the military surgeon whose negligence aided the outbreak at Fort Harker, experienced drastic changes in his personal and professional life as a result of that summer. After his wife’s death and his subsequent near-breakdown, Sternberg returned east for a few months before being assigned to Fort Riley in December 1867. The principles of sanitation he learned at Fort Harker served his medical career well in later years. As a consultant at a New York immigration quarantine station, he implemented sanitary procedures credited with preventing the import of a cholera strain from Hamburg in 1891. Sternberg’s recognition as a disease prevention expert led to his appointment as surgeon-general of the United States from 1893 to 1902. During this term he published a bacteriology textbook and worked closely with physicians such as Walter Reed on yellow fever research. Remarried in his later years, Sternberg occasionally visited his relatives in Kansas but never permanently returned to the area where he had planned a future as a young man, and where his lifelong work in eliminating disease had begun. When he died in 1915, he was recognized as a pioneer in American medicine.\textsuperscript{52}

The epidemic’s most useful clinical legacy was its vivid illustration of the need for synthesis between old approaches. By the 1870s most doctors no longer believed that cholera could generate itself in a filthy atmosphere without a human carrier. This revelation produced a call for inspection of persons entering the state and in some cases limitations on what groups could enter. Medical professionals demanded stringent health standards for public buildings. W.F. Troughton, in an article for the \textit{Kansas Medical Journal} in 1893, advocated attacking cholera at its source through vigorous enforcement of cleanliness:

\begin{quote}
Cholera, then, must be treated prophylactically. Garbage systems, sewera ges, flushings, lime washers, pure water and a general clean-up is all right so far as they go, but the true breeder of pathogenic disease germs are the social quagmires. Clean out the human rookeries, the moral and physical hot-beds of crime and disease. Let in Nature’s sunlight, change the atmosphere with Nature’s scavenger ozone. Bath houses, soup kitchen and general contentment are as essential as garbage systems or general clean-ups. Lift the dull and soul-depressing care from off the brain and heart of the people. This is your work and my work. Don’t be afraid of being called a political doctor; assume your full duty or honor your profession by leaving it.\textsuperscript{53}
\end{quote}

\textsuperscript{48} Ibid. \\
\textsuperscript{49} War Department, Surgeon General’s Office, \textit{A Report on the Hygiene of the United States Army, with Descriptions of Military Posts}, circular no. 8 (1878). \\
\textsuperscript{51} \textit{Leavenworth Daily Conservative}, July 28, 1867. \\
\textsuperscript{52} Rogers, Sternberg Fossil Hunter, 10-23; Jerome Schneck, “Sternberg and the Fort Harker Cholera Epidemic of 1867,” \textit{Journal of the Kansas Medical Society} 45 (May 1944): 161–63. \\
Troughton’s activist philosophy of clean body and soul, representative of progressive reform attitudes, illustrates the extent to which preventive medicine became aligned with political action during the 1890s. Fascinating research awaits investigation about the connection between disease conditions on the expanding frontier and the Populist and Progressive ideologies at the turn of the century.

After medical research in the 1880s revealed the existence of the *Vibrio cholerae* organism and its transportability through fecal matter, measures were adopted to maintain the purity of culinary water. In 1893 the Kansas State Board of Health issued new rules not only regulating the location and maintenance of privies and cesspools, but also prohibiting the sale and use of diseased animal flesh. The circular also demanded that all cases of cholera be reported immediately to local authorities under the supervision of the board of health.54

While medical professionals gradually grew more aware of how cholera was transmitted, great confusion still existed among laymen. In 1886 the army began exhumating bodies of cholera victims from a Fort Hays cemetery with the intent of reburying these soldiers in the official military cemetery at Fort Leavenworth. The U.S. surgeon general halted the work after protests by local residents who feared that moving the bodies would reactivate the cholera germ and ignite another epidemic. When the military advertised a few years later for a contract to move the graves, Hays City residents appealed to the board of health, which upheld the first decision. Fort Leavenworth authorities cited numerous instances where bodies had been moved from other locations with no recurrences of cholera.55

Finally in 1905 the state board of health resisted pressure from Hays citizens and authorized removal of the bodies to Leavenworth. The corpses of more than one hundred soldiers and civilians were exhumed, most buried at an average depth of only about three feet, an indication of the haste with which funerals had been conducted during the epidemic. Individually sealed in air-tight, zinc-lined caskets, the cholera dead arrived at Fort Leavenworth on December 20, 1905, and were reinterred with military honors.56 Despite the fears of Hays residents, the epidemic did not recur. The cholerae bacilli required the presence both of infected carriers and filthy sanitation conditions, a combination that existed only during the pell-mell early months of settlement.

The 1867 epidemic can only be understood within its relationship to social conditions and the circumstances of time and place. A detached scientific approach does not explain its virulence since medical knowledge was advanced sufficiently to prevent major outbreaks, as it did in eastern Kansas. Social history offers an opportunity to explain the epidemic and other similar outbreaks in frontier conditions.

The medical knowledge in the late nineteenth century, which emphasized hygiene and inspection, helped produce a sterile environment that relinquished cholera and other water-borne diseases of their destructive potential. But, as scientists sometimes forget, such advances never occur in a social vacuum. Discovery and implementation of safe medical practices require the order and efficiency of established institutions, which often cease functioning in times of chaos. For a brief duration in the 1860s, the routes of passage along the Smoky Hill River witnessed a vast wave of newcomers who, in their haste to control the region, lost control of themselves. Forgetting the fragility of human life in closed surroundings, they created an environment conducive to the worst scourge of their time, one they carried with them in their very stomachs. Western Kansas in that year became a disease frontier, one that attests to the important relationship between health and history, between people and their environment.

55. *Topeka Daily Capital*, October 1, 1905.
56. Ibid., December 21, 1905.
Like Fort Harker, other western outposts such as Ellsworth and Hays City fell victim to cholera's devastation. Along with troops and railroad workers, travelers such as these at Hays City also carried the disease westward across Kansas.

Although speculation arose about the Buffalo Soldiers' influence on the epidemic, a Leavenworth newspaper never connected them with the presence of cholera. Rather it complimented blacks, such as these 1860s troops at Fort Leavenworth, during the height of the crisis.