Epidemic Cholera at Huntsville, 1873

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Epidemic cholera repeatedly disrupted community life and brought tragedy to families in the United States throughout the nineteenth century. Major outbreaks of the pestilence occurred in the United States in 1832, 1854, and in 1873, reaching pandemic proportions in the South, with fatalities attributable to the disease numbering in the thousands. The malady afflicted young and old, rich and poor, white and black alike, and in 1850 it extended to the White House, taking the life of an old soldier, Zachary Taylor, who had survived many years of combat action only to succumb to disease. Cholera is an acute intestinal disease, characterized by sudden onset, disruption of the alimentative processes, swift dehydration, and rapid physical collapse. Until the end of the nineteenth century, medical authorities were uncertain of its causes, often attributing it to dietary habits, but by 1873 many physicians were beginning to connect the spread of the disease with sanitary conditions and to urge improved water supply treatment facilities and sanitary sewerage systems as preventative measures.

Huntsville had miraculously been spared the horrors of the epidemics of 1832 and 1854, while surrounding communities—Nashville, Memphis, Knoxville, Chattanooga, Montgomery, for examples—were
ravaged; residents of Huntsville and Madison County had begun to claim that they lived in the healthiest region in the whole country. But this good fortune led to the misfortune of 1873, for when the epidemic arrived Huntsville had no safe water supply system, no sanitary sewerage system, nor board of health. In short, the city was extremely vulnerable to pandemic diseases.

The cholera epidemic of 1873 had traveled halfway round the world en route to the United States and to Huntsville, originating in India in the province of Bengal in 1865. Religious pilgrims, infected in India, carried the disease west to Persia in 1867, from whence it was transmitted around the shores of the Caspian Sea to Turkey and Russia and on into Europe. Plague ships then carried it, in the person of immigrants, to the Americas, and by steamboat and railway it proceeded into the interior of the continent. The disease evidently reached Huntsville by a German ship to New Orleans, steamboat to Memphis, and railroad to Huntsville. The first victim in the United States was a dockworker in New Orleans who died of the disease on February 9, 1873; from New Orleans it spread up the Mississippi to Memphis, and then along the railroad to Huntsville. The first fatality of the 1873 epidemic in Alabama was a five-year-old girl who lived on Holmes Street in Huntsville--she died on June 3. Birmingham had its first cholera fatality on June 12 and Montgomery on June 17. In like-manner the disease spread across the entire South and reached further into the interior to such far-flung locations as Carthage, Ohio; Yankton, Dakota; and Crow River, Minnesota.

The epidemic reached such serious proportions that Congress ordered an investigation of the "deplorable mortality" by the Surgeon-General of the Army.
Assistant Surgeon Ely McClellan, U.S. Army, was placed in immediate charge of the investigation, and he assembled a reliable nationwide report on the epidemic--its spread, its causes, its treatment--by collecting information from physicians throughout the infected areas. Two Huntsville physicians contributed elaborate reports on the course of the disease in the city and the surrounding area; one was Assistant Surgeon M. K. Taylor, medical officer at Thomas Barracks two miles northeast of Huntsville, and the other was Dr. J. J. Dement, physician of Huntsville.

Dr. Taylor reported that as the epidemic moved north from New Orleans, he and other physicians in Huntsville became alarmed, and the Madison County Medical Society appointed a committee, consisting of Dr. Taylor, Dr. A. S. Green, and Dr. H. W. Bassett, to urge the enactment of ordinances providing for legal registration of deaths and for the creation of a municipal board of health. These actions were taken as the epidemic reached Memphis, and the new board of health initiated emergency measures to clean up Huntsville and improve sanitary conditions, but they were too late to be effective.

The first death in Huntsville due to cholera occurred on June 3--the last on July 25. Between these dates, at least 183 cases of cholera were recorded, a ratio of 1 to 24.5 of the population of Huntsville at the time. The total population was reduced, however, by the 500 citizens who fled north for refuge, or traveled to resorts in the country such as Monte Sano, but some carried the disease with them and contributed to its spread. The number of fatalities in Madison County climbed to 62; that is, about a third of those contracting the pestilence died.

About 100 officers and their families, enlisted men, and servants were residing at Thomas Barracks
at the time, and Dr. Taylor and Colonel W. F. Drum, Commanding Officer, instituted extreme sanitary procedures. The quarters were fumigated, ventilated, and whitewashed; the men were required to take a minimum of one bath a week; and careful attention was given to diet, for Dr. Taylor was convinced that overeating, particularly of fresh fruit, was a "potent element in the propagation of the epidemic." Like Dr. Taylor, city and county medical authorities were also of the opinion that dietary habits were a causative factor, and they prohibited the sale of green vegetables at local markets.

Dr. Taylor proudly reported that not a single confirmed case of cholera occurred at Thomas Barracks in 1873. He attributed this to the sanitary and dietary measures employed, but mentioned that, unlike portions of Huntsville, the barracks were located on a well-drained elevation which might also have been a preventative factor. Huntsville, however, was racked by the disease, suffering more epidemic-related fatalities than probably at any other period of its history. The populace panicked and many fled the city; nevertheless, physicians in the city remained at their posts, made their rounds, and took all measures possible, in the light of medical knowledge of the era, to alleviate human suffering. It could be said that it was their finest hour for practically every doctor in Huntsville was "severely attacked," by the disease, though no deaths among their ranks were mentioned in the official reports.

One of these Huntsville physicians, whose allegiance to the Hippocratic oath almost cost his life, was Dr. J. J. Dement. His subsequent report on the epidemic was published in the transactions of the Alabama State Medical Society for 1874 and in the report of the Surgeon-General of the United States
Army: The Choiera Epidemic of 1873, House Executive Document No. 95, 43 Congress, 1 Session, 1875. His report, which follows, throws considerable light on the medical practices of the time, the history of the epidemic, and social, economic, sanitary, and cultural conditions in Huntsville, in 1873.

DEMENT REPORT

"Huntsville is situated at the base of the last western spurs of the Cumberland Mountains, ten miles north of the Tennessee River, and eighteen miles south of the Tennessee and Alabama State line. It has an elevation of 692 feet above tide-water at the city of Mobile, in latitude 34° 43' 44". In 1870 the city had, according to the United States census, a population of four thousand nine hundred and seven, of whom two thousand five hundred and thirty-two were whites, and two thousand three hundred and seventy-five were colored. There has been probably but little change since that time.

"The character of the surface upon which a greater portion of the city is built is such as to afford abundant drainage, being supplied with natural water-sheds, which prevent the water from collecting in that portion of the city. The surface-soil is dark, rich loam, with subsoil of pure red clay, resting on a solid limestone base. This portion of the city is well supplied with water, mainly from a large spring of pure limestone water which bursts from the base of the bluff on which this portion of the city is built. The water is pumped into a reservoir on the top of the hill, and from thence supplied to the city. This water, however, is by no means in universal use, as many premises have wells which yield freestone water after having been dug into the clay for a depth of from 30 to 50 feet."
"Descending gradually about 80 feet from this high and well-drained portion of the city in all directions, except easterly in the direction of the mountains, is a low, flat, ill-drained region, in which there existed many years ago a number of ponds and marshes, which have been gradually filled by washings from the adjacent elevations, as well as from the debris from the older parts of the city which have been cast into them from time to time. Many of these places still exist, and during an unusually wet season retain water until midsummer, creating malarial disorders among the individuals living in their vicinity. This made soil in many places is (sic) from 1 to 4 or 5 feet deep, beneath which is at some places a yellow gravelly subsoil, at others, a white or red clay, all of which is much more porous than the subsoil of red clay in the higher parts of the city.

"In these districts the colored population preponderate. They occupy tenement-houses, which are simply wooden huts, not elevated above the ground. The water in this district is freestone, and obtained from wells which are from 10 to 30 feet in depth. These wells, during the spring and early summer of 1873, were filled to the level of the ground with surface-washings.

"The Memphis and Charleston Railroad runs along the western border of the city, and is close proximity to the portion which is built upon made ground. There are upon this road two daily passenger-trains from Memphis and Chattanooga, which connect with the trains from Nashville, Tenn. At this point are located the railroad-shops for the eastern division of the road, and all passing trains, freight as well as passenger, change officers and men at Huntsville.

"Previous to the outbreak of cholera it was observed that we had an unusual number of intestinal diseases,
generally of a mild form; and it was also observed that we had much less of those forms of disease generally regarded as having their origin in malaria.

"For several weeks prior to the first death from cholera in our midst, the disease had been prevailing in Memphis, Nashville, and many of the smaller cities and towns of Western and Middle Tennessee; and under the direction of the board of health, which had just been organized, the authorities had the city placed in as good hygienic condition as was possible in so short a space of time.

"Near the center of the low, flat region on the western side of the city, about 150 yards from the depot of the Memphis and Charleston Railroad, and on the main street leading to the business portion of the city the first case of cholera occurred in the person of a negro girl, five years of age, the child of Toliver Thompson. The family consisted of Thompson, his wife, and five children; they had lived in the vicinity for many years; had no boarders, and received, they state, but few visitors. The occupation of Thompson was that of cart-driver, and for some time previous to the attack of his child was employed by the city in removing debris from the streets.

"Immediately south of Thompson's house was a pond which had been partially filled; but which yet contained a considerable quantity of dirty water. Almost on the brink of this pond was located the well which afforded the water-supply of the family, and which was at the time filled to the brim. On the morning of June 3, the girl was taken with a watery, painless, and odorless diarrhea. At 10 o'clock a.m. she commenced to vomit colorless water, and her mother says became very cold, restless, and thirsty. No medical aid was obtained until 5 o'clock p.m., when she was seen by Drs. Bassett, Buiford, Carter, and
the writer. The patient was in articulo mortis, and died almost at the moment of the visit. The surface of the body was found shrunken, and the skin of the hands and feet shriveled. No other case of the disease followed the death of this child.

"June 15, twelve days after the death of the Thompson child, the second of the Huntsville cases occurred in the person of Joe Smith, a negro, aged thirty-five years, who had been for several months a waiter in a restaurant in Decatur, Ala., from which town he had arrived some two weeks prior to this attack. This man had no home or employment. He slept wherever night overtook him, and ate wherever he could obtain a meal. Where he had been or what he had been doing through these two weeks cannot be determined. Smith during the night of June 15 was taken with a diarrhea, but received no medical aid until 9 o'clock a.m. the next day, when Dr. Buiford found him in collapse, and he died during the succeeding night. This case occurred in a house upon the same street, and directly opposite to that occupied by the Thompson family.

"On the 16th of June, Mrs. Susan Pollard, aged seventy-four, living one and a half miles west of the city, upon the line of the Memphis and Charleston Railroad, was taken with a slight diarrhea, was worse on the 17th, and was in cholera-collapse on the morning of the 18th. She died during the succeeding night. This lady had walked to Huntsville on the morning of June 14, and had remained with her children within one square of the houses occupied by the first and second cases until the afternoon of the 15th, when she returned home on foot over the railroad-track, and was drenched on the way by a shower of rain.

"Abner Graham, aged forty-five years, whose residence and store-house was immediately south of the premises occupied by the first case, was attacked
with cholera on the morning of the 19th of June, and died on the 21st. Two other members of his family had the disease within a few days, but recovered. Larkin, a negro, aged twenty-six years, who waited on Mr. Graham, and who assisted in shrouding his corpse, took the disease on the night of the 21st of June, and died at 8 o'clock a.m. of the 22d. The same day (June 21) a negro child living in the house in which Joe Smith had died was taken with the disease, and died in six hours.

"From this case it is impossible in this portion of the city to trace the connection of the cases; the disease became epidemic, attacking alike white and black, and extending in all directions. Taking the house in which Joe Smith died as a center, and describing a circle of four hundred yards in diameter, we find that fifty cases of cholera occurred in that area within the space of ten days from the development of the disease in the person of Smith.

"On the 16th of June, the disease was introduced into the eastern portion of the city through the person of Louis Harris, a mulatto fifty years of age, who was the proprietor of a drinking-saloon, which was a place of great resort for negroes from all portions of the city. Harris was taken with cholera while at his saloon, which was in the center of the city, and was immediately removed to his home, which was in a locality known as Georgia, inhabited almost entirely by negroes.

"This eastern portion of the city has the same physical characteristics as the western portion, the same defective drainage, the same character of water, and the same kind of ponds and marshes.

"Harris was fully collapsed in the afternoon of the 16th, but reacted during the night, slowly recovered, and was discharged quite convalescent on the fourth day.

"June 23, five negroes who lived in the immediate
vicinity to Harris were taken with cholera, and all died within thirty-six hours. At this time the use of well-water was forbidden by the board of health in this portion of the city, and the people were supplied with water from the Great Spring, which was carted in quantities for their use by the city authorities. This supply of water was furnished for the space of one week, during which time no new cases of the disease occurred, when the negroes, thinking themselves secure, resumed the use of the well-water and, within four days, six fatal cases of cholera occurred in the same vicinity. The use of well-water was again prohibited, and again, the progress of the disease was arrested.

"When it became generally known that cholera was epidemic in the city, many of the citizens removed to the country with their families. Among these families six cases of cholera are known to have occurred. One gentleman sent his family to his plantation, ten miles from the city. After remaining there for three weeks they returned to Huntsville and remained two days, and again went to the country. Three days after their return from the city, a little boy in the family was taken with cholera and died in a few hours; the same day a lady, fifty years of age, was attacked, but recovered. The family now returned to their home at Huntsville, when all, both white and black, were affected with the disease, from which an additional death occurred. None of the workmen or their families on this plantation were affected with the disease.

"Forty or fifty persons removed from Huntsville during the epidemic to Monte Sano, a mountain four miles east of town. Among these persons there were three cases of cholera, one of whom died. One case was attacked in two days, one case in fourteen days,
and one case in twenty-three days after they had left Huntsville.

"Some persons took refuge at Johnson's Well, a watering-place nine miles north of Huntsville. At this time there were nearly ninety visitors at the wells. One case of cholera occurred, and died after an illness of thirty-six hours. No other case occurred.

"A negro woman, who lived six miles in the country, came to town to visit her daughter, who was ill with cholera. She remained three days and returned to her home. On the sixth day after her return she was taken with the same disease and died. On the plantation were about sixty persons, but among them no new cases occurred.

"The high and well-drained portions of the city remained almost exempt from the disease, only eight or ten cases having been reported, and among them only two deaths.

"During the prevalence of the epidemic we had every form of the disease, from slight borborygm, with watery, easy diarrhea, to that of the most malignant type. Under these circumstances it is impossible to give more than an approximation to the number of cases. We have, however, reports of about one hundred and fifty cases so well defined as to leave no doubt as to their true character. Of the whole number there were fifty-one deaths; of these seventeen were whites and thirty-four were negroes. Very nearly all the cases which terminated fatally were found in a state of collapse by the attending physician when first called to see them. Only four cases are reported as having recovered from this condition. The disease was found to be amendable to treatment, if seen in the early stages. The last case which was reported occurred on the 29th of July. "
The report of Dr. Dement, and those of hundreds of physicians across the nation assembled by the Surgeon-General, provided, in aggregate, a clear picture of the epidemic. It became evident that the poor were, in numbers, the greatest victims of the disease, and that the reason for this was the fact that they often had no access to safe water supplies and sanitary sewerage facilities. The debate among medical circles as to causative factors and treatment was to continue for some years, but municipal and state governments throughout the nation took action to establish boards of health and other medical agencies as guardians of the public health, to develop adequate methods for water and sewage treatment, and to construct the necessary sanitary facilities.

In twentieth-century America, the public seldom hears of a case of smallpox, yellow fever, typhoid, or cholera. This has been largely the result of the activities of the medical profession and enlightened governmental action at all levels. Insofar as cholera is concerned, preventative measures, including water supply purification, sanitary sewerage systems, and immunization, have checked the disease in the United States, though it is still endemic in certain other countries. In summary, the public support generated by the epidemic of 1873 and the extensive study of the disease which followed appear to have contributed materially to the health of the citizens of the United States. But perhaps the words of Assistant Surgeon Ely McClellan, United States Army, in his report on the epidemic of 1873 bear repeating:

Eternal vigilance is the price paid for the safety of the republic, and eternal sanitary vigilance should be exercised by national, State, and municipal authorities.