

## **Southern Health - Environments for Disease**

The environment in which we live influences our lives in many ways today, a fact that was even more pronounced in the 1800s and 1900s. At the time, physicians acknowledged that cultural differences in diet, lifestyle, customs, and social interactions contributed to one's health and well-being. However, where one lived was believed by some to ultimately determine one's ability to stay healthy. The environment of the South was thought to have an especially strong impact upon one's health.

### **Medical Topography**

The idea that people living in certain areas of the country are more susceptible to particular diseases has influenced medical thought for generations. By the 1800s, "Medical Topography" emerged as a field to study the relationship between disease and the landscape.

This discipline sought to understand geographic locations through the diseases they produced. Practicing medical topographers tried to record any environmental factors that might affect health in a particular place such as temperature, altitude, water quality, timing and amount of rainfall, wind direction, electrical air currents, soil types, the timing of fish runs, thunderstorms, hailstorms, and meteor showers. Although not all physicians believed in this theory, the opinion that the environment could create disease was generally accepted in medical practice and popular understanding.

### **Common Diseases in the South**

The belief that the southern climate and environment was responsible for the outbreak of disease can be illustrated by three African diseases which spread rampantly through the Caribbean islands and to America by the importation of slaves - malaria, hookworm and yellow fever.

#### **Malaria**

A less deadly strain of malaria (vivax malaria) was imported to the Americas by early European settlers and flourished in the South, Northeast, and upper Midwest in the early to mid-1800s. Falciparum malaria, also called "fever" and "ague," was found in all parts of the Carolinas, along areas of undrained lands and waterways in the upper country. Malaria, a disease spread by mosquitos, brought on severe chills, high fever and intense thirst. Recovery from malaria provided a temporary immunity to that strain; but the disease recurred annually in many southerners. Because patients became accustomed to yearly attacks, they no longer considered it a significant illness.

Nevertheless, the impact of malaria on life and health was enormous; year after year it weakened the mental and physical strength of white southerners and increased their vulnerability to other diseases. Most African Americans had genetic immunity to vivax malaria and many were also immune to the falciparum malaria because of

the sickle cell trait. But this immunity was not without cost as many African American children died from sickle cell disease.

### Hookworm

Hookworm was a disease caused by a parasite, acquired by walking barefoot over contaminated soil and often associated with poverty and poor sanitation.

Hookworms thrived in the South's moist warm sandy soils rich in humus. Like malaria, hookworm caused anemia and weakened the constitutions of many people.

### Yellow Fever

Yellow fever, also spread by mosquitos, was introduced by ships from Africa traveling through the Caribbean to North America in the late 1600s. Characterized by high fever and jaundice (causing a yellow tint to the skin), yellow fever epidemics occurred in 1800, 1809, 1817, 1819, 1824, and for the last time in 1876. Although it caused many deaths among newcomers to America, if one survived yellow fever he was permanently immune to further infection. Africans and African Americans had some genetic resistance to the disease, and suffered lower mortality rates than white southerners.

### Epidemics in South Carolina

Other diseases flourished in the South's hot, humid climate. Smallpox, diphtheria, tuberculosis and a host of other deadly ills often spread as epidemics throughout South Carolina in the 1800s.

### Smallpox

Smallpox, a highly infectious disease causing fever, vomiting and skin eruptions, was a frequent visitor to South Carolina before 1825. In the early 1800s it appeared sporadically over the whole state, and occurred as an epidemic in 1816. In 1860, several residents of York, as well as roughly 200 patients in Columbia suffered from smallpox. Another epidemic struck in 1897-1899 when more than 1,300 cases were reported statewide. Dr. Simon Baruch noted in 1880 that less than one-eighth of the state's population was vaccinated against smallpox.

### Diphtheria

Diphtheria, marked by high fever and labored breathing, had long been a serious and extensive disease in South Carolina and continued to be a problem throughout the 1800s. Epidemics occurred in 1814 and 1881, and caused 544 deaths in 1888.

### Tuberculosis

Tuberculosis, also called consumption, was increasingly prevalent in the mid to late 1800s. This disease, causing hard lumps in the lungs and body tissues, struck the African-American community particularly hard. In 1888, it was the cause of death in one out of every seven cases.

### Other Common Diseases

Typhoid fever, diarrhea diseases, and digestive system diseases, which spread through poor water supplies and sanitation, were common causes of mortality and ill health in the 1700s and 1800s.

Typhoid fever, marked by high fever and intestinal disorders, regularly attacked southerners during the summers throughout the 1700s. Dysentery, an inflammation of the intestines that brought fever, cramps, and diarrhea, was also very common. Influenza was active in South Carolina in 1807, 1815-1816, 1874- 1875, 1886, and 1890-1891.

#### Environmental Effects on Disease

Physicians noted early on that diseases in the South were seasonal and seemingly related to annual changes in temperature, rainfall and atmospheric conditions.

#### Miasma

Physicians believed the danger came from the formation of “miasma” or “marsh poison” which occurred when vapors rose from rotting vegetation, stagnant water, and the soil itself. Miasmas were thought to be particularly dangerous near swamps or newly cleared farmland, especially at night. Miasma was not a disease itself but a quality of particular environments that encouraged the onset of disease. Miasma was believed to be responsible for many different diseases such as malarial fevers (malaria in the original Italian means “bad air”), diarrhea, dysentery, diphtheria and yellow fever.

Because researchers did not link mosquitos to the spread of malaria until the late 1890s, it remained a health problem until the early 1900s. The spread of yellow fever was attributed to mosquitos in 1900. As man altered the environment by draining swamps, introducing agriculture and building towns, physicians observed a general improvement of health. Health officials in the early 1900s urged efforts to clean up environments where flies bred and to fight mosquitos by draining marshy grounds.

#### Health in the Carolina Piedmont

Although many of the diseases that affected lowcountry residents were also present in the Carolina Piedmont, this area was considered more “salubrious” or healthier than coastal areas or the mountains.

The Carolina Piedmont’s shorter summers gave intestinal diseases less time to flourish, and the temperatures were generally too cool for falciparum malaria to develop in the mosquito population, so only the milder vivax variety afflicted residents. The heavy soils prevented hookworm proliferation and yellow fever was not common.

Colder, longer winters in the mountains meant that respiratory diseases could be serious there; but in general, the Piedmont was considered favorable to good health. In 1775, Rev. William Tennent wrote in his journal about health in the Backcountry:

“Set off with Mr. Harris for his house, passed by Mr. Bowie’s, crossed Little River. The land here appears extremely fine, arrived at our Quarters at sundown 16 miles. Found good Mrs. Harris down with the ague (malaria), as more or less of every family seems to be in this quarter. Could not help observing the difference between the health of this district and that between Broad and Catawba Rivers.”