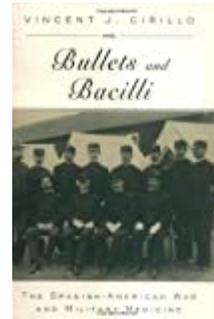




Vincent J. Cirillo. *Bullets and Bacilli: The Spanish-American War and Military Medicine.* New Brunswick: Rutgers University Press, 2004. xiv + 256 pp. \$55.00 (cloth), ISBN 978-0-8135-3339-1.



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Disease Destroys an Army

Vincent J. Cirillo states “Although it was a U.S. victory, it was a medical disaster for Army personnel,” and his book is a testament to the medical hardships encountered by American soldiers and the accomplishments of the Army Medical Department during the Spanish-American War. The war was a study in medical contrasts. It saw 340 killed in action or of wounds suffered in battle, but 2,565 die from disease. It introduced high muzzle velocity weapons that created new types of wounds, but it also gave army medical officers the opportunity to apply the lessons of the new germ theory by bringing to the battlefield innovative technologies such as x-rays and aseptic surgery.

Bullets and Bacilli: The Spanish-American War and Military Medicine is an important contribution to glossed over but important aspects of war. There is little literature on military medicine in the Spanish-American war: the last major work by Nicholas Senn appeared in 1900. Cirillo adds a contemporary and objective historical account of the medical aspects of the Spanish-American War. He describes in an orderly manner the state of the army and army medicine at the turn of the century,

and how the war contributed to changes made in Army medicine still in effect today.

In the early parts of his book Cirillo discusses a fin de siècle political climate in the United States ripe for war with Spain, coupled with an unprepared American army that lacked manpower, supplies, or a plan for expeditionary warfare. The U.S. Army in 1898 consisted of a small standing professional force that needed to be augmented in war by a volunteer force of citizen soldiers. Like the rest of the Army, the Army Medical Department was small and needed to hire contract doctors in the event of a conflict. These contract doctors had little incentive to excel, and frequently lacked knowledge of preventive medicine. Lastly, the Army Medical Department had no stockpile of medical supplies. These shortcomings led to severe problems with the invasion of Cuba, made worse by the fact that it was scheduled during the worst possible period of the rainy season (April-September). Particularly damaging to the Medical branch was the decision by many Army officers, struggling with a shortage of shipping to care for the invasion, to leave behind the ambulances, hospital stores, and tents that were needed

to take care of casualties.

Despite these handicaps, Cirillo states the Army Medical Department had some spectacular successes. The most significant of these was that the mortality rate for combat wounds was lower than in any previous war. Disease prevention, however, was another issue. Line officers assumed that being sick was a natural part of soldiering. Field hygiene suffered as a result, and soldiers fell prey to communicable diseases such as yellow fever, malaria, dysentery, and typhoid fever. As a result, for every combat death, seven died from disease. The volunteers, Cirillo argues, were particularly prone because, unlike the regulars, they lacked the discipline to live in a field environment: 75 percent of the 2,565 who died of disease were volunteers.

Cirillo devotes a major portion of his book to an effective discussion of typhoid fever, the most prevalent disease. The 20,738 cases of typhoid equated to 20 infantry regiments out of action. He covers the medical community's knowledge as to how typhoid was transmitted by infected feces, and their efforts to convince line commanders to implement procedures to protect the troops. Unfortunately, the line commanders tended to believe that the doctors were meddling and thus often rejected their advice. Cirillo's account of the diagnosis and treatment of typhoid is wonderfully described. Doctors focused on high fever as the most critical symptom. They would then administer quinine (a treatment for malaria), and if the patient did not respond, diagnose typhoid fever.

Outraged by the casualties from disease, Surgeon General George M. Sternberg appointed a Typhoid Board headed by Major Walter Reed. The Board identified the major problems as lack of training on field sanitation in military schools, a lack of trust by line commanders of medical officers, the perception by line officers that medical officers were interfering, and the general underestimation of the impact from the numbers of troops infected with typhoid and disease in general.

Interestingly, Cirillo points out that African-American soldiers played an important role in this medical story. It was believed that African-American soldiers were immune to typhoid and, when white soldiers refused to nurse fever victims, the black 24th Infantry

Regiment volunteered for the mission. The stereotype was wrong, however, and many black soldiers became ill.

Chapter 6 looks at the war's long-lasting effects on the Army and the Army Medical Department. It resulted in the eventual establishment of the Army Nurse Corp, the Medical Reserve Corp, the introduction of training in field sanitation and hygiene courses at West Point and School of the Line (now the Army Command and General Staff College), and the first text for line officers on how to keep soldiers healthy in the field. The Army moved towards compulsory vaccination for diseases, and preventive medicine techniques for tropical disease were also discussed. Last, preliminary discovery of how diseases such as yellow fever was transmitted helped in the eventual eradication of that disease. Among other things, this eradication allowed the construction of the Panama Canal.

In the final analysis, Cirillo does a fine job with his analysis of Spanish-American War medicine. The book is a great contemporary contribution to the topic of military medicine. It is articulately written and researched, and Cirillo provides the necessary documentation to support his thesis. The reader does not need to have any medical knowledge to understand fully the medical topics because of Cirillo's clarity of writing. Cirillo is primarily a medical historian rather than a military historian and has one chapter on typhoid Fever in the Anglo-Boer War. Although this was interesting, it serves somewhat as filler, and had no real bearing on the Spanish-American War. Finally, the more serious student of military medicine would get more detail from Nicholas Senn's *Medico-Surgical Aspects of the Spanish-American War*, written in 1900. Despite the comparison with Senn, when you close this book, you will truly have a sense of the medical hardships encountered by American soldiers and the accomplishments by the Army Medical Department during the Spanish-American War.

Note

[1]. Nicholas Senn, *Medico-Surgical Aspects of the Spanish-American War* (Chicago: American Medical Association Press, 1900).

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