

CIVIL WAR MEDICINE

RESEARCH QUESTION: How did medical techniques and/or practices differ between the Union and Confederate forces during the American Civil War (1861-1865) and what new medical techniques were developed?

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Table of Contents:

TABLE OF CONTENTS.....	2
INTRODUCTION.....	3
PRE-CIVIL WAR MEDICINE.....	5
1. EDUCATION.....	5
CONFEDERATE MEDICINE.....	6
1. ORGANIZATION.....	6
2. TRANSPORTATION AND SUPPLIES.....	7
UNION MEDICINE.....	10
1. ORGANIZATION.....	10
2. HOSPITAL QUALITY AND QUANTITY.....	12
DISEASE:A COMMON FOE.....	13
CONCLUSION.....	14
BIBLIOGRAPHY.....	16

Introduction

Long regarded as the deadliest war in American history, the conflict between the northern and southern states over “the power of the national government to prohibit slavery in the territories that had not yet become states” claimed the lives of roughly 620,000 Americans.¹ While this number came from William F. Fox and Thomas Leonard Livermore’s 1889 study of the war, in which combat and casualty records generated over the years were analyzed in depth, it has since been estimated that the true death toll was closer to 850,000.² Many lost their lives to injury acquired in combat or by accident; others perished to starvation or dehydration. However, it is estimated that the “third army”, disease, was the cause of nearly two-thirds of the deaths during the Civil War.³

The years between the beginning of the war in 1861 and its 1865 conclusion are often thought to be part of a great period of darkness in the medical field. Ina Dixon, a graduate research fellow in the Community Histories Workshop (CHW) and a PhD student in American Studies at UNC-Chapel Hill, furthers this view, writing that “from the stench of putrefying flesh wafting through unsanitary and crowded camps to the unglamorous illnesses of syphilis and dysentery, our modern disgust toward Civil War medical practices is generally justified”.⁴ Despite this belief, the Civil War was crucial to the development of practices that made medical care more efficient and effective. Physicians on each side worked to combat similar issues such as limited space and availability of supplies; some developed new methods of medical organization to fit the growing needs of the war. As the daughter of a physician, I was especially fascinated by the creativity of Civil War doctors in their practices.

Compared to modern standards, physicians in the mid-1800s were not fit to practice. Up until around the 1830s, most received their education at Northern schools and received their license without having ever witnessed an operation.⁵ They based much of their knowledge off of medical journals and raw instinct, acting on whatever they felt was medically sound. When the

¹ "Civil War Facts." Civil War Trust.

² Ibid.

³ Sartin, Jeffrey S. "Infectious diseases during the Civil War: the triumph of the 'Third Army.'" PubMed.gov. Last modified April 1993.

⁴ Dixon, Ina. "Modern Medicine's Civil War Legacy." Civil War Medicine. Last modified October 29, 2013.

⁵ Cunningham, Horace Herndon. *Doctors in Gray: The Confederate Medical Service*. N.p.: Pickle Partners Publishing, 2014.

Civil War began and medical care became a necessity, the inexperience of American physicians was quickly brought to light. Each side had to adapt to their unique situations and learn to provide quick treatment, though this often meant a lack of quality. The research question **how did medical techniques and/or practices differ between the Union and Confederate forces during the American Civil War (1861-1865) and what new medical techniques were developed** can thus be explored.

This investigation will examine the differences between not only the medical techniques of the North and South, but the context in which they were used. One source used extensively in this exploration is Horace Herndon Cunningham's *Doctors in Gray: The Confederate Medical Service*. Once a history professor at both Elon College and the University of Georgia, Cunningham offers a detailed view of the unique Confederate medical struggle. His work analyzes how the Confederate dilemma created a need for alternative remedies and uses excerpts from various primary sources to examine ideas surrounding the true availability of supplies, training of Southern professionals, Confederate issues with transportation and organization, and more.

Dr. Robert F. Reilly of the Veterans Affairs North Texas Health Care System provides more insight on the Union experience in his article "Medical and Surgical Care During the American Civil War, 1861-1865". While this article includes general information pertaining to both the Union and Confederate armies, it focuses chiefly on Union statistics. Like Cunningham, Reilly examines internal problems with organization and surgical procedures; however, he fails to mention the solutions developed by either side to combat such problems.

While both the Northern and Southern states faced the problem of ignorance and inexperience, the author of this investigation will argue that their practices differed mainly on the basis that the Southern states lacked access to basic supplies as an invaded and blockaded region while the Union faced a surplus of resources and bodies but horrible disorganization. While these circumstances were not exactly ideal for those men who required treatment during the war, they allowed for important changes to be made that would improve medical standards for generations to come.

Pre-Civil War Medicine: Little training, little experience

1. Education

As mentioned earlier, the only medical schools in the early 1800s that existed outside of the offices of retired practitioners were located in Northern states- Harvard and the University of Pennsylvania both had excellent medical schools at which attendance was highly sought after.⁶ The average person could potentially pursue a medical degree, as most medical schools did not require any sort of entrance exam or prerequisite work. Before the founding of the first Medical College of South Carolina in 1824, most prospective Southern students had to go north to earn their doctoral degree; typically, “the better schools in the North gave a four-or five-month course of lectures to doctoral candidates...this standard was [later] adopted in the South”.⁷ The usual two years of medical school were structured so that the first year consisted of lectures given in two 4-month semesters while the second year was a repetition of the first. Some Southern schools even increased their term, opting for six- or nine-month courses that would allow “more time for anatomical demonstrations and study”.⁸ Despite this extra allocated time, many graduates began their career without having observed an operation. Those who could perform surgery had usually been trained at one of the major hospitals in an operating room with large “capital” instrument sets containing saws and large knives.⁹ At the time, medical schools “were more like proprietary schools...there was a large entrance fee and as a result very few students ever failed”.¹⁰

When beginning their practice, most young doctors had little to work on aside from their basic instinct and knowledge. In his book *Doctors in Gray: The Confederate Medical Service*, Horace Cunningham outlines how “the early operations of South Carolina’s James Marion Sims, an outstanding graduate of Jefferson Medical College, were ‘carried out largely by instinct’ and based on descriptions of operative surgery in medical journals”. His first practicing kit consisted only of a set of surgical instruments, a supply of medicine, and a seven volume set of medical books.¹¹ It was not uncommon for doctors to prescribe, compound, and dispense their own

⁶ Cunningham, Horace Herndon. *Doctors in Gray: The Confederate Medical Service*.

N.p.: Pickle Partners Publishing, 2014.

⁷ Ibid.

⁸ Ibid.

⁹ Burns, Stanley B. "Surgery in the Civil War." Mercy Street.

¹⁰ Reilly, Robert F. "Medical and surgical care during the American Civil War, 1861-1865." *Baylor University Medical Center Proceedings*, April 2016.

¹¹ Cunningham, Horace Herndon. *Doctors in Gray: The Confederate Medical Service*. N.p.: Pickle Partners Publishing, 2014.

medications without significant knowledge.¹² It was also an issue that American medical literature, upon which many physicians relied for guidance, was incredibly inferior to those written in Europe. Cunningham explains how rather than “drawing from their own study and experience...many Americans edited books written by British medical men”.¹³ One practitioner in particular felt that “the sick ‘would be better off if they trusted entirely to nature rather than to the haphazard empiricism of the doctors, with their blistering, bleeding, and monumental dosing’”.¹⁴

Confederate Medicine: the difficulty of care in an isolated and targeted region

In order to understand the key differences between medical techniques used by the North and the South during the Civil War, the investigation will first examine the complexities of Confederate medicine.

1. Organization

At the beginning of the war, it was difficult to estimate the number of professionals needed to tend to the wounded and dying. The “Act for the Establishment and Organization of a General Staff for the Army of the Confederate States of America”, which was authorized on February 26, 1861, helped to provide for a Confederate medical department that consisted of one Surgeon General, four surgeons, and six assistant surgeons.¹⁵ An increased number of army medical staff was needed as epidemics such as measles, typhoid fever, and malaria spread throughout the camps; consequently, Secretary of War Leroy Pope Walker made a recommendation to the President and the Congress authorized the “addition of six surgeons and fourteen assistant surgeons to the regular army’s medical department”.¹⁶ As the war continued to progress, the President decided to “appoint in the provisional army as many surgeons and assistant surgeons for the various hospitals of the Confederacy, as may be necessary”.¹⁷

By 1864, the structure of the Confederate medical department had improved greatly. There were six medical officers on duty in the Surgeon General’s office, eighteen surveyors working as medical directors in the field, eight medical directors of hospitals, six field medical

¹² Reilly, Robert F. "Medical and surgical care during the American Civil War, 1861-1865." *Baylor University Medical Center Proceedings*, April 2016.

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Ibid.

¹⁷ Cunningham, Horace Herndon. *Doctors in Gray: The Confederate Medical Service*. N.p.: Pickle Partners Publishing, 2014.

inspectors, and seven medical inspectors of hospitals.¹⁸ Medical boards were established to examine applicants for appointment as assistant surgeons, as well as to examine assistant surgeons for promotion. The number of principal hospitals also increased. Despite these improvements, it was still obvious that the Confederate medical department was inferior to that of the Union in its number of physicians for the amount of patients it received. Mary Bedinger Mitchell, a girl who once worked caring for the wounded in Shepherdstown, Virginia, recalled how a Federal soldier once said to her, “‘I was always sorry for your wounded; they never seemed to get any care.’ The remark was extreme, but there was too much justice in it. There was little mitigation of hardship to our unfortunate armies...we were fond of calling them Spartans, and they were but too truly called upon to endure a Spartan system of neglect and privation...”¹⁹

2. Transportation and supplies

Perhaps this “privation” that Bedinger mentioned had something to do with the difficulties that came with being an invaded and blockaded country. In his investigation of Northern and Southern medical practices, Jim Surkamp asserts that “transportation to hospital centers was hindered, especially as the Western armies of the Federal government began infiltrating the eastern South and Tennessee and especially in Georgia, which disrupted not only production but...transportation systems”.²⁰ Availability of ambulances in the South was limited, partly due to Southern manufacturing. Towards the end of the war, the Confederacy’s transportation system completely collapsed; both wagon and railroad transportation broke down and “needed supplies arrived tardily at their destination, if at all”.²¹

Indeed, supplies were a specific concern of the Southern doctor. The blockade prevented certain types of supplies that were not indigenous to the South from getting in; because of this, claims Surkamp, “Confederates had to rely very heavily on indigenous supplies of indigenous plants, bandages from the home front and other things that quite frankly they simply weren’t able

¹⁸ Ibid.

¹⁹ Surkamp, Jim. "North-South Medicine Compared - George Wunderlich." Civil War Scholars. Last modified October 12, 2011.

²⁰ Surkamp, Jim. "North-South Medicine Compared - George Wunderlich." Civil War Scholars. Last modified October 12, 2011.

²¹ Cunningham, Horace Herndon. *Doctors in Gray: The Confederate Medical Service*. N.p.: Pickle Partners Publishing, 2014.

to either manufacture, to transport, or to import”.²² This often forced Confederate doctors to get creative. When anesthesia was not easily available, Dr. Julian John Chisolm invented a 2.5-inch inhaler which allowed chloroform to drip “through a perforated circle on the side onto a sponge in the interior; as the patient inhaled through tubes, the vapors mixed with air”.²³ This method saved the lives of countless Confederate soldiers with a fraction of the supplies.

In order to meet the growing needs of the medical and surgical units, supplies were purchased abroad and snuck in “as contraband through the blockade, obtained through the lines, captured from the enemy, furnished by private and state agencies and purchased or manufactured within the boundaries of the beleaguered Southern Confederacy”.²⁴ The South quickly established purchasing agents abroad to contract medical supplies in addition to ordnance, and it was not uncommon for drugs to be found on every ship entering a Confederate port.²⁵ These drugs were so widely used that it was estimated that during the last two years of the war, General Robert E. Lee’s army “was dependent for ‘chloroform, morphine, quinine, blue mass, paragoric, laudanum, and digitalis almost entirely on the blockade runners”.²⁶ The runners were often difficult to intercept, and thus were an excellent source of supplies.

Internal trade with the enemy was another method through which Southern doctors acquired their necessities. Often, drugs were sent southward in exchange for cotton, which was one resource that the South had an excess of. Contraband was smuggled across the state borders in everything from the bellies of dead horses to coffins to the hoop skirts of women, who were typically not searched by soldiers.²⁷ If their armies were invading a certain area, surgeons “did not hesitate to visit drug stores and doctors’ offices for the purpose of appropriating needed supplies...Union medical officers who remained with their captive wounded after the battle of Chancellorsville asserted that Confederate surgeons took their instruments and made it impossible for them to render proper assistance to their troops”.²⁸

²² Surkamp, Jim. "North-South Medicine Compared - George Wunderlich." Civil War Scholars. Last modified October 12, 2011.

²³ Rowe, Chip. "5 Medical Innovations of the Civil War." Mental Floss. Last modified January 9, 2015.

²⁴ Cunningham, Horace Herndon. *Doctors in Gray: The Confederate Medical Service*. N.p.: Pickle Partners Publishing, 2014.

²⁵ Ibid.

²⁶ Ibid.

²⁷ Cunningham, Horace Herndon. *Doctors in Gray: The Confederate Medical Service*. N.p.: Pickle Partners Publishing, 2014.

²⁸ Ibid.

Native remedies were especially common in Southern medical care. Surgeon General Moore was quite adamant in his belief of indigenous remedies, so much so that he requested that F. Peyre Porcher to make a “supply table” detailing the resources available on Southern land.²⁹ Plants such as “Georgie bark, white willow, Indian physic, skunk cabbage, wild cherry bark, pipsissewa, and cranesbill” were marked at particularly high prices.³⁰ To capitalize on these resources, pharmaceutical laboratories were developed for manufacturing.

Cunningham describes how in 1862, “a congressional investigating committee stated...that the medical stores for the army were generally ‘incomplete and insufficient in many of the leading and necessary articles for the prevailing diseases’”.³¹ Quinine was one supply that was especially sought after; if there was a shortage, Southern doctors typically used native remedies as a substitute. The committee also found that there was “a great deficiency in surgical instruments and noted that those in use were ‘often very inferior and ill adapted to the service’”.³² Sometimes, units were found without any sort of surgical equipment.

Despite this common belief, some evidence suggests that there was never actually a shortage of any supplies. Specifically, Surgeon Deering J. Roberts “found that many of the doctors in gray always had an abundant supply of quinine, morphine, and chloroform- the most important drugs of all”.³³ While there was sometimes an imbalance between which regions had which supplies-at one point in South Carolina, quinine “was so abundant that it was being used as a prophylactic”-the general consensus was that there was not much of a supply problem.³⁴ However, later in the war, lack of supplies did become increasingly evident, as “at certain times supplies could not be moved from the depots simply because of the lack of packing boxes and bottles, and unsuccessful efforts were made at some of the laboratories to produce the latter”.³⁵

29 Confederate States of America. Surgeon-General’s Office. (1863). “Standard Supply Table of the Indigenous Remedies for Field Service and the Sick in General Hospitals.” Documenting the American South: The University of North Carolina Library. 19 July 2001 Web. 28 Dec. 2010.

30 Cunningham, Horace Herndon. *Doctors in Gray: The Confederate Medical Service*. N.p.: Pickle Partners Publishing, 2014.

31 Ibid.

32 Ibid.

33 Ibid.

34 Ibid.

35 Ibid.

Union Medicine: lots of resources and bodies, little organization

The Union medical department undoubtedly had more doctors and volunteers at its disposal; however, like the Confederates, they were not necessarily prepared for a war on such a large scale and their practices were comparable to the Southern inexperience.

1. Organization

At the beginning of the war, the United States had a peacetime army of 16,000 soldiers and only 113 doctors in the army.³⁶ There was no ambulance corps and no coordination of medical care; “regimental surgeons could, and often did, refuse to treat the wounded from other regiments”.³⁷ The largest military hospital was at Fort Leavenworth with only 40 beds.³⁸

The Battle of Bull Run in Manassas, Virginia in 1861 was a rude awakening for the Union. Hundreds of men who had been wounded “lay abandoned for days on the battlefield for lack of an ambulance corps, while the ambulatory wounded wandered the streets of Washington looking for a hospital bed”.³⁹ There had been ambulances driven by civilians prior to the battle; however, they fled when the first shots were fired.⁴⁰ Stretcher bearers, which helped in removing the wounded from the field, were members of the regimental band and also fled when the battle began.⁴¹ Perhaps even more upsetting was that Surgeon General Finley “did not order medical supplies until after the battle was over”.⁴²

Following the Battle of Bull Run, Jonathan Letterman developed a flow chart for treating soldiers.⁴³ It “started with dressers along the battlefield...who treated minor wounds and injuries with what was the first systematic use of first aid. Those with more serious problems would be

³⁶ Reilly, Robert F. "Medical and surgical care during the American Civil War, 1861-1865." *Baylor University Medical Center Proceedings*, April 2016.

³⁷ Latson, Jennifer. "How a Bloody Civil War Battle Changed Modern Medicine." *Time.Com*(September 18, 2014): N.PAG. MasterFILE Premier, EBSCOhost (accessed September 4, 2017).

³⁸ Reilly, Robert F. "Medical and surgical care during the American Civil War, 1861-1865." *Baylor University Medical Center Proceedings*, April 2016.

³⁹ Latson, Jennifer. "How a Bloody Civil War Battle Changed Modern Medicine." *Time.Com*(September 18, 2014): N.PAG. MasterFILE Premier, EBSCOhost (accessed September 4, 2017).

⁴⁰ Reilly, Robert F. "Medical and surgical care during the American Civil War, 1861-1865." *Baylor University Medical Center Proceedings*, April 2016.

⁴¹ Ibid.

⁴² Ibid.

⁴³ Givens, Ron. "Father of Emergency Medicine." *American History*. Feb 2009, Vol. 43 Issue 6, p17-17. 2/3p.

transported by ambulance or by members of the newly created system of stretcher bearers to a field hospital...where the best-qualified surgeons would care for those in critical need”.⁴⁴ With Letterman’s help, ambulances also had more standard supplies and commodities and their crews had better training. The development of the ambulance corps helped to save thousands of lives that would have previously been lost to inefficiency.

2. Hospital quality and quantity

In 1862, Civil War nurse and later famous American poet Walt Whitman visited the camp hospital of the Army of the Potomac in Falmouth, Virginia and reported seeing ““a heap of amputated feet, legs, arms, hands...a full load for a one-horse cart’ ...and ‘several dead bodies’ lying near”.⁴⁵ The hospital itself was “a brick mansion...Whitman observed that it was ‘quite crowded, upstairs and down, everything impromptu, no system, all bad enough, but I have no doubt the best that can be done; all the wounds pretty bad, some frightful, the men in their old clothes, unclean and bloody’”.⁴⁶ This was not an uncommon sight early in the war, as the medical team struggled to accommodate all of the wounded and dying. These makeshift hospitals were soon replaced by “clean, well ventilated and large pavilion-style hospitals” designed by Surgeon General William A. Hammond, who “standardized, organized and designed new hospital layouts and inspection systems and literally wrote the book on hygiene for the army”.⁴⁷

The alarming amount of patients and injuries allowed Union doctors to become experts at their craft. While initially accused of using amputation too freely, the methods developed by Civil War surgeons became the most effective and widely used. Union surgeons “lost only about 25 percent of their patients-compared to a 75 percent mortality rate among similarly injured civilians at the time”.⁴⁸ Amputation helped to turn complex injuries into simpler ones, and techniques such as “cutting as far from the heart as possible and never slicing through joints...became the standard”.⁴⁹ Other methods such as using metal sutures and layers of lint

⁴⁴ Ibid.

⁴⁵ Dixon, Ina. "Modern Medicine's Civil War Legacy." Civil War Medicine. Last modified October 29, 2013.

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ Rowe, Chip. "5 Medical Innovations of the Civil War." Mental Floss. Last modified January 9, 2015.

⁴⁹ Ibid.

bandages to create airtight seals to treat chest wounds also emerged.⁵⁰ Gurdon Buck, a New York doctor known as the father of modern plastic surgery, helped to pioneer “plastic operations” to repair the faces of disfigured soldiers and using tiny sutures to minimize scarring.⁵¹

One factor that contributed greatly to a high rate of non combat-related illness was the overcrowded and filthy camps. Latrines “were often not used or were drained into drinking water supplies or not covered daily....[food] was poorly stored, poorly cooked, and lacked enough vitamin C to prevent scurvy”.⁵² In order to combat these problems, a series of rules were often put into place, such as making soldiers bathe twice a week and storing latrines at least 8 feet deep and covering them with at least 6 inches of dirt daily. Even after these precautions were put into place, typhoid fever, which resulted from exposure to fecally contaminated food and water, was still a major issue. It killed 17% of affected soldiers in 1861 and an astounding 56% by 1865.⁵³

Northern troops also faced new and dangerous conditions in the south that they may not have been exposed to previously. Southern climate and terrain proved to be significant problems in the health of Union soldiers. In the South, Yellow fever quickly became an issue. It was known as the “stranger’s disease” because it “often affected newcomers to the area”; several outbreaks occurred in Texas and New Orleans.⁵⁴ Malaria, caused by mosquito bites, was especially common in southern states such as Arkansas and Mississippi. It was discovered by William H. Van Buren that quinine could be used to prevent malaria; Southern states did not have a large enough supply to use it in this way, so in this circumstance the Union actually had the medical advantage.⁵⁵

⁵⁰ Ibid.

⁵¹ Ibid.

⁵² Ibid.

⁵³ Ibid.

⁵⁴ Reilly, Robert F. "Medical and surgical care during the American Civil War, 1861-1865." *Baylor University Medical Center Proceedings*, April 2016.

⁵⁵ Ibid.

Disease: A common foe

Disease was a serious problem for both sides. According to Jeffrey S. Sartin in the Division of Infectious Diseases in Rochester, Minnesota, “unsound hygiene, dietary deficiencies, and battle wounds set the stage for epidemic infection, while inadequate information about disease causation greatly hampered disease prevention, diagnosis, and treatment”.⁵⁶ He even goes so far to suggest that the diseases played a major role in halting “several major campaigns” and even “prolonged the fighting by as much as two years”.⁵⁷

Horace Cunningham suggests that on the Confederate side, inadequate physical examinations, new troops, ignorance, neglect of camp hygiene, and exposure were just a few of the causes of disease. Like the Northern doctors, Southern physicians worked to combat these diseases with strict rules and regulations; however, these often worked to no avail. “Despite their deficiencies in many respects,” Cunningham writes, “medical officers met the diseases they encountered with all the knowledge, experience, and skill they possessed...they were up against almost overwhelming problems created by the military situation”.⁵⁸

The statistics for the Union army show just how overwhelming disease could be. An average of 711 per thousand men died of diarrhea or dysentery; an average of 584 per thousand died from various camp fevers; an average of 261 per thousand died from respiratory ailments and an average 252 per thousand died from digestive disorders.⁵⁹ Unfortunately, soldiers were more likely to die from disease than from combat-related injuries.

Disease was still widely misunderstood at the beginning of the war. Before the germ theory of disease was established, disease “was thought to be a result of either direct or indirect inflammation. Indirect inflammation was thought to be caused by excess blood flow to a tissue...”.⁶⁰ In 1865, the year the war ended, “Louis Pasteur was asked to study the silkworm disease that was destroying the French silk industry. His conclusion that the worms were infected with a microorganism that was contagious and hereditary led to further investigations confirming

⁵⁶ Sartin, Jeffrey S. "Infectious diseases during the Civil War: the triumph of the Third Army." PubMed.gov. Last modified April 1993.

⁵⁷ Ibid.

⁵⁸ Cunningham, Horace Herndon. *Doctors in Gray: The Confederate Medical Service*. N.p.: Pickle Partners Publishing, 2014.

⁵⁹ Flannery, Michael A. 2005. "Civil War Medicine: Approaches for Teaching." *OAH Magazine Of History* 19, no. 5: 41-43. History Reference Center, EBSCOhost (accessed September 4, 2017).

⁶⁰ Reilly, Robert F. "Medical and surgical care during the American Civil War, 1861-1865." *Baylor University Medical Center Proceedings*, April 2016.

his germ theory of medicine”.⁶¹ Had this theory been known during the war, it likely could have saved countless number of lives and prevented such unsanitary practices that many surgeons and physicians used, such as operating with dirty hands and not properly sanitizing between patients. It was also not uncommon for surgeons to hold their knives in their mouths and for sutures to be soaked with saliva, both of which could potentially spread disease.⁶²

Disease played a major role in determining the course of the war itself. Many times, generals were forced to withdrawal or failed to engage in conflict because their soldiers were ridden with illness. Flannery even suggests that disease was a sort of ally to the North, as the “North could rely on more and more replacements, as huge numbers of immigrants and country youth from New England and the Midwest sought adventure in the field. The South had no similar reserves”.⁶³

Conclusion

Through the examination of several factors which made Union and Confederate medical care unique, this investigation concludes that while both sides faced common problems such as disease and lack of general medical knowledge, the medical techniques used differed mainly on the premise that the Confederates were typically forced to use alternative methods as an invaded and blockaded country than those used by the Union, which had a great amount of people and volunteers but little organization. The Confederates did not have the access or numbers that the Union had; however, the lack of availability of supplies allowed them to invent new procedures and be more creative in their distribution of care.

While the Civil War may have been in the medical “dark ages” compared to modern knowledge, the sheer brutality and scale of the war allowed for significant advancements to occur. Doctors took their obstacles in stride and worked to improve the standard and efficiency of medical care, designing better medical techniques and organizing more functional hospital systems. Record keeping emerged, as the “accumulation of adequate records and detailed reports

⁶¹ Flannery, Michael A. 2005. "Civil War Medicine: Approaches for Teaching." OAH Magazine Of History 19, no. 5: 41-43. History Reference Center, EBSCOhost (accessed September 4, 2017).

⁶² Burns, Stanley B. "Surgery in the Civil War." Mercy Street.

⁶³ Flannery, Michael A. 2005. "Civil War Medicine: Approaches for Teaching." OAH Magazine Of History 19, no. 5: 41-43. History Reference Center, EBSCOhost (accessed September 4, 2017).

for the first time permitted a complete military medical history. This led to the publication of the Medical and Surgical History of the War of the Rebellion, which was identified in Europe as the first major academic accomplishment by US medicine”.⁶⁴ As the country struggled to reconstruct following the war, medicine was well on its way to further development and growth.

⁶⁴ FW, Blaisdell. “Medical Advances During the Civil War.” PubMed.gov

Bibliography

Burns, Stanley B. "Surgery in the Civil War." Mercy Street.

Confederate States of America. Surgeon-General's Office. (1863). "Standard Supply Table of the Indigenous Remedies for Field Service and the Sick in General Hospitals." Documenting the American South: The University of North Carolina Library. 19 July 2001 Web. 28 Dec. 2010.

Cunningham, Horace Herndon. *Doctors in Gray: The Confederate Medical Service*. N.p.: Pickle Partners Publishing, 2014.

Dixon, Ina. "Modern Medicine's Civil War Legacy." Civil War Medicine. Last modified October 29, 2013.

Flannery, Michael A. 2005. "Civil War Medicine: Approaches for Teaching." OAH Magazine Of History 19, no. 5: 41-43. History Reference Center, EBSCOhost (accessed July 8, 2017).

FW, Blaisdell. "Medical Advances During the Civil War." PubMed.gov.

Givens, Ron. "Father of Emergency Medicine." American History. Feb2009, Vol. 43 Issue 6, p17-17. 2/3p.

Latson, Jennifer. "How a Bloody Civil War Battle Changed Modern Medicine." Time.Com (September 18, 2014): N.PAG. MasterFILE Premier, EBSCOhost (accessed June 14, 2017).

Reilly, Robert F. "Medical and surgical care during the American Civil War, 1861–1865." *Baylor University Medical Center Proceedings*, April 2016, 138-42.

Rowe, Chip. "5 Medical Innovations of the Civil War." Mental Floss. Last modified January 9, 2015.

Sartin, Jeffrey S. "Infectious diseases during the Civil War: the triumph of the 'Third Army.'" PubMed.gov. Last modified April 1993.

Surkamp, Jim. "North-South Medicine Compared - George Wunderlich." Civil War Scholars.
Last modified October 12, 2011.