

*'Biting the Bullet': How Civil War Medicine has been Misunderstood*

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*An analysis of Civil War Medical advancement throughout the conflict, leading to the creation of a Medical Complex that was competent as its European Counterparts*

## Intro

Civil War medicine has been misunderstood, as media and historical works have created a narrative presenting this era as a disorganized period of medical history. As a prominent example, the Academy Award-winning movie *Dances with Wolves* portrays the shortcomings of Civil War medicine in the opening scene as the protagonist prefers to try to die on the battlefield rather than trust the surgeon who was preparing to amputate his leg. This demonstrates the overall morbidity of the event, and the dire situation Kevin Costner's Character John Dunbar is presented with. Coincidentally, Lieutenant Dunbar even uses his belt to circumvent the pain from pulling his boot up.<sup>1</sup> Even scholarly books create a narrative that survival overall was difficult; the National Bestseller, *This Republic of Suffering* uses its preface to address the hardships. Utilizing statistics like "a soldier was five times more likely to die than he would have been if he had not entered the army."<sup>2</sup> paints a grim image of being a soldier during the American Civil War, aiding in creating a misleading narrative. Regardless of these perspectives, there were significant changes to policy and strategy within the medical corps of the Union effort that did alter the standards considerably.

Modern accounts of the conflict depict a time of nonexistent standards and insufficient materials, although sources from the era complicate this understanding. Moreover, as the deadliest conflict the United States has ever been a part of, many medical lessons can be learned from this 150-year-old war. Before dismissing the failures of this conflict from a medical perspective, it is imperative to look at the fine

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<sup>1</sup> *Dances with Wolves- Final Draft*, directed by Kevin Costner (1990; South Dakota, United States: Orion Pictures, 1990), DVD

<sup>2</sup> Faust, Drew Gilpin. 2008. *This Republic of Suffering: Death and the American Civil War*, Penguin Random House LLC, New York, March 2024, xii

details to understand significant changes within the military medical framework. Contrary to the notion in modern media, doctors' roles were essential in the American Civil War; they pursued creating the best opportunity for the soldiers to survive. Having policy changes at the highest level from experienced medical officers, structure was added to the Military Medical Complex, allowing for meaningful change. Looking at the personal work of select members of the Union medical cause and the subsequent plans and policies implemented during the conflict, it becomes evident that momentous changes occurred throughout the war.

Understanding the medical changes during the Civil War requires a nuanced approach. It's not just about the policies and strategies; it's about the people behind them and the context in which they contributed. For instance, the policy changes mentioned in "Circular No. 2" (1862) and the findings in *A Treatise of Hygiene* (1864) reflect the ideologies of William Hammond and his impact on the Armed forces as the US Army Surgeon General. Similarly, the work in "The Letterman Plan" and the personal reflections in *Medical Recollections of the Army of the Potomac* shed light on Jonathan Letterman's influence. These accounts, along with *Learning from the Wounded*, reveal that positive changes were indeed made during this conflict.

The accounts from the officers above speak on policy change within the Army, yet implementing such was just as important. Figures like Clara Barton were necessary for this, as her supplies and transport efficiency were instrumental in the cause. When comparing this concise effort to maximize the changes within the medical corps, these actions pale compared to previous efforts. From an Army with high dysentery rates during the Mexican-American War to a Surgeon General who thought scientific studies were a waste of funds, the changes made during the Civil War were significant. The

combination of simple yet adequate directions from superiors to Chief officers encouraging these ideals and having individuals who could materially support the effort created the best opportunity for effective treatment from the medical corps in the war.

## Historiography

While advancements were made during the conflict, other recent media does not always reflect this when addressing medicine in the Civil War. The American Civil War to date is the deadliest conflict in United States history, and correlating the high loss of life with inadequacies regarding the application of medicine can be an easy parallel to make. This is demonstrated in the work by Shauna Devine, *Learning from the Wounded*, as it dives into the numerous setbacks of medicine at the time. In the Introduction of her book, she highlights the notion of inexperienced surgeons hacking limbs without much discourse before attempting the action.<sup>3</sup> In conjunction with the letters and photographs that emerged from the war, this made it difficult to claim that the medical corps were successful during the conflict. From overall overcrowding and poor working conditions, it becomes clear that the medical staff had variables against them.<sup>4</sup> Regardless, they persevered and gradually improved after 1861, and throughout the conflict.

The war's success in terms of change in the medical corps was quite different from the goals of the previous era for the field of medicine within the Army. Devine

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<sup>3</sup> Shauna Devine, *Learning from the Wounded: The Civil War and the rise of American medical science*, (Chapel Hill: The University of North Carolina Press, 2014), page 1

<sup>4</sup> Ibid, "Introduction", 8

writes that the last significant Surgeon General, Thomas Lawson, was the epitome of old-school leaders within the Army's medical corps.<sup>5</sup> Lawson was trained by a mentor rather than educated in medicine, which could be limiting in its coverage, and his career, he traditionally preferred working in areas of medicine he enjoyed. Additionally, there were times that Lawson attempted to function as an Army Officer more than a Medical Director, leaving the medical personnel disorganized. Even in an administrative role, Lawson was not keen on having medical studies take place, as he believed they were a waste of funding.<sup>6</sup> With a leader in power possessing this background and ideals, it is apparent that many values of the medical complex have been overlooked.<sup>7</sup> Even right as the Civil War began, SD Gross published a book on Surgery that was meant to be a reference source, demonstrating how medical care could be missing aspects. Numerous chapters highlighted techniques and strategies when operating and proceeding, yet only around 20 pages and a chapter were dedicated to hygiene.<sup>8</sup> This chapter rarely talks about the conditions of the camp or hospital. Instead, it is a commentary on food and water conditions. While also meaningful, it unaddressed many factors and variables, leading to misunderstandings. Gross and Lawson were not malicious in their actions; they were unaware of the impact of their lack of decisions on crucial aspects of health, as it cost the Union effort heavily early in the conflict.

With both men, they demonstrate certain areas of the medical world that were lacking going into the 1860s within the United States. During this era, there was a

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<sup>5</sup> Shauna Devine, *Learning from the Wounded: The Civil War and the rise of American medical science*, (Chapel Hill: The University of North Carolina Press, 2014), page 13

<sup>6</sup> "Surgeons General Thomas Lawson", AMEED Center of History and Heritage, Accessed January 2024

<sup>7</sup> Ibid, "Introduction", 14

<sup>8</sup> Samuel Gross, "Military Hygiene", *A Manual of Military Surgery*, (JB Lipincott & Co: Philadelphia), 1861, viii

massive lack of standardization and little regulation regarding whether someone could be a doctor or a medical professional. Some might have learned from an effective mentor and become a successful medical professional, yet it leaves too much up to chance that everyone would have an effective teacher. Paul Ackernacht wrote a book called *Medicine in a Paris Hospital, 1794-1848*, and demonstrated where the French Standards were during this time. From a mandatory education to a board of physicians at the highest level for medical matters, there were definite standards within the French system. They had 12 elected officials, all focused on improving and advancing medicine.<sup>9</sup> The government sanctioned this, and it would directly impact France's medical success for the nineteenth Century.

Meanwhile, US Doctors during the 1840s would sometimes travel abroad to foreign institutions to learn rather than the limited education in the US. From only having professors teaching classes they liked to no regulations of teaching standards, no two universities taught the same curriculum. Even the regulations were in flux, as ““Of five anatomy acts enacted in the United States before the 1860s, three were repealed, leaving only two states with such legislation on the eve of the Civil War.”<sup>10</sup> It is evident why the US did not have a robust system before the war, yet it makes the massive change occurring in the early 1860s impressive.

With modern media's depiction of the topic, it is not usually covered head-on; rather, it can be seen as a scapegoat for failures during the war. In *This Republic of Suffering*, the psychological impact of poor medical practice significantly contributes to

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<sup>9</sup> Erwin Ackherknecht, *Medicine at the Paris Hospital: 1794-1848*, (Baltimore: Johns Hopkins Press, 1967), 37.

<sup>10</sup> Shauna Devine, *Learning from the Wounded: The Civil War and the rise of American medical science*, (Chapel Hill: The University of North Carolina Press, 2014), page 173

the torment, yet it is far from the only cause. This argument is emphasized by statements like “The war took young, healthy men and rapidly, often instantly, destroyed them with disease or injury.”<sup>11</sup> This language creates a narrative that this conflict welcomed death, regardless of impactful factors like medicine. Having sentiments similar to this creates an image that the medical professionals of the era were unprepared for this event. These points hold merit, as American interests before the war did not always focus on military organization; they concentrated on overall success and how that correlated to financial gain. Numerous books discuss medicine’s shortcomings and how many eventually died during the American Civil War. Having someone look deeper into the conflict is necessary, as numerous truths emerge regarding the changes that occurred during the war. Other scholarly sources refer to the era’s medicine as weak and not up to international standards, especially regarding responses to battlefield injuries. This was an apparent issue; even opinion pieces from the era reflected this, but the changes made in response to the failure made this period unique.

Compounding on these issues within the medical complex of the United States, numerous publications speak about the innovations of foreign medical standards and practices during this era. As seen in “The Development of Triage,” significant changes to the British and French systems benefitted the Army’s overall success. Starting in the Napoleonic era, the French created the first ambulance corps, which focused on handling the wounded of the Army on the battlefield.<sup>12</sup> The term ambulance’s initial use referred to the mobility of surgeon crews and medical personnel to create mobile

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<sup>11</sup> Drew Gilpin Faust, 2008. *This Republic of Suffering : Death and the American Civil War*, Penguin Random House LLC, New York, Accessed March 2024, xii

<sup>12</sup> Robert Slawson, “The Development of Triage”, National Museum of Civil War Medicine, June 19<sup>th</sup>, 2017

hospitals to treat the afflicted. Under this system, standards for dealing with the most seriously wounded occurred first, which would progress until all were administered aid.<sup>13</sup> This would become a necessary aspect of any Army moving forward in history. Even the United States would attempt to implement this during the war. These general ideas would be tweaked during the Crimean War, as French and British customs combined.

Improvements in dealing with the wounded were present from the French's ambulatory practices to the British field hospitals. Even the Russians had a system to assist the injured, as they adopted Western principles. They even created an ambulatory system with four categories to be sorted to manage wound priority. These various stages of growth regarding military medicine were groundbreaking for the time. They posed a new opportunity for the United States to acquire these ideas.

US advisors were sent in the later stages of the Crimean War to observe the overall conflict. As demonstrated in "The US military Commission to the Crimean War, 1855-1856," this was a learning period where gaining knowledge from leading powers like Great Britain, France, or Russia was possible. From improvements in how to set up a camp to the organization of field hospitals, numerous observations were made on how to improve the efficiency of the battlefield.<sup>14</sup> This was a necessary step for the United States, as their abysmal record in the Mexican American war demonstrated a need for a medical organization within the military complex. For the advisors present in this conflict, ideas were instilled on how to create an efficient system. The United States was trying to find its foothold within the international audience; it would not stop until

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<sup>13</sup> Arthur T Frame, "The U.S. Military Commission to the Crimean War, 1855-1856", Army Command and General Staff at Fort Leavenworth Kansas, June 3<sup>rd</sup>, 1983, page 24

<sup>14</sup> Ibid, "Conclusion", 70-71



viewed as a world power. This created a focus on overall conquest and domination rather than having a more well-rounded approach to improving facets of medicine, so having advisors present would be essential. Taking time to learn from three major powers would be a chance to alter the military from a medical perspective immensely.

### Military Medicine in the Late Antebellum Period

In lieu of the American Civil War, there was a quiet period within the US Army, resulting in downsizing. This left the corps underprepared for the conflict that awaited them. Before this compromising position, the US had a strong force in the late 1840s, as they would assemble for the Mexican-American War of 1846-48. This was not a fruitful endeavor for the Americans, as they did achieve their intended goal of containing the Mexican Territory yet suffered tremendously to achieve this objective. The Army had a momentous task trying to stop the Mexicans, and because of how widely dispersed the Army was, there was significant disorganization within the units—having such a widespread force allowed for many accidents to occur and enforcement of an Army without standardization.<sup>15</sup> With these factors, the US was not in a position to fully succeed; they would be in an advantageous position to fight for every inch.

In addition to the hard fighting witnessed during this conflict, there was massive suffering on the disease front during the War. In the short two years of the Mexican-American War, there were excessive fatalities from diseases like dysentery. By the end of the War, over 80% of all deaths were related to disease, as poor camp and regimental

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<sup>15</sup> Vincent Cirillo, "More Fatal than Powder and shot: dysentery in the U.S. Army during the Mexican War, 1846-48," *Perspectives in Biology and Medicine*, Vol. 52 (2009) Page (409)

conditions created an environment that bred unsanitary conditions.<sup>16</sup> This conflict would have a rate of 7:1 for deaths from disease to combat fatalities.<sup>17</sup> Being in the warmer climate of Mexico, there was an increased prevalence of disease conditions. It is essential to adjust the procedures of the Army when exposed to harsh conditions, so not having any standards only leaves an opportunity for mass casualties. This disease is something anyone can contract, as contaminated water can carry E. coli., a primary driver of this disease. Once dysentery is contracted, weight loss, fever, vomiting, and diarrhea are common symptoms, which all are detractors from a soldier effectively fighting.<sup>18</sup> Since this disease can be contracted by multiple means, it is essential to have clean living conditions and sanitation near food and water. The lack of priority on efficient camps led to heightened rates of dysentery, reaching as high as 88% casualty rate from disease during the Mexican American War. While all fatalities from the conflict might not have been prevented, there was expansive room to improve the standards within camps to limit this.

After the Mexican-American War, the United States had a lull in conflict, which allowed the corps to send ambassadors to other international conflicts to learn. During the 1850s, the Crimean War began to rage by 1853, allowing the US to learn from the world powers involved. Primarily observing the French and British, the Americans witnessed the improvements Europe had undergone from a military perspective. Napoleonic Tactics began to fall to the wayside, and the efficiency of Armies was emphasized. The French were the first country to have a committed ambulance corps,

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<sup>16</sup> Vincent Cirillo, "More Fatal than Powder and shot: dysentery in the U.S. Army during the Mexican War, 1846-48," *Perspectives in Biology and Medicine*, Vol. 52 (2009) Page (400)

<sup>17</sup> Ibid, (402)

<sup>18</sup> Ibid, (405-406)

and by the 1850s, efficient horse teams were working to take the wounded off the battlefield. In conjunction with a four-tiered system to deal with the injured, the French made numerous improvements to their system. In conjunction with the British use of Field Hospitals, a newer, more applicable system to treat the wounded was being utilized in Crimea. The Russians also had an intricate system, similar to the French, for diagnosing the injured, improving their efficiency.<sup>19</sup> Across all three nations at War, they had much lower rates of disease and overall, more sanitary conditions. With a Disease to combat ratio of 3:1, this was a significant improvement over the rates seen by the US in the Mexican-American War. Not only were the advisors of the US able to witness this conflict unfold, but doctors were able to write about their experiences, creating guidelines for future doctors to follow.

Even with the preparation and learning acquired during the Crimean War, little could be implemented by the opening shots of the Civil War. At the Battle of Bull Run, it was evident that there was a significant need for an ambulance corps within the Union Effort. Specific soldiers even claimed that they were in the field for days; lives were impacted irreversibly by the slow call to action.<sup>20</sup> In the early phases of the War, this was a volunteer-only Army, so numbers were limited, so retaining these numbers was a top priority. Highlighted in the New York Herald, even the second battle of Bull Run demonstrated that “We have frequently drawn attention to the necessity for the organization of a special army ambulance department...”<sup>21</sup>. The overall carnage and lack

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<sup>19</sup> Arthur T Frame, “The U.S. Military Commission to the Crimean War, 1855-1856”, Army Command and General Staff at Fort Leavenworth Kansas, June 3<sup>rd</sup>, 1983, page 23-25

<sup>20</sup> “An 1862 editorial on the need for an Ambulance Corps in the US Army”, National Museum of Civil War Medicine, New York Daily Herald, September 15<sup>th</sup>, 1862

<sup>21</sup> “An 1862 editorial on the need for an Ambulance Corps in the US Army”, National Museum of Civil War Medicine, New York Daily Herald, September 15<sup>th</sup>, 1862

of support for the wounded helped create a narrative that the Medical Corps was underprepared and lacked the resources to support their troops adequately. A dire need for change was evident, and by 1862, the winds of change had shifted.

*Letterman's Impact on the Union effort: From Ambulance Corps to Policy Change*

Jonathan Letterman was an American Physician who contributed to the war effort by standardizing Field Hospitals and the ambulance corps. Highlighting many significant decisions during the War, *Medical Recollections of the Army of the Potomac* is a detailed account of Letterman during his tenure as chief surgeon.<sup>22</sup> A lengthy record of his tenure during the War is essential in understanding how the medical field developed over four years. During the early phases, there is mention of sickness and other misgivings that the Army endured. These were issues that Letterman, the Medical Director of the entire Army, could alter. The early setbacks and hardships placed on the Union effort, specifically the disorganization, became paramount issues that Letterman diagnoses and adjusts throughout the War.

Learning from the early hardships, Letterman slowly begins to alter the standards within the Army of the Potomac military medical complex. After devastating losses in early battles, General George McClellan gave Dr. Jonathan Letterman more reign to administer referendums and alterations to the established standards.<sup>23</sup> This was monumental, as a Medical Director was now given the right to alter policy in 1862. An

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<sup>22</sup> Jonathan Letterman, *Medical Recollections of the Army of the Potomac*, D Appleton and company, New York, 1866, 3

<sup>23</sup> John Greenwood, "Hammond and Letterman: A Tale of Two Men Who Changed Army Medicine", Landpower Essay: An Institute of Land Warfare Publication, No. 03-1, June 2003, 2-3

early change was the focus on having substantial ambulances available for the Army, as in August 1862, development of this discipline was needed. This was documented in a letter titled "Special Orders No. 147," with the main focuses being organization between companies, the proper number of ambulances, and the main objectives to accomplish.<sup>24</sup>

Additionally, a role was created that focused on the care and quality of the ambulances present, ensuring that proper care is available, especially in an emergency response setting. If there are any reports or queries from the officers within the ambulance corps, they will speak with the medical director to deal with the issue.<sup>25</sup> Despite the hardships of implementing this policy, it took until December 1862 for it to be implemented, according to Letterman's documented standards. Having newly established standards to adhere to was necessary to change the Ambulance corps into an effective force during the conflict.

Letterman changed the system quickly by creating rules and regulations for the medical corps army and began to focus on the rations for the army camp.<sup>26</sup> During this era, little rules were established regarding quantities of medical supplies to have at a camp, so it became necessary to make achievable numbers so the entire Army could be adequately equipped. This was organized in early October 1862, Letterman now had exact quantities each regiment needed of necessary medical supplies.<sup>27</sup> Standardization is imperative to ensure more soldiers have a chance to survive, especially when the opposite cause consistently has supply chain problems. Included in the book were illustrations of the forms that were utilized by Letterman's Personnel. From troop

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<sup>24</sup> Jonathan Letterman, *Medical Recollections of the Army of the Potomac*, D Appleton and company, New York, 1866, 24-30

<sup>25</sup> *Ibid*, 24-25

<sup>26</sup> *Ibid*, 105-107

<sup>27</sup> *Ibid*, 52-56

aggregate forms to medical supply lists, numerous fields of medical practice had corresponding policy that required close written review. With the actions taken by Letterman, by the beginning of 1863, substantial changes were made within the medical complex.

ARTICLES.	In Hospital Wagon.	A In four-horse Wagon.	ARTICLES.	In Hospital Wagon.	A In four-horse Wagon.
<b>MEDICINES.</b>			Ex. belladonnæ,	1 oz.	
Acaciæ pulvis,	$\frac{1}{2}$ lb.		“ col. rad. fl.,	4 “	
Acid. sulph. aromat.	$\frac{1}{2}$ “		“ colocynth. comp.,	8 “	
“ tannic,	1 oz.		“ cinchonæ fl.,	1 lb.	
Aether sulphuric,	2 lbs.		“ ipecac. fl.,	$\frac{1}{2}$ “	
“ spirit. comp.,	1 “	1 lb.	“ zingiberis fl.,	$\frac{1}{2}$ “	
“ “ nitrici,	2 “	2 “	Ferri chlorid. tinc.,	$\frac{1}{2}$ “	1 lb.
Alcohol,	12 pts.		“ et quiniæ cit.,	1 oz.	
Alumen,	$\frac{1}{2}$ lb.		“ persulphat. liq.,	4 “	
Ammoniæ carb.,	$\frac{1}{2}$ “		“ “ pulv.,	1 “	1 “
“ liquor,	2 “	4 “	Glycerina,	$\frac{1}{2}$ lb.	
Ant. et Pot. tart.,	1 oz.		Hydrarg. chlor. mit.,	$\frac{1}{2}$ “	
Argent. nitras,	1 “		“ pillulæ,	$\frac{1}{2}$ “	
“ “ fusus,	1 “		“ unguent.,	1 “	
Brominii, Bibron's antid.,	1 bot.		“ “ nit.,	$\frac{1}{4}$ “	
Camphora,	$\frac{1}{2}$ lb.		Iodium,		8 oz.
Cantharidis,	$\frac{1}{2}$ “		Ipecac. et opii pulv.,	$\frac{1}{4}$ “	2 lbs.
Cera alba,	$\frac{1}{2}$ “		“ pulvis,		1 “
Ceratum simplex,	3 “	12 “	Lini pulvis,	8 lbs.	
“ resinæ,	1 “		Magnesiæ sulphas,	8 “	20 “
Cinchonæ sulphas,	24 oz.		Morphiæ,	$\frac{1}{2}$ oz.	4 oz.
Chloroformum,	2 lbs.		Oleum olivæ,	2 qts.	4 qts.
Collodium,	1 oz.		“ ricini,	4 “	4 “
Copaiba,	2 lbs.		“ menth. pip.,		2 oz.
Creasotum,	4 oz.		“ terebinthinæ,	1 “	
Cupri sulphas,	2 “		“ tiglii,	1 oz.	
Ex. aconit. rad. fl.,	4 “		Opii pulvis,	$\frac{1}{2}$ lb.	2 lbs.
			“ pillulæ,	8 doz.	24 doz.

**Image 1:** Section of required medical supplies for each ambulance under Medical Director Jonathan Letterman, *Medical Recollections of the Army of the Potomac*

*REPORT of aggregate strength for duty, and names of Medical Officers present for duty, and the killed, wounded, and missing in the battle of..... on the..... day of..... 1863, according to Regimental Reports, of the..... Division,..... Corps.*

REGIMENTS.	Aggregate strength present for duty.	Names of Surgeons present for Duty.	Names of Assistant Surgeons present for Duty.	Number killed according to Regimental Report.	Number wounded according to Regimental Report.	Number missing according to Regimental Report.
TOTAL.....						

.....

*Surgeon-in-Chief,..... Division,..... Corps.*

**Image 2:** Troop aggregate form utilized by the Army of the Potomac starting in 1862. This was necessary for establishing remaining units after conflict, *Medical Recollections of the Army of the Potomac*

Facing another deadly year of Conflict, Letterman was also adjusting his ideas to ensure that the changes effectively combat the current issues. Seen in Gettysburg, one of the deadliest battles in the War, Letterman reflected after the event, even requesting additional surgeons in the aftermath from Surgeon General Hammond. This was compounded by Letterman’s “Gettysburg Report” where he comments “The expediency of the order I, of course, do not pretend to question, but its effect was to deprive this department of the appliances necessary for the proper care of the wounded, without which it is as impossible to have them properly attended to as it is to fight a battle without ammunition.”<sup>28</sup> Responding to the hardship, General Order No. 85, created

<sup>28</sup> Jonathan Letterman, “Dr. Jonathan Letterman’s Report on the Union Army Medical Corps at Gettysburg”, Iron Brigadier, Updated August 21<sup>st</sup>, 2018

changes within the ambulance corps once again, as issues and fallacies that emerged from the previous order 147 were adjusted.<sup>29</sup> This demonstrates Letterman's ability to change and alter his prognosis of the Army as the medical director. This again was not a liberty granted to Medical Officers before this conflict. Like Hammonds "Circular No. 2", Letterman made it regulation for any captain of an ambulance to create appropriate forms and reports on their experiences. This standardization, as well as the ability to adjust standards, shows how effective these leaders were in a military medical setting.

Near the end of the autobiography, there is a great deal of information about the overall success regarding the changes within the Union Medical complex. Letterman references in the last part of the book the effectiveness of disease prevention within the Army of the Potomac camp. "At the close of 1863 the Army was in better health than it had been since the Peninsular Campaign; in July 1862, it had a large percentage of the sick; the beginning of 1864 found it with a very small one-if my memory be correct, about three per cent."<sup>30</sup> This is a significant decrease, which demonstrates not only were effective rules implemented within the Army, but the orders were also followed heavily by subordinates. It is essential to establish what changed in the Army, as it makes it clear how effective the new orders were. When an army had over an 80% disease rate in the Mexican-American War, cutting the disease statistics for the Army of the Potomac to as little as 3% shows a significant change in disease rates. Highlighting the monthly meetings within the medical department to troubleshoot issues in the department was essential for understanding how meaningful change occurred within the Army of the

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<sup>29</sup> Jonathan Letterman, *Medical Recollections of the Army of the Potomac*, D Appleton and company, New York, 1866, 162-170

<sup>30</sup> Ibid, 183-84



Potomac. Without taking action to implement change, it is impossible to see significant results, so Letterman has a committee to speak with to see the effectiveness of his orders. This demonstrates trust in the methodology of medical professionals and a focus on utilizing their skills when implementing change. In this one recollection of Jonathan Letterman's actions, it becomes apparent how substantial of an impact he had on the Army of the Potomac from a medical perspective.

### *How Hammond used his Position to Change Medical Standards*

Compounding on the narrative that hygiene was of utmost priority, William Hammond titled his work *A Treatise of Hygiene*. He had an extensive overview of his medical philosophies in Warfare and beyond. Isolating the work from his tenure as the Army Surgeon General, it is apparent what measures were added to aid in the effectiveness of combat medicine. Like Letterman, William Hammond would spend considerable effort speaking about the qualities of the camps, field hospitals, and general hospitals, going over the inherent importance of these establishments. Hammond even demonstrates where hospitals in the US and abroad in London or Ireland were effective and ineffective for treating patients and overall arrangements. Highlighting where these hospitals succeeded and what was needed, such as minimal cross-contamination, "The crowding together of so many wards under one roof had the same effect as placing too many sick in one room".<sup>31</sup> Even ten years before the wider acceptance of germ theory, it was believed in Hammonds's perspective that there was a

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<sup>31</sup> William Hammond, *A Treatise on Hygiene: With Special Reference to the Military Service*, United States: J.B. Lippincott & Company, 1863, 323

correlation between the number of people sick congregated and disease rates. Having this philosophy dictate his teachings, Hammond made valuable contributions to the arrangement of hospitals.

In conjunction with Letterman's work, Hammond also looked at the conditions of the camp, as it became clear that hygiene was a priority. From a basic definition of a camp, Hammond focuses on proper ventilation, irrigation, and sewage management, demonstrating they were paramount issues to be concerned about. Focusing on these values impacted rates of dysentery, as this spread quickly in improper conditions. Using rhetoric like "... there is no positive reason why many measures which are now frequently overlooked should not be carried out, with the effect which would be sure to follow, of improving the health, and, consequently, adding to the efficiency of troops."<sup>32</sup>, a mindset that demonstrated Hammonds's emphasis on increasing standards. As alluded to in the book, there was not always a focus on having objectives while running camp, which would only maximize future doctors' incentives to pursue Hammonds sanitation philosophies. Ensuring that Hammond's choices were followed, medical personnel under him were sent on surprise visits to camps to ensure they kept standards.<sup>33</sup> This parallels the concepts spoken on by Hammond with his "Circular No. 2", which was an establishment of standards for medical records when dealing with the wounded. The decision also illustrates the reliance on the strategies learned from the British in the Crimean War, like inspecting barracks for sanitary standards.<sup>34</sup> These all were actions that focused on adding regulations to mundane medical tasks that

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<sup>32</sup> William Hammond, *A Treatise on Hygiene: With Special Reference to the Military Service*, United States: J.B. Lippincott & Company, 1863, 448

<sup>33</sup> *Ibid*, 431

<sup>34</sup> *Ibid*, 239-240

sometimes went overlooked. A chapter that focuses on how many people should accommodate a tent and when a permanent dwelling is needed helps make specific decisions easier for anyone recreating a camp.<sup>35</sup>

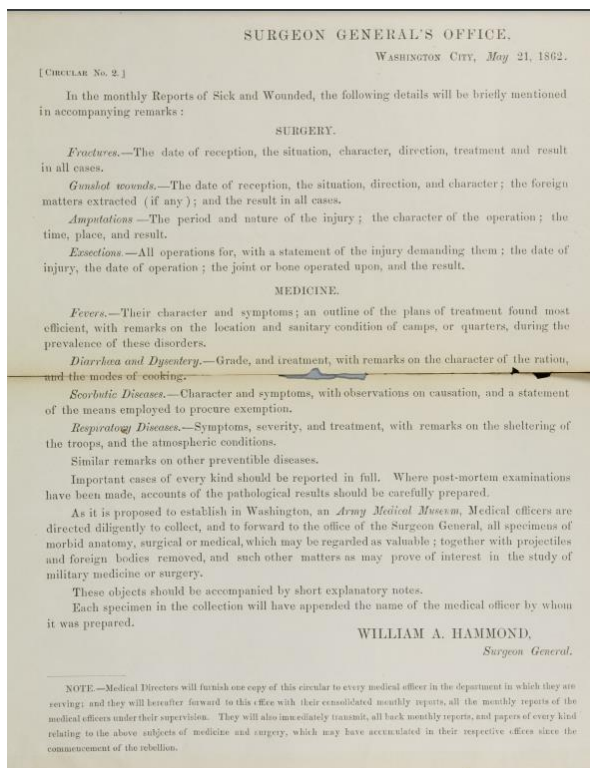
Both Letterman and Hammond had adjusted what they could to instill change within the military medical complex of the Union effort. Most actions were instigated by publishing circular #2, which William Hammond released before all of these actions occurred. This was a one-page order that spoke about standardizing the medical processes within the army and creating procedures that could be followed. This circular required the doctor to write down everything they treated and how it was treated, making a patient report form to compile all the information.<sup>36</sup> Additionally, for cases requiring surgery, the amputation in question would be sent to the National Archives near the capital.<sup>37</sup> This allowed for extensive scale data collection recording techniques and strategies for treating the wounded during the conflict. With Hammonds decision, the focus of the US Army Medical Division now had a focus on tracking and following case studies. This established a system that tracked the effectiveness of methods throughout the battlefield and in different conditions. Having documentation that forced all doctors to write about their experiences which also helped increase the overall efficiency of the field hospitals within the army. Overall, this order was the catalyst for long-term change within the Union Army's medical military complex.

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<sup>35</sup> William Hammond, *A Treatise on Hygiene: With Special Reference to the Military Service*, United States: J.B. Lippincott & Company, 1863, "Camps"

<sup>36</sup> William Hammond, "Circular No. 2" in *Medicine of the Americas, 1610-1920*, Washington City, Surgeon General's office, May 21, 1862

<sup>37</sup> Ibid



**Image 3:** Circular No. 2 By William Hammond. This policy created standards that would be followed by all medical personnel of the Union cause, *US Army Surgeon General's Office*

### *Clara Bartons impact and focus on Supply Chains*

In conjunction with the stories above, Clara Barton's work is just as crucial for understanding how the more significant Union effort standardized. Barton was a humanitarian nurse who would be influential throughout the Civil War. From a volunteer hailing from Massachusetts assisting the wounded from the First Battle of Bull Run to being personally endorsed by the Surgeon General, Barton made numerous strides during the war.<sup>38</sup> Her first moment of notoriety was when she went to the quartermaster's office in Washington, DC, and demanded help by any means necessary. She was initially turned away, yet Barton's resilience made her return the next day, and

<sup>38</sup> "Secret Weapon- Hammonds Secret Weapon", Clara Barton Museum, May 15<sup>th</sup>, 2013

she was eventually granted access to bring essential supplies to the Union army. During wartime, civilians couldn't get close to the active battle sites quickly, so Barton and other individuals had to get passes from the military to get close to the sites. Barton's initial request was made in August of 1862, and by December of 1862, her supplies had reached the Union.<sup>39</sup> Barton would not stop at this one delivery and would make it her goal throughout the rest of the war to assist where she could. With her connections, she was able to get necessary supplies to armies that were desperately in need of equipment.<sup>40</sup> While Barton had a significant impact after the war, she still played an integral part in the conflict.

Compounding on Barton's Work, the United States Sanitary Commission (USSC) would have volunteers assisting with getting supplies to the field. With conflict, having a prepared Army is a priority, which also applies to medical supplies. The sanitary commission was also tasked with handling medical supplies, allowing for a more significant impact on the overall Union effort. Not only was the work of the Sanitary Commission, but it also impacted the civilians in surrounding areas, giving necessary supplies to them in times of need.<sup>41</sup> This quality was particular to the commission but allowed for a broader application of their services. Having offices in New York, Philadelphia, Louisville, and Washington, DC, they were present in all three theatres of the Civil War.<sup>42</sup> The vast domain of the Sanitary Commission ensured that their services could reach most efforts from the Union, guaranteeing that supplies would reach the

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<sup>39</sup> William, E Barton, *The Life of Clara Barton in Two volumes- Volume One*, The Riverside Press, Boston and New York. Released 1922. 25<sup>th</sup>, 168

<sup>40</sup> Ibid, 240-242

<sup>41</sup> "United States Sanitary Commission records". Manuscripts and Archives Division, The New York Public Library. Revised December 2013. Accessed April 2024

<sup>42</sup> Ibid

troops in need. Starting in 1862, they began keeping records of their work. Following the concepts practiced by William Hammond, the USSC allowed the families of the wounded to receive information about their kin.<sup>43</sup> This relied on recorded battles to extract statistics, such as aggregate troop strength. Being a wartime organization, the US Sanitary Commission was vital for ensuring that supplies reached the troops and that information was recorded for numerous purposes.

### *Elizabeth Blackwell's Focus on Training the Volunteer Medical Forces*

Not only were the military ranks given guidance on how to perform their job, but individuals like Elizabeth Blackwell also stepped up to train the medical volunteers for the Union Effort. Blackwell, the first female physician in the United States to receive a degree, had been running a practice in New York. At the onset of the war, Blackwell pursued organizing a group focused on providing medical services to the wounded. This organization would be known as the Woman's Central Relief Association (WCRA), which is essential for ensuring that volunteers can perform proper duties. Having an organizer trained classically and with extensive experience, the volunteers who arrived in Washington, DC, had an opportunity to learn valuable medical skills for the time.

From these training sessions, select candidates would be chosen to work with the United States Sanitary Commission, immediately impacting the Union Effort. With

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<sup>43</sup> United States Sanitary Commission records, Woman's Central Association of Relief records, Manuscripts and Archives Division, The New York Public Library

Blackwell's education, she had experience in medical schools in the United States and even spent time in countries like France and Great Britain, learning from their systems. This academic background gave Blackwell the tools to train a new generation of volunteers. The impact was significant, as the USSC volunteers would be pivotal in helping in field relief, ensuring that the wounded were initially treated. Additionally, the Sanitary Commission would ensure that supply routes were consistent with medical goods, a crucial need for field hospitals. While she could not work as a Physician, Blackwell persevered and assisted the Union Cause by impacting where it needed.

## Conclusion

The Civil War was a brutal conflict that saw massive bloodshed, yet not all of the strife can be blamed on medicine. This was a costly conflict for the United States. While estimates for total casualties vary, modern estimates have put the number around 750,000, a staggering statistic.<sup>44</sup> The disease-to-combat ratio during the war was 2:1, meaning for every victim of battle, two would die from disease.<sup>45</sup> These were massive numbers to deal with in a growing nation, and the US would need time to recover after this monumental conflict. When taking these numbers and putting them back into perspective, a different narrative emerges, one of which is that medicine had been effective during the Civil War. Compared to the ratio of 7:1 in the Mexican American War, or 3:1 in the Crimean War, the American Civil War was another improvement in

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<sup>44</sup> Shauna Devine, *Learning from the Wounded: The Civil War and the rise of American medical science*, (Chapel Hill: The University of North Carolina Press, 2014), page 1

<sup>45</sup> Jeffrey S. Sartin, "Infectious Diseases during the Civil War: The Triumph of the 'Third Army.'" *Clinical Infectious Diseases* 16, no. 4 (1993): 580

Military Medicine.<sup>46</sup> While it did not prevent every victim of war, taking the time to create a procedure to follow standards to adhere to, there were much more successful rates of hospitalizations during the conflict. Before the war ended, Jonathan Letterman and William Hammond had left the army, and their impact would be felt for generations. Each decided to write a book detailing their experience in the position they held within the Union Army.

Jonathan Letterman and his special orders during the Civil War needed leadership changes during the conflict, as it created the best opportunity for the Army of the Potomac to succeed. Detailing and listing out the qualifications and standards from the ambulance core is crucial, as it ensures the materials are not compromised before the conflict, ensuring that all the wounded can be adequately taken care of. This was accountability for the Medical Corps, as they could have their specific property for them only. Additionally, having the ambulance core staff report directly to the medical director was essential for ensuring an accurate diagnosis of the battlefield by the chief medical officer could be created. While this was essential for establishing the ambulance core, a further referendum would be needed after 1863. This change further demonstrates the versatility of Letterman's corps, as more defined rules about the structure of command and procedure were added to the initial order. In conjunction with the supply standards that Letterman created, his book became a resource for anyone to follow when establishing a field camp. The work of Jonathan Letterman was a small part of the union effort, yet its impact was immeasurable.

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<sup>46</sup> Ibid, 580



William Hammond had a short tenure as the surgeon general of the United States Army, yet at this time, he made his presence known. Highlighting standards of health, safety, and efficiency, Hammond created guidelines that ensure a cleaner system overall. Tediously spending chapters discussing proper ventilation, field hospital conditions, or general camp conditions, it's evident Hammond wanted to see a successful Army Corps. Hammond took a much more hands-on approach to policy than the previous surgeon generals and tried to define as much as he could where it was seen as necessary. Gone were the days of assuming quality standards. Now, there were tangible standards and goals to reach within certain aspects of the army. When establishing camp, it was imperative to follow Hammond's instructions to ensure water was not contaminated in the latrine area. This is a way to decrease the prevalence of diseases like cholera or dysentery. While many aspects of Hammond's work would be considered outdated, they were revolutionary for the era, as in a pre-germ theory world, he followed and created standards that were in line with the proper techniques of the modern era. Similar to his work, the National Museum of Health and Medicine would continue beyond his lifetime.

When comparing the United States to two other world powers of the time, it becomes evident that the US was not far behind in comparison. With a conflict only ten years earlier, France and Great Britain had a disease-to-combat ratio of 3:1. In contrast, the Union effort would have a ratio of 3:2 or 66%, demonstrating that The United States had learned from previous conflict.<sup>47</sup> This paled in comparison to the disease rates seen in the Mexican American war. The US changed its disease rates and improved its

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<sup>47</sup> Shauna Devine, *Learning from the Wounded: The Civil War and the rise of American medical science*, (Chapel Hill: The University of North Carolina Press, 2014), page 1

battlefield response through its medical corps, which was essential to ensuring that it would be a lasting international power in the coming decades.

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