

The Founding Fathers of Military Medicine:

How Hammond, Letterman, and the U.S. Sanitary Commission Crossed a Medical
Frontier through Policy and Organizational Reforms

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Paper

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Process Paper

Inspiration for this paper partially stemmed from a book by John M. Barry that I read last year, *The Great Influenza*, which recounts not only the 1918 influenza pandemic but also the resulting scientific growth. These advancements included an effective inquiry into causation and prevention, a methodical emphasis on “good science” and research, sanitation laws, and, most importantly, a reorganization of the current, inadequate medical system and standards. During preliminary research for NHD, I stumbled across a description of the Civil War’s horrific campground conditions. From a summer family trip to the Gettysburg battlefield, I had also learned that, intriguingly, two out of three soldiers had died during the war from disease rather than battle. Investigating further, I read about sanitation reforms, and looked up Letterman after repeatedly seeing his name mentioned. After more research, I was captivated by the organizational, rather than strictly scientific, advances that he, Hammond, and the U.S. Sanitary Commission spearheaded, as they emphasized reform of the system rather than the addition of more treatments in a striking parallel with *The Great Influenza*.

Two lengthy library books, *Learning from the Wounded* and *Civil War Medicine*, were my main secondary sources, as they described the overall contributions and influences of my thesis’s characters. Studying books and pamphlets directly written by Hammond, Letterman, and the Commission was valuable as well, since those sources provided me with details and arguments from original perspectives. After reading both historians’ analyses of events and firsthand accounts from soldiers, I had a greater, more objective picture of the policy and organizational reforms’ impact.

I chose a paper format for my project, since the word count limitations of my initially planned documentary would not have allowed me to present all I had wanted. After months of research and both digital and paper note-taking, I condensed and organized my notes into an extensively detailed outline. Rather than basing my thesis and arguments off of analysis from a secondary source, I drew my own conclusions after considering all my research. My thesis was conceived when I realized all my investigation led to the bottom line that organization saved far more lives than the few medical discoveries of the war.

My topic of policy reforms and the military wounded care system's restructuring is significant because of the lasting impact it had on American medicine and the U.S. military. Inefficient medical education systems, ineffective ambulance networks, and appalling, disease-breeding army campgrounds were transformed by organization into an era of brisk order, health, and productivity. Thus, Hammond, Letterman, and the Commission crossed a great scientific frontier, changing America permanently with their unprecedented military and medical organizational advances.

Introduction

Men were drinking sewage.¹ Horse dung formed dense, foul barricades around camps, more effectively deterring attackers than bullets.² Soldiers were “unwashed, their clothes filthy, their bodies full of vermin.”³ Dysentery, salmonella, typhoid, malaria, and food poisoning, “insidious and inevitable,”⁴ were unchecked due to poor sanitation.⁵ Over 70% of men suffered from avoidable gastrointestinal problems.⁶ Physicians, meanwhile, were ignorant, prescribing poisons like arsenic, mercury,⁷ opium, and turpentine.⁸ Such conditions illustrate the inadequate health regulations and dismal medical education system during the Civil War period. Thus, driven by the war’s unique circumstances, people like Jonathan Letterman and William Hammond ushered in an age of improved medical education systems, innovative ideas, and military medical care reorganization to conquer a significant medical frontier most were afraid to address. Despite the importance of concurrent medical discoveries, pivotal policy and organizational reforms were actually the most consequential breakthroughs of that time period, as they revolutionized the practice, standards, and impact of medicine to form the foundations of

¹ Robert F. Reilly, “Medical and Surgical Care during the American Civil War, 1861-1865,” *Proceedings (Baylor University Medical Center)* 29, no. 2 (April 29, 2016): 141.

<https://doi.org/10.1080/08998280.2016.11929390>.

² Bonnie Brice Dorwart, “Disease in the Civil War,” Essential Civil War Curriculum, last modified November 2012, accessed January 12, 2023,

<https://www.essentialcivilwarcurriculum.com/disease-in-the-civil-war.html>.

³ Joseph Janvier Woodward, *Outlines of the Chief Camp Diseases of the United States Armies as Observed During the Present War: A Practical Contribution to Military Medicine* (Philadelphia: J. B. Lippincott & Co., 1863), 48-49,

https://www.google.com/books/edition/Outlines_of_the_Chief_Camp_Diseases_of_t/EDYAAAAAQAAJ?hl=en&gbpv=0.

⁴ Samuel B. Ruggles, et al., “SANITARY COMMISSION; Appeal of the Executive Finance Committee in the City of New-York,” *The New York Times*, July 15, 1861.

⁵ Dorwart, “Disease in Civil War.”

⁶ Reilly, “Medical and Surgical Care,” 141.

⁷ Reilly, 141.

⁸ Jenny Goellnitz, “Civil War Medicine: An Overview of Medicine,” Ohio State University, ehistory, accessed January 12, 2023, <https://ehistory.osu.edu/exhibitions/cwsurgeon/cwsurgeon/introduction>.

modern military medical care.

Bleak Beginnings

“On April 15, 1861, the day on which the President’s call appeared for 75,000 men...women of Bridgeport, Conn., organized a society with the somewhat vague idea of affording relief and comfort.”⁹ So began the U.S. Sanitary Commission, rather inauspiciously, “without powers...pecuniary support...[or] any immediate empathy.”¹⁰ Started, sponsored, and supported by ladies’ aid societies seeking to contribute to the war effort, the Commission, reluctantly approved by President Lincoln on June 9, 1861,¹¹ was driven by its president, Henry Bellows, esteemed nurse Dorothea Dix,¹² and the “wise, authoritative, untiring”¹³ Executive Secretary, Frederick Olmsted.¹⁴ The government, irritated by the agency’s investigations and stipulations, provided neither funding nor support.¹⁵ Nevertheless, the Commission’s self-proclaimed “unofficial meddlers”¹⁶ were a powerful force, responsible for inspecting Union

⁹ Henry W. Bellows, *The United States Sanitary Commission* (New York: G. P. Putnam’s Sons, 187-?), 1, <https://www.loc.gov/item/12030918/>.

¹⁰ Bellows, 5.

¹¹ C. Keith Wilbur, *Civil War Medicine* (Old Saybrook: The Globe Pequot Press, 1998), 17.

¹² Lawrence Weber, “The Creation of the U.S. Sanitary Commission,” Warfare History Network, last modified February 2010, accessed May 11, 2023, <https://warfarehistorynetwork.com/article/the-creation-of-the-u-s-sanitary-commission/>.

¹³ Katharine Prescott Wormeley, *The Other Side of War with the Army of the Potomac: Letters from the Headquarters of the United States Sanitary Commission during the Peninsular Campaign in Virginia in 1862* (Boston: Ticknor and Company, 1889), 102, <https://hdl.handle.net/2027/uc2.ark:/13960/fk3dz0379w>.

¹⁴ “Olmsted and the Civil War,” National Park Service, last modified February 2, 2022, accessed January 13, 2023, <https://www.nps.gov/frla/learn/historyculture/olmsted-and-the-civil-war.htm>.

¹⁵ Matt Dellinger, “Frederick Law Olmsted’s War on Disease and Disunity,” *The New Yorker*, May 16, 2020, <https://www.newyorker.com/culture/cultural-comment/frederick-law-olmsteds-war-on-disease-and-disunity>.

¹⁶ Bellows, *United States Sanitary Commission*, 8.

armies, “keep[ing] itself informed” on sanitary conditions,¹⁷ prioritizing scientific prevention,¹⁸ and advising Congress, as the soldiers’ representative, on needed reforms.¹⁹

Meanwhile, the government’s medical forces were “rusty...[and] imperfectly awake to the situation.”²⁰ The incumbent, “utterly ossified and useless”²¹ Surgeon General Finley was failing spectacularly; Olmsted wrote, “I believe men are dying daily for the want of a tolerable Surgeon General.”²² Change was clearly required. William Hammond, the Commission’s proposed replacement for Finley, had published books on physiology, served as chair of Anatomy and Physiology at the University of Maryland Medical School,²³ become a distinguished army surgeon, and spent years studying the best European military hospitals.²⁴ Congress approved his appointment on April 25, 1862.²⁵

A New Era of Medicine

To begin addressing the overwhelmingly deficient military medical education system, Hammond issued Circular No. 2, establishing the Army Medical Museum, which educated

¹⁷ Wormeley, *Other Side of War*, 8.

¹⁸ Bellows, *United States Sanitary Commission*, 13.

¹⁹ Wilbur, *Civil War Medicine*, 18.

²⁰ Bellows, *United States Sanitary Commission*, 3.

²¹ George Templeton Strong, *George Templeton Strong Diary*, diary, New-York Historical Society, Museum & Library, N-YHS Digital Collection, *George Templeton Strong Diary, 1835-1875, Volume 3, 1854-1862*, p. 396, <https://digitalcollections.nyhistory.org/islandora/object/nyhs%3A54755>.

²² Frederick Law Olmsted, *The Papers of Frederick Law Olmsted: Defending the Union: The Civil War and the U.S. Sanitary Commission, 1861–1863*, edited by Jane Turner Censar (United Kingdom: Johns Hopkins University Press, 1986), 202,

https://www.google.com/books/edition/The_Papers_of_Frederick_Law_Olmsted/0f3iwAEACAAJ?hl=en&gbpv=0&kptab=overview.

²³ “Dr. William Hammond,” American Battlefield Trust, accessed May 11, 2023,

<https://www.battlefields.org/learn/biographies/dr-william-hammond>.

²⁴ Wilbur, *Civil War Medicine*, 33.

²⁵ Wilbur, 33.

civilian surgeons on military medicine fundamentals²⁶ by organizing museum collections of medical samples and “specimens of morbid anatomy.”²⁷ The museum was unprecedented, since firsthand experience studying specimens was considered unnecessary, yet essential for scientific progress. Providing resources, Hammond also distributed medical texts and journals, made high-quality instruments and microscopes accessible,²⁸ and united American physicians through networks of knowledge exchange.²⁹ Through bold ideas, Hammond crossed great frontiers from inefficient medical education systems into a new era of structured competency and capable physicians.

Moreover, Hammond completely reformed the medical education system. Previously, medical school involved two years³⁰ of questionably qualified doctors lecturing.³¹ However, Hammond mandated training in public health, hygiene standards, and surgery for Union doctors. Circular No. 2 ensured that all physicians would study the basics of disease, including causation and prevention.³² Surgeons were also encouraged to experiment with treatments’ efficacy. Hammond assembled examining boards of elite physicians, instituted multi-section medical exams with strict rubrics (defying prior, appallingly lax standards), and emphasized medical proficiency.³³ Stringent organization laid foundations for future medicine.³⁴

²⁶ 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), 21.

²⁷ William A. Hammond, *Circular No. 2*, pamphlet (Washington DC: Surgeon General’s Office, May 21, 1862), from National Institute of Health, *National Library of Medicine, Digital Collections, Medicine in the Americas, 1610-1920*, <http://resource.nlm.nih.gov/101534229>.

²⁸ Devine, *Learning from the Wounded*, 72

²⁹ Devine, 28.

³⁰ Goellnitz, “Civil War Medicine.”

³¹ Wilbur, *Civil War Medicine*, 10.

³² Devine, *Learning from the Wounded*, 33.

³³ Devine, 17.

³⁴ Devine, 19.

Hammond significantly improved general hospitals as well. Formerly, hospitals were places to die, but his reformation of the care system - including organizing management levels and teams of surgeons, utilizing quarantine wards,³⁵ and investigating infection origins³⁶ - culminated in a stunningly low nine percent death rate.³⁷ Organization saved innumerable lives.

Nonetheless, contemporaries did not appreciate Hammond's avant-garde thinking. In 1863, Hammond banned medical use of calomel, a toxic, commonly prescribed, mercury-containing compound.³⁸ His directive enraged conventional physicians. The consequent "Calomel Rebellion" uproar led to Hammond's court-martial and dismissal.³⁹

During his impressive term, Hammond established the first national military general hospital system, introduced specialty hospitals, and standardized hospital record-keeping.⁴⁰ Renovating not just hospitals but medical cornerstones, Hammond spearheaded the charge through a medical frontier into an era of organization. Thus, Hammond became the father of the methodical medical education system, conquered scientific apathy, reorganized American medical care, and, ultimately, crossed a frontier from haphazard science into intentional research and effective regulations. However, there was more to come.

³⁵ Devine, *Learning from the Wounded*, 104.

³⁶ Devine, 94-131.

³⁷ Terry Reimer, "Medical Improvements in the Civil War and Their Affect on Modern Military Medicine," National Museum of Civil War Medicine, last modified November 9, 2016, accessed January 13, 2023, <https://www.civilwarmed.org/surgeons-call/modern/>.

³⁸ David A. Carrino, "The Medical 'Rebellion' within the Union Army," The Cleveland Civil War Roundtable, last modified April 16, 2020, accessed April 11, 2023, <https://www.clevelandcivilwarroundtable.com/the-medical-rebellion-within-the-union-army/>.

³⁹ Carrino, "The Medical 'Rebellion.'"

⁴⁰ Devine, *Learning from the Wounded*, 15.

Letterman's Revolution

Stifling black powder saturated the suffocating air during the first battle of the Civil War, while cannons rumbled and the chaos of fear diffused like a toxic gas. As civilian ambulance drivers fled at the first gunshots and deserters appropriated abandoned ambulance vehicles, the wounded were left stranded.⁴¹ Additionally, regimental musicians begrudgingly serving as stretcher-bearers tended to disappear, averse to the unglamorous task of carrying bleeding men.⁴² Consequently, “inexperienced regimental surgeons were left [on the battlefield]...with an impossible collection of...wounds. Those surgeons that remained...were taken prisoner.”⁴³ This devastating disaster galvanized Union leaders into the first steps of reforming American medical care.

The conquest of a massive medical frontier began in June of 1862, when Surgeon General Hammond appointed Jonathan Letterman, his former colleague, as Medical Director of the Army of the Potomac.⁴⁴ Letterman, previously an army surgeon and Medical Director of West Virginia,⁴⁵ had worked closely with Hammond on West Virginian hospital reforms in 1861 and was of the same brilliant caliber.⁴⁶ Although Letterman's jurisdiction over McClellan's army was initially limited, when wounded soldiers were stranded on the battlefield for over a week after

⁴¹ Reilly, “Medical and Surgical Care,” 139.

⁴² “Letterman, Jonathan (1824-1872),” Reynolds-Finley Historical Library, University of Alabama at Birmingham, accessed January 13, 2023, <https://library.uab.edu/locations/reynolds/collections/civil-war/medical-figures/jonathan-letterman>.

⁴³ Wilbur, *Civil War Medicine*, 19.

⁴⁴ “Jonathan Letterman,” American Battlefield Trust, accessed January 13, 2023, <https://www.battlefields.org/learn/biographies/jonathan-letterman>.

⁴⁵ Michael Robert Patterson, “Jonathan K. Letterman – Major, United States Army,” Arlington National Cemetery, last modified April 5, 2023, accessed April 7, 2023, <https://www.arlingtoncemetery.net/lettermn.htm>.

⁴⁶ “Dr. William Hammond, Surgeon General,” National Museum of Civil War Medicine, last modified July 18, 2022, accessed April 7, 2023, <https://www.civilwarmed.org/dr-william-hammond-surgeon-general/>.

the Second Battle of Bull Run to suffer blistering heat and fierce rains due to woefully inadequate transport systems, Letterman was finally granted the authority to restructure military medical care.⁴⁷ The Union army, in a “most lamentable condition,”⁴⁸ sorely needed his ideas.

Committed to complete reorganization, Letterman formed specific units of trained personnel for every task, assigning three privates to each ambulance.⁴⁹ He replaced ineffectual regimental ambulance control with levels of command,⁵⁰ allocating tasks such as tent-assembling and supply-organizing to particular officers.⁵¹ Letterman regulated the number and types of ambulances,⁵² surgeons,⁵³ and supplies issued to each regiment;⁵⁴ each ambulance corps was furnished with a reserve medicine wagon,⁵⁵ while every brigade had bulk supply wagons.⁵⁶ In all this, Letterman repeatedly demonstrated his capability to create what the *New York Daily Herald* demanded: “a well trained and properly systematized ambulance department” and a “means [by] which our gallant soldiers wounded...might be safely and expeditiously removed to places of safety.”⁵⁷

⁴⁷ “Jonathan Letterman,” American Battlefield Trust.

⁴⁸ S. Emma E. Edmonds, *Nurse and Spy in the Union Army: Comprising the Adventures and Experiences of a Woman in Hospitals, Camps, and Battle-Fields* (Hartford: W. S. Williams & Co.; Philadelphia: Jones Bros. & Co.; Cincinnati: Jones Bros. & Co.; Chicago: J. A. Stoddard & Co., 1865), 56, <https://www.gutenberg.org/files/38497/38497-h/38497-h.htm>.

⁴⁹ Gerard A. Patterson, *Debris of Battle: The Wounded of Gettysburg* (Mechanicsburg: Stackpole Books, 1997), 8.

⁵⁰ Wilbur, *Civil War Medicine*, 36.

⁵¹ G. Patterson, *Debris of Battle*, 8.

⁵² Jonathan Letterman, *Medical Recollections of the Army of the Potomac*. (New York: D. Appleton and Company, 1866), 24, <https://wellcomecollection.org/works/v24ncef5/items?canvas=8>.

⁵³ Letterman, *Medical Recollections*, 159.

⁵⁴ Devine, *Learning from the Wounded*, 55-56.

⁵⁵ Wilbur, *Civil War Medicine*, 37.

⁵⁶ “Letterman, Jonathan (1824-1872).” Reynolds-Finley Historical Library, University of Alabama at Birmingham.

⁵⁷ “Our Wounded Soldiers in Battle,” *New York Daily Herald*, September 15, 1862.

Furthermore, Letterman instituted his reforms in such detail that each ambulance was mandated to carry six tablespoons, one candle, six two-pound cans of pork, etc.⁵⁸ Driven by compassion for soldiers, Letterman wrote, “It is better to have the supplies for the proper care and comfort of the wounded...and run the risk of their capture, than that the wounded should suffer for want of them. Lost supplies can be replenished, but lives are gone forever.”⁵⁹ His organizational advances indeed saved lives as it crossed frontiers.

However, Letterman not only reformed ambulance transport; he also provided destinations. Under his three-tier hospital system, small field dressing stations on the battlefield⁶⁰ were first resources, while general hospitals served as the final level.⁶¹ The second tier was established on October 30, 1862, when Letterman consolidated regimental field hospitals into divisional hospitals,⁶² improving their efficacy by increasing manpower, combining resources, and restructuring leadership. These hospitals were responsible for emergency treatment - makeshift bandages and assessment of wounds.⁶³ Remarkably, rather than forcing soldiers to search for randomly scattered hospitals, Letterman scouted the battlefield area beforehand and strategically placed divisional hospitals near major railroad lines to facilitate streams of wounded.⁶⁴ Ambulances were given specific, individualized instructions⁶⁵ on their expected

⁵⁸ Wilbur, *Civil War Medicine*, 36.

⁵⁹ Letterman, *Medical Recollections*, 163.

⁶⁰ Reimer, “Medical Improvements.”

⁶¹ Reimer, “Medical Improvements.”

⁶² Wilbur, *Civil War Medicine*, 40.

⁶³ Ina Dixon, “Civil War Medicine: Modern Medicine’s Civil War Legacy,” American Battlefield Trust, last modified October 29, 2013, accessed January 13, 2023, <https://www.battlefields.org/learn/articles/civil-war-medicine>.

⁶⁴ Jake Wynn, “From Antietam to D-Day - Medical Evacuation on the Battlefield,” National Museum of Civil War Medicine, last modified June 6, 2018, accessed January 13, 2023, <https://www.civilwarmed.org/evacuation-2/>.

⁶⁵ Devine, *Learning from the Wounded*, 56.

duties. These calculated hospital and ambulance placements, streamlining medical care, overcame an organizational frontier.

Moreover, Letterman and Hammond, working closely together throughout the war, created a triage system, still currently used.⁶⁶ Categories include prioritized surgical cases, the mortally wounded, and the slightly wounded.⁶⁷ This astute organization accelerated treatment, preventing many deaths. Restructuring authority, Letterman also established divisional surgeon-in-chiefs, responsible for selecting three medical officers to oversee major operations.⁶⁸ Each officer's assistant surgeon managed patient records, while each brigade's surgeon-in-chief distributed supplies.⁶⁹ Such meticulous stipulations seem unnecessary, but this volume of detail and organization was responsible for Letterman's success as the military medical system became an efficient, well-oiled network.

Letterman's revolutionary approach to his duties as Medical Director and brilliant restructuring of authority didn't merely expedite the flow of orders, wounded, and supplies. More importantly, these advances in organization conquered frontiers, progressing from chaotic military systems into a new era of modern policy, saving countless lives.

The U.S. Sanitary Commission

However, "another great evil was [still] to be remedied. There were thousands of sick men...but for these the Government had made no provision...the Sanitary Commission had not yet come into operation and the consequence was our poor sick soldiers suffered unspeakably."⁷⁰

⁶⁶ Dixon, "Civil War Medicine."

⁶⁷ Dixon, "Civil War Medicine."

⁶⁸ Wilbur, *Civil War Medicine*, 41.

⁶⁹ Wilbur, 41.

⁷⁰ Edmonds, *Nurse and Spy*, 22.

In 1861, the federal government, occupied with politics, consistently overlooked soldiers' needs. Thus, the U.S. Sanitary Commission arose to provide succor amidst governmental failure.

Outrageously, the Commission's main actors were not men, but women. Responsible for conceiving the Commission and championing its growth, women also contributed supplies, nursed soldiers, coordinated medical services, and managed the agency.⁷¹ When Congress withheld support in an "attitude of suspicion, jealousy, and check,"⁷² women organized Sanitary Fairs with food, entertainment, and regional exhibits,⁷³ raising over fifty million dollars of goods and funds⁷⁴ (over one billion dollars today)⁷⁵ for soldiers. These women's skillful administration advanced the Commission farther than scientific discoveries would have, demonstrating organization's value.

Dorothea Dix, co-founder of the Commission and known for humanitarian mental illness institution reforms,⁷⁶ also exemplified organizational efficiency. Appointed the Superintendent of (Union) Army Nurses in 1861, Dix was the first woman to hold a federal executive position.⁷⁷

⁷¹ Jone Johnson Lewis, "Sanitary Commission (USSC)," ThoughtCo, last modified February 12, 2019, accessed January 16, 2023, <https://www.thoughtco.com/sanitary-commission-ussc-3528670>.

⁷² Bellows, *United States Sanitary Commission*, 9.

⁷³ Elizabeth Robertson, "The Union's 'Other Army': The Women of the United States Sanitary Commission," Gilder Lehrman Institute of American History, accessed May 11, 2023, https://www.gilderlehrman.org/sites/default/files/inline-pdfs/Elizabeth%20Robertson_0.pdf.

⁷⁴ L.P. Brockett and Mary C. Vaughan, *Woman's Work in the Civil War: a Record of Heroism, Patriotism and Patience* (Philadelphia: Zeigler, McCurdy & Co., Chicago: Zeigler, McCurdy & Co., Cincinnati: Zeigler, McCurdy & Co., St. Louis: Zeigler, McCurdy & Co, 1867), 79, <https://www.gutenberg.org/files/21853/21853-h/21853-h.htm>.

⁷⁵ "Seven Ways to Compute the Relative Value of a U.S. Dollar Amount - 1790 to Present," Measuring Worth, accessed May 11, 2023, <https://www.measuringworth.com/calculators/uscompare/>.

⁷⁶ "Dorothea Lynde Dix," American Battlefield Trust, accessed May 12, 2023, <https://www.battlefields.org/learn/biographies/dorothea-lynde-dix>.

⁷⁷ Judith Geisburg, "Ms. Dix Comes to Washington," *The New York Times*, April 17, 2011, <https://archive.nytimes.com/opinionator.blogs.nytimes.com/2011/04/27/ms-dix-comes-to-washington/>.

She established strict standards for nurses,⁷⁸ trained thousands of women,⁷⁹ and transformed nursing into a respectable, skilled profession.⁸⁰ Replacing the untrained convalescent soldiers saddled with nursing duties with her corps of competent, experienced nurses,⁸¹ Dix crossed frontiers and saved lives through organization.

Organization led to the Commission's practical solutions. During the horrible Gettysburg aftermath, the first train of provisions that arrived was, "predictably,"⁸² from the Commission. When these first responders arrived, a surgeon ecstatically flung up his arms, exclaiming, "Thank God, here comes the Sanitary Commission; now we shall be able to do something."⁸³ Do something the agency did; to save lives and transfer wounded from field to general hospitals more easily, the Commission replaced roughly jolting "[train] cars...of torture"⁸⁴ with cleverly designed hospital cars. After stretchers were connected to four large rubber rings, these "hanging bed[s]"⁸⁵ were hung on hooks from support beams, allowing dozens of soldiers to be stacked into one hospital car and providing more comfortable transport.⁸⁶ In 1862, the Commission, "finding...government transportation of the sick...very rude, inadequate, and cruel,"⁸⁷ also

⁷⁸ "Dorothea Lynde Dix."

⁷⁹ Arlisha R. Norwood, "Dorothea Dix (1802-1887)," National Women's History Museum, last modified 2017, accessed May 12, 2023, <https://www.womenshistory.org/education-resources/biographies/dorothea-dix>.

⁸⁰ "Dorothea Dix and Cornelia Hancock: Two Views of Civil War Nursing," National Women's History Museum, last modified May 4, 2018, accessed May 12, 2023, <https://www.womenshistory.org/articles/dorothea-dix-and-cornelia-hancock>.

⁸¹ "Dorothea Dix and Cornelia Hancock."

⁸² D. L. Day, *My Diary of Rambles with the 25th Mass. Volunteer Infantry, with Burnside's Coast Division; 18th Army Corps, and Army of the James* (Milford: King and Billings, 1884), 83.

⁸³ G. Patterson, *Debris of Battle*, 39.

⁸⁴ Bellows, *United States Sanitary Commission*, 12.

⁸⁵ Bellows, 12.

⁸⁶ Wilbur, *Civil War Medicine*, 57.

⁸⁷ Bellows, *United States Sanitary Commission*, 11.

innovatively converted old steamers into floating hospitals to expedite military medical care.⁸⁸

These creative approaches demonstrate the Commission's ingenuity as it strode across frontiers.

Another especially notable Commission aspect was that, rather than “merely respond[ing] to the army's needs...it anticipated them.”⁸⁹ Commission strategists tracked armies' movements as closely as generals to estimate the location of the next battle and prepare supplies. Meanwhile, some 500 Commission agents constantly accompanied the army, leaving inspectors and nurses behind at each engagement.⁹⁰ Traveling alongside the soldiers allowed the Commission to issue organized responses after battles, efficiently addressing the wounded. Although Lincoln once dismissed it as “a fifth wheel,”⁹¹ the hugely effective Sanitary Commission quickly proved its worth; Lincoln soon publicly lauded its “direct practical value to the nation.”⁹²

Communicating with the government on the men's needs, the Commission also reported on the physical and mental health of soldiers, organized hospitals and camps, and distributed supplies.⁹³ Moreover, Clara Barton, who collaborated with the Commission during the war,⁹⁴

⁸⁸ United States Sanitary Commission, *Hospital Transports: A Memoir of the Embarkation of the Sick and Wounded from the Peninsula of Virginia in the Summer of 1862*, edited by Frederick L. Olmsted (Boston: Ticknor and Fields, 1863), 136,

https://www.google.com/books/edition/Hospital_Transports/VOkLAAAIAAJ?q=&gbpv=0#f=false.

⁸⁹ G. Patterson, *Debris of Battle*, 42.

⁹⁰ G. Patterson, 42.

⁹¹ William Quentin Maxwell, *Lincoln's Fifth Wheel: the Political History of the United States Sanitary Commission* (New York: Longmans, Green & Co.; London: Longmans, Green & Co.; Toronto: Longmans, Green & Co, 1956), 8, <https://hdl.handle.net/2027/mdp.39015011003087>.

⁹² Henry W. Bellows and Abraham Lincoln, *To the Loyal Women of America, October 1, 1861*, letter, from Seth Kaller, Inc: Historic Documents + Legacy Collections, <https://www.sethkaller.com/loyal-women-america-10-1-1861>.

⁹³ “United States Sanitary Commission,” U.S. Army Heritage and Education Center, accessed January 16, 2023, https://ahec.armywarcollege.edu/exhibits/CivilWarImagery/Sanitary_Commissionl.cfm.

⁹⁴ “Founder Clara Barton,” American Red Cross, accessed May 11, 2023, <https://www.redcross.org/content/dam/redcross/enterprise-assets/about-us/history/history-clara-barton-v5.pdf>.

partially modeled the American Red Cross off that agency.⁹⁵ The Commission's efficiency in serving soldiers conquered frontiers, trading chaos and passivity for crisp organization.

The Commission's rival, a YMCA offshoot, was the United States Christian Commission (USCC), whose delegates issued Bibles and preached, "concern[ed] for the spiritual welfare and moral protection" of soldiers.⁹⁶ Because the USCC also sought private sector funding, the Sanitary Commission viewed its competitor distrustfully, afraid of being undercut by that "association...calling itself a 'commission.'"⁹⁷ Furthermore, the U.S. government supported the USCC, perceiving it as much less threatening than the Sanitary Commission, since the former was neither concerned with medical administration nor critical of federal organization.⁹⁸

However, the USCC's work, while important, effected no policy change. The Sanitary Commission, alternatively, established preventative measures, "convinced that...prevent[ing] evils to the health of the army was...more important and serviceable than...attempt[ing] to cure them."⁹⁹ To protect soldiers' health, the agency stipulated that campsites had to be elevated and distanced from bacteria-breeding swamps. Other sanitation laws, like bathing directives,¹⁰⁰ tent spacing regulations, and daily dirt coverings for privies,¹⁰¹ soon followed. Additionally, Commission-constructed hospitals were "designed to make contagion and pestilence less easy and fatal."¹⁰² Prioritizing prevention of "neglected...sanita[tion],"¹⁰³ the Commission crossed the

⁹⁵ Rebecca Beiton-Aharon, "Women's Work: Olmsted and the Women of the United States Sanitary Commission," National Park Service, Frederick Law Olmsted site, last modified January 2020, accessed May 11, 2023, <https://www.nps.gov/frla/learn/historyculture/womenswork.htm>.

⁹⁶ G. Patterson, *Debris of Battle*, 87.

⁹⁷ Strong, *George Templeton Strong Diary*, 311.

⁹⁸ G. Patterson, *Debris of Battle*, 88.

⁹⁹ Bellows, *United States Sanitary Commission*, 7.

¹⁰⁰ Reilly, "Medical and Surgical Care," 141.

¹⁰¹ Wilbur, *Civil War Medicine*, 32.

¹⁰² Bellows, *United States Sanitary Commission*, 10.

¹⁰³ Bellows, 3.

frontier into modern science because of its organizational reforms, transforming the practice of military medicine.

Meanwhile, Confederates struggled. Lacking funds, driven leaders, and effective organization, Confederates copied Northern ideas with reduced success. A Rebel lamented, "The Ambulance Corps...had not been thoroughly organized in our army."¹⁰⁴ With no Sanitary Commission, disease ran rampant. General Lee wrote, "The soldiers everywhere are sick. The measles are prevalent throughout the whole army...accommodations for the sick are poor."¹⁰⁵ Mortality rates show that significantly higher percentages of Confederates died from diseases than Union soldiers.¹⁰⁶

Indeed, the Commission may have been critical to the Union's victory; it saved thousands from diseases, infections, and death. Although it was criticized as meddlesome, soldiers viewed the Commission as a protector and advocate effecting change amidst federal lethargy. With over 500 branches by 1863,¹⁰⁷ the Commission, the "only civilian-run organization recognized by the federal government"¹⁰⁸ and the first to fight for soldiers, crossed medical frontiers by pioneering disease prevention methods, protecting soldiers, and modeling an effective relief agency for future generations.

¹⁰⁴ John Newton Opie, *A Rebel Cavalryman with Lee, Stuart, and Jackson* (Chicago: W. B. Conkey Company, 1899), 39.

¹⁰⁵ Robert E. Lee, "The Confederate General," in *Recollections and Letters of General Robert E. Lee*, ed. Robert E. Lee Jr. (New York: Doubleday, Page & Company, 1904), <https://leefamilyarchive.org/papers/books/recollections/02.html>.

¹⁰⁶ Jenny Goellnitz, "Statistics on the Civil War and Medicine," Ohio State University, ehistory, accessed May 10, 2023, <https://ehistory.osu.edu/exhibitions/cwsurgeon/cwsurgeon/statistics>.

¹⁰⁷ Weber, "The Creation of the U.S. Sanitary Commission."

¹⁰⁸ "United States Sanitary Commission," U.S. Army Heritage and Education Center.

Conclusion

Letterman challenged, “Without proper means the Medical Department can no more take care of the wounded than the army can fight a battle without ammunition.”¹⁰⁹ Organization was vital. No matter what scientific breakthroughs were attained, without an implementing system, knowledge was largely useless. Civil War devastation presented remarkable opportunities for organizational advancement, from medical education reforms to Letterman’s ambulance corps and hospital network to the Commission’s powerful relief efforts and sanitation laws. Led by visionary people like Hammond with brilliant ideas on the edge of a frontier, an era of reforms swept in, revolutionizing wounded care and defeating obstacles blocking the frontier of organization and growth. Haphazard science and chaotic military organization were transformed into effective, efficient modern policies and systems. A frontier was conquered.

¹⁰⁹ Letterman, *Medical Recollections*, 156.

Annotated Bibliography

Primary Sources

Bellows, Henry W. *The United States Sanitary Commission*. New York: G. P. Putnam's Sons, 187-?. <https://www.loc.gov/item/12030918/>.

The original Sanitary Commission papers, authored by its president, allowed me a glimpse into the origins, objectives, motivations, and history of the Commission. It provided me with a firsthand description of the Commission's accomplishments and impact as well as insight into the agency's attitude towards its projects and the federal government.

Bellows, Henry W., and Lincoln, Abraham. *To the Loyal Women of America, October 1, 1861*. Letter. From Seth Kaller, Inc: Historic Documents + Legacy Collections. <https://www.sethkaller.com/loyal-women-america-10-1-1861>.

Commission President Henry Bellows appealed to American women in this letter for supplies to relieve wounded soldiers - asking the women to, "at the least, knit a pair of woolen stockings, or, if not...purchase them." At the end of the letter, Bellows had evidently asked President Lincoln to include a few lines, in which Lincoln praised the Commission's practical work and value to the nation. This source helped me to understand Lincoln's changing perspective on the Commission, since he was originally very disdainful and discouraging towards the agency but offered commendation and approval of the Commission in Bellows's letter mere months later.

Brockett, L. P., and Mary C. Vaughan. *Woman's Work in the Civil War: a Record of Heroism, Patriotism and Patience*. Philadelphia: Zeigler, McCurdy & Co., Chicago: Zeigler, McCurdy & Co., Cincinnati: Zeigler, McCurdy & Co., St. Louis: Zeigler, McCurdy & Co, 1867. <https://www.gutenberg.org/files/21853/21853-h/21853-h.htm>.

Brockett, a renowned writer, magazine editor, and biographer, wrote from a unique viewpoint in his book by focusing on women rather than men, something that most contemporaries would not even consider. Thus, I gained additional perspectives on the medical frontier and reform work during the Civil War from this source.

Day, D. L. *My Diary of Rambles with the 25th Mass. Volunteer Infantry, with Burnside's Coast Division; 18th Army Corps, and Army of the James*. Milford: King and Billings, 1884. <https://digital.lib.ecu.edu/16786>.

This Union soldier's diary gave me an impression of the soldiers' perspectives on the U.S. Sanitary Commission, since the Commission was one of the first organizations to directly provide aid to soldiers and advocate on their behalf to the federal government. Gaining a soldier's perspective - especially from one who had "taken a great interest" in the Commission - was valuable to me, especially since it made me realize that these soldiers were real men with real stories. Their leaders, like Letterman and Hammond,

made decisions that are not only mere statistics researched for an essay, but war-changing investments that significantly altered these soldiers' lives.

Edmonds, S. Emma E. *Nurse and Spy in the Union Army: Comprising the Adventures and Experiences of a Woman in Hospitals, Camps, and Battle-Fields*. Hartford: W. S. Williams & Co.; Philadelphia: Jones Bros. & Co.; Cincinnati: Jones Bros. & Co.; Chicago: J. A. Stoddard & Co., 1865.
<https://www.gutenberg.org/files/38497/38497-h/38497-h.htm>.

Ten days after Lincoln's call for 75,000 men, Edmonds, a Canadian immigrant and a nurse of astounding compassion, volunteered to serve as a nurse. From authentic, graphic written illustrations of battles to commentary on Union leaders to day-by-day humorous stories of the adventures that befell her regiment, Edmonds's account of her time as a nurse (and Union spy) served to communicate a sense of Union attitudes and struggles. For my paper, I primarily drew from her invaluable, detailed descriptions of the army's campgrounds, battlefields, field hospitals, ambulance enterprises, and state of wounded men and their care.

Hammond, William A. *Circular No. 2*. Pamphlet. Washington D.C.: Surgeon General's Office, May 21, 1862. From National Institute of Health, *National Library of Medicine, Digital Collections, Medicine in the Americas, 1610-1920*.
<http://resource.nlm.nih.gov/101534229>.

Hammond's original Circular No. 2 pamphlet gave me the Surgeon General's exact words as he began the overwhelming task of reforming the American military medical system. Deceptively simple, the circular nevertheless stipulated what Hammond wanted included in monthly reports and provided insight on Hammond as a person.

Haupt, Herman. *Reminiscences of General Herman Haupt: Giving Hitherto Unpublished Official Orders, Personal Narratives of Important Military Operations, and Interviews with President Lincoln, Secretary Stanton, General-in-chief Halleck, and with Generals McDowell, McClellan, Meade, Hancock, Burnside, and Others in Command of the Armies in the Field, and his Impression of These Men*. Milwaukee: Wright and Joys Co., 1901. <https://www.loc.gov/item/04013616/>.

Haupt, an ingenious architect responsible for reorganizing the Union's rail supply network, was an essential part of the massive military reorganization effort spearheaded by Letterman. When Haupt rebuilt the destroyed Potomac Run Bridge unbelievably quickly with only crude, limited materials in May of 1862, President Lincoln himself visited the site of the miracle and commented that the new bridge constructed by "that man Haupt" was "the most remarkable structure that human eyes ever rested upon...over which loaded trains are running every hour, and, upon my word, gentlemen, there is nothing in it but beanpoles and cornstalks." Although I was not able to include Haupt in my paper due to word count limitations, reading about his accomplishments provided me with a larger sense of initiatives, successes, and notable figures (other than Hammond and Letterman) significant during the Civil War.

Holmes, Oliver Wendell. *Currents and Counter-currents in Medical Science: With Other Addresses and Essays*. Boston: Ticknor and Fields, 1861.

https://www.google.com/books/edition/Currents_and_Counter_currents_in_Medical/z19RAAAAYAAJ?hl=en&gbpv=0.

This work by the notable Holmes Sr. displayed a contemporary perspective of the general medical ignorance and scientific misconceptions of the time. Holmes's book included an interesting quote considering the common acceptance of physicians' detrimental treatments: "I firmly believe that if the whole material medica, as now used, could be sunk to the bottom of the sea, it would be all the better for mankind, - and all the worse for the fishes."

Holt, Daniel M. *A Surgeon's Civil War: The Letters & Diary of Daniel M. Holt, M.D.* Edited by James M. Greiner, Janet L. Coryell, and James R. Smither. Kent: Kent State University Press, 1991.

https://www.google.com/books/edition/A_Surgeon_s_Civil_War/W8ykJ9Hrf3wC?hl=en&gbpv=0.

Holt's account of his life as a surgeon and vivid narrative of daily military life informed me of the many duties and responsibilities that the average Union surgeon faced, allowing me to better judge the impact that Letterman's reorganization (including forming teams of surgeons) had by describing the pre-Letterman conditions.

Lee, Robert E. "The Confederate General." In *Recollections and Letters of General Robert E. Lee*, edited by Robert E. Lee Jr., Chapter 2. New York: Doubleday, Page & Company, 1904. <https://leefamilyarchive.org/papers/books/recollections/02.html>.

The general's description of the dire situation of his sick and suffering men in a letter to Mrs. Lee provided an alternate angle on the time period of my paper. Gaining an understanding of Confederate sanitation conditions and being aware of Lee's reaction to the widespread diseases benefited me by providing a different historical perspective, especially because Lee was clearly concerned and overwhelmed by the circumstances, unable to stop the soldiers' suffering because of a lack of organization.

Letterman, Jonathan. *Gettysburg Report, October 3, 1863*. Report. From ehistory.

<https://ehistory.osu.edu/exhibitions/cwsurgeon/cwsurgeon/gburgreport>.

The Battle of Gettysburg was simultaneously momentous and devastating, costing tens of thousands of lives on each side, but even more controversial was the handling of the aftermath. Some scholars blame Letterman for the tremendous failure in coordinating a relief response at Gettysburg, as he turned away dozens of offers of help due to massive miscommunication while Gettysburg soldiers suffered, starved, and lost limbs or lives due to scant supplies and a sorely inadequate number of surgeons. However, Letterman's Gettysburg report (along with his *Medical Recollections*) provide further context on the situation by indicating that the disastrous Gettysburg aftermath was not due to a deficiency in Letterman's military medical system, but resulting from a lack of

communication from Gettysburg relief volunteers as well as General Meade's short-sighted orders.

Letterman, Jonathan. *Jonathan Letterman to Brig. Gen. S. Williams, Report of March 1, 1863*. Letter. Washington D.C.: U.S. Government Printing Office, 1880-1901. From ehistory, *The War of the Rebellion: Official Records of the Civil War, 1861-1865, Vol. 19/Part 1 (Serial 027)*, p. 113. <https://ehistory.osu.edu/books/official-records/027/0113>.

“The surgery of these battle-fields has been pronounced butchery,” Letterman indignantly wrote. A section of this letter was devoted entirely to a refutation of biased, stereotyped “denunciations” against Civil War surgeons and their techniques, as Letterman held military surgeons in highest esteem for their skilled work. This letter furnished further information for me about Letterman’s relationships with and attitude about the surgeons whose profession he reorganized, important because Letterman’s opinion of their work would impact his reforms.

Letterman, Jonathan. *Medical Recollections of the Army of the Potomac*. New York; D. Appleton and Company, 1866. <https://wellcomecollection.org/works/v24ncef5/items?canvas=8>.

Letterman’s writing broadened my knowledge about exactly how and why he reformed various aspects of the military care system, as well as detailing the extent of his regulations and the organization of the many ranks and hierarchies that he implemented. Moreover, though, reading Letterman’s memoirs allowed me to experience landmark events in his own words, through his own firsthand perspective, and with his commentary, from the reasoning behind the medical system he established to a narrative of Civil War developments to rants about the failing health of soldiers or dismal conditions in camps he visited. This was an extremely valuable source as it added depth and insight to my research.

Moore, Samuel Preston. *Circular*. Pamphlet. Richmond: Surgeon General’s Office, July 6, 1863. From the National Library of Medicine. <https://collections.nlm.nih.gov/bookviewer?PID.nlm:nlm-uid-101645112-bk>. Accessed January 16, 2023.

This Confederate circular provided me with an alternate perspective on medical reforms, which was needed since my paper primarily focused on Union advancements and Northern figures. Refining its standards as well, the Confederate army and its Surgeon General issued detailed directives on sanitation, such as mandates that hospital floors had to be cleaned by dry scrubbing with sand, each hospital door had to be labeled with an individual number, separate wards had to be established for patients with contagious diseases, three sheets had to be stretched across each hospital bed and the bedding aired regularly, etc. Despite these advancements, the Confederates still struggled, lacking leaders, funds, supplies, and, crucially, a system of organization.

New York Daily Herald. “Our Wounded Soldiers in Battle.” September 15, 1862. <https://www.civilwarmed.org/need-for-ambulance/>.

This newspaper editorial informed me of the general Northern public's opinions on the state of the military's medical care. Perhaps unaware of Letterman's ambulance corps founded just one month prior, the Daily Herald beseeched General Meiggs, Quartermaster General, to arrange for the formation of regular military ambulance corps, as New York citizens were evidently concerned about their soldiers (likely due to the newspaper reports of battles and battlefield conditions they had read). The editorial, stating that "there is no duty more imperative on the government than the care and protection of its wounded heroes," effectively and stirringly communicated Union civilians' perspectives, and revealed that Letterman was not the only one who acknowledged the need for an ambulance corps.

The New York Times. "OUR MILITARY HOSPITALS; A Glance at Their Organization and Work." July 2, 1865.

<https://www.nytimes.com/1865/07/02/archives/our-military-hospitals-a-glance-at-their-organization-and-work.html>.

Although the temporary, newly established general military hospitals that the *Times* reviewed were founded under Surgeon General Barnes's term (rather than Hammond's), Hammond's legacy was evident. The reporter toured the grounds "without hearing of a single case of medical mismanagement [to report]," and "the sanitary regulations of the hospitals reflect credit upon the surgeons in charge," with clean floors, fresh bedding, well-aired beds, and well-ventilated apartments. While not directly created by Hammond (who was replaced with Barnes due to the unconventionality of the former's reforms), the hospitals showcased Hammond's influence with their progressive sanitation standards and overall efficacy, and the review gave me a sense of Hammond's impact.

Olmsted, Frederick Law. *The Papers of Frederick Law Olmsted: Defending the Union: The Civil War and the U.S. Sanitary Commission, 1861–1863*. Edited by Jane Turner Censar. United Kingdom: Johns Hopkins University Press, 1986.

https://www.google.com/books/edition/The_Papers_of_Frederick_Law_Olmsted/0f3iwAEACAAJ?hl=en&gbpv=0&kptab=overview.

It was fascinating to read Olmsted's own writing, as the Executive Secretary of the Commission had much scalding criticism of the status quo at the beginning of the war - including phrases like "the whole business is miserably bad...I constantly see more and more evidence of it" and "radical errors." Olmsted especially denounced Surgeon General Finley's incompetence, proved by Finley's nonresponsiveness to requests for medical supplies and his stubborn quibbling over precedent. I was able to use a particularly effective Olmsted quote in my paper, although I was unfortunately prevented from elaborating more on Finley by word count limitations.

Opie, John Newton. *A Rebel Cavalryman with Lee, Stuart, and Jackson*. Chicago: W. B. Conkey Company, 1899.

https://www.google.com/books/edition/A_Rebel_Cavalryman_with_Lee_Stuart_and_J/GoZQNeIJYY8C?hl=en&gbpv=0.

This work described the deplorable aftermath of the Battle of First Manassas (named

such since the author was a Confederate), graphically reporting on piles of rotting human limbs scattered around the battlefield, which resembled “piles of corn at a corn-shucking.” Contrasting with Letterman’s defense of physicians and their techniques, this book censured surgeons, arguing that they needlessly and crudely hacked off limbs. Using Opie’s writing let me compare conflicting views and accounts, allowing me to piece these individual narratives into a more complete, more accurate, informed picture of sanitation conditions and the medical care situation.

Ruggles, Samuel B., Morris Ketchum, C. R. Robert, William A. Booth, Robt. M. Minturn, David Hoadley, George Opdyke, J. R. Giraud Foster, Jonathan Sturges, Charles E. Strong. “SANITARY COMMISSION; Appeal of the Executive Finance Committee in the City of New-York.” *The New York Times*, July 15, 1861.
<https://www.nytimes.com/1861/07/15/archives/sanitary-commission-appeal-of-the-executive-finance-committee-in.html>.

A public fundraising appeal issued by the U.S. Sanitary Commission, this newspaper article from the *New York Times* archives helped me to understand the goals and ideals of the newly founded Commission. Additionally, the writers utilized strong, dramatic language to paint a patriotic picture of suffering soldiers and the relief that the Commission could bring.

Strong, George Templeton. *George Templeton Strong Diary*. Diary. From New-York Historical Society, Museum & Library, N-YHS Digital Collection, *George Templeton Strong Diary, 1835-1875, Volume 3, 1854-1862*.
<https://digitalcollections.nyhistory.org/islandora/object/nyhs%3A54755>.

Strong, a prominent New York lawyer who doubled as the Commission’s treasurer, was unrestrained in passing judgment on various characters; from a humorous sketch of Hammond’s predecessor, Surgeon General Finley, to bitter contempt for the USCC, Strong was very jealous on the Sanitary Commission’s behalf. His diary allowed me insight into internal Sanitary Commission debates, conflicts, and attitudes.

Tripler, Charles S. *No. 4. - Report of Surg. Charles S. Tripler, Medical Director of the Army of the Potomac, of the Operations of the Medical Department of that Army from August 12, 1861, to March 17, 1862*. Report. From ehistory.
<https://ehistory.osu.edu/exhibitions/cwsurgeon/cwsurgeon/sanitation>.

Tripler’s report offered a description of the various types of diseases and an analysis of the most fatal and prevalent “scourges incident to armies in the field” that the Army of the Potomac suffered. His report was useful in giving me a summary of the struggles that the soldiers faced and that Letterman and the Commission would have had to confront in combating disease and effecting reforms.

United States Sanitary Commission. *Hospital Transports: A Memoir of the Embarkation of the Sick and Wounded from the Peninsula of Virginia in the Summer of 1862*. Edited by Frederick L. Olmsted. Boston: Ticknor and Fields, 1863.
https://www.google.com/books/edition/Hospital_Transports/VOkLAAAIAAJ?g=&gbp

[v=0#f=false](#).

This work, authored by various members of the U.S. Sanitary Commission, detailed a narrative of struggle and success as industrious volunteers and officers transformed sixteen deteriorating, idle steamboats into floating refuges for the wounded. In the summer of 1862, a shift “of the active scene of war from the high banks of the Potomac to a low and swampy region, intersected with a net-work of rivers and creeks,” explained the need for these hospital ships, which often offered better care and nourishment than dirty, overcrowded field hospitals. The memoir supplied me with a glimpse into the Commission’s daily relief efforts and an idea of their aims, disclosing their ingenuitive thought processes and behind-the-scenes work in assembling the hospital ships.

Williams, S. *General Orders No. 147*. August 2, 1862. From ehistory.
<https://ehistory.osu.edu/exhibitions/cwsurgeon/cwsurgeon/orders147>.

Letterman’s ambulance corps, although designed and organized by him, was officially created through General Orders No. 147, written by Assistant Adjutant-General Williams under General McClellan’s orders. The order very clearly laid out the hierarchy of ambulance ranks, the intricacies of which commanding officers were assigned to which ambulance units (brigades, regiments, etc.), and the duties of each leader - all of which were originally devised by Letterman, of course. Because of this source, I better understood the process by which Letterman established his ambulance corps and the overall scheme of the system.

Whitman, Walt. “Down at the Front.” In *Prose Works*, Chapter 22. Philadelphia: David McKay, 1892. <https://www.bartleby.com/229/1022.html>.

The renowned poet Whitman contributed to the Union war effort by touring hospitals, visiting soldiers, and publishing accounts of his experiences. His description of awful campground conditions, which included “heap[s] of amputated feet, legs, arms, hands,” provided me with a sense of the disorder and filth that the Commission would have had to address.

Woodward, Joseph Janvier. *Outlines of the Chief Camp Diseases of the United States Armies as Observed During the Present War: A Practical Contribution to Military Medicine*. Philadelphia: J. B. Lippincott & Co., 1863.
https://www.google.com/books/edition/Outlines_of_the_Chief_Camp_Diseases_of_t/EDYAAAAAQAAJ?hl=en&gbpv=0.

Woodward, a prominent Union surgeon, graphically described the “want of cleanliness”, the shocking state of the soldiers’ barracks, rampant diseases and aggravating factors, “air...poisoned by putrid exhalations” (from dysentery-induced excrement), and the general dismal situation. As a medical professional, Woodward’s description was much more thorough and detail-oriented than the impassioned, broad descriptions in other soldiers’ diaries that I read, thus giving me a more accurate overview of sanitation conditions.

Wormeley, Katharine Prescott. *The Other Side of War with the Army of the Potomac: Letters from the Headquarters of the United States Sanitary Commission during the Peninsular Campaign in Virginia in 1862*. Boston: Ticknor and Company, 1889.

<https://hdl.handle.net/2027/uc2.ark:/13960/fk3dz0379w>.

Similar to Edmonds's *Nurse and Spy*, Wormeley's memoirs chronicled the progress of medical and sanitation reforms from a nurse's perspective. Offering a contemporary perspective on leaders like Olmsted and firsthand insight on the Commission's endeavors and origins, Wormeley's writing and collected letters helped me understand the true impact of the U.S. Sanitary Commission.

Secondary Sources

"Antietam Casualties by Type." National Park Service. Last updated October 19, 2021. Accessed January 13, 2023. <https://www.nps.gov/anti/learn/historyculture/casualties.htm>.

I used this source when writing a paragraph about battles that severely tested Letterman's system but proved its efficacy, which later had to be deleted due to the word count. However, the NPS article still influenced my paper by giving me broader context about the strength of Letterman's ambulance corps.

Backus, Paige Gibbons. "Amputations and the Civil War: Surgery in the Civil War Era." American Battlefield Trust. Last modified March 25, 2021. Accessed January 16, 2023. <https://www.battlefields.org/learn/articles/amputations-and-civil-war#>.

This article, one of the first sources that I found in my preliminary research, led to many primary sources. It also provided valuable general background and an extremely useful overview about the state of medicine and sanitation standards at the start of the war. In fact, it was this source that inspired me to research the Civil War medical front further, hooking me onto this topic by making me wonder how the problematic scenarios and appalling conditions described in the article were remedied.

Beiton-Aharon, Rebecca. "Women's Work: Olmsted and the Women of the United States Sanitary Commission." National Park Service, Frederick Law Olmsted site. Last modified January 2020. Accessed May 11, 2023. <https://www.nps.gov/frla/learn/historyculture/womenswork.htm>.

This work discussed the Commission's long term effects, such as how many prominent female leaders in the Commission later joined the women's suffrage movement. Notably, Clara Barton based the American Red Cross on the Sanitary Commission, besides the International Red Cross.

Carrino, David A. "The Medical 'Rebellion' within the Union Army." The Cleveland Civil War Roundtable. Last modified April 16, 2020. Accessed April 11, 2023. <https://www.clevelandcivilwarroundtable.com/the-medical-rebellion-within-the-union-army/>.

Carrino's article detailed information about the widespread use of calomel, the toxic side effects (including teeth loss and facial deformities), and the "Calomel Rebellion" that caused Hammond's dismissal. Fascinatingly, this source described the fierce rivalry between Hammond, described as arrogant, overbearing, and openly contemptuous, and Attorney General Edward Stanton, who had used Hammond's controversial ban of calomel to ship him on a military hospital inspection tour, effectively removing him from his post. Hammond's court-martial after returning from the tour was rigged, with a jury selected by Stanton and composed of Hammond's known enemies, and it served as a melancholy ending to Hammond's brilliant term in office.

"Civil War Rations." Video file, 4:57. American Battlefield Trust. January 16, 2020.

<https://www.youtube.com/watch?v=LpACpzFdURc&t=293s>,

When I first watched this video for a homework assignment, I realized it would be useful as a source for my paper, since it elaborated on the sources of many ailments and illnesses that plagued soldiers. For instance, issued hardtack was usually infested with vermin such as weevil larvae, and some hardtack was even left over from the Mexican war, ten years prior, and supposedly inedible. Thus, the rations that the soldiers received contributed to the unchecked spread of illness, as the consumption of mold, insect larvae, and rancid or spoiled food threatened soldiers' health further.

Dellinger, Matt. "Frederick Law Olmsted's War on Disease and Disunity." *The New Yorker*, May 16, 2020.

<https://www.newyorker.com/culture/cultural-comment/frederick-law-olmsteds-war-on-disease-and-disunity>.

This article, in outlining Olmsted's life and impact, recounted his many contributions to his nation in various fields, from his ingenious design of New York's Central Park to his firm, efficient leadership of the U.S. Sanitary Commission. The descriptions of the balance, complexity, and organized planning involved in the relief agency (rather than a mere list of what it achieved) helped me understand more about the Commission and Olmsted, which was beneficial as I wrote my paper, despite having to delete many paragraphs. However, most importantly, this source humanized Olmsted, describing his character and motivation as well as his achievements, and gave me a fresh perspective on not only what he accomplished, but also what drove him to it.

Devine, Shauna. *Learning from the Wounded: The Civil War and the Rise of American Medical Science*. Chapel Hill: The University of North Carolina Press, 2014.

This book was a crucial cornerstone of my paper, and provided a lot of information for my key points. Reading Devine's comprehensive history of medicine and studying the way she tied organizational and policy breakthroughs, scientific developments, and influential figures of the time together very much impacted my paper and perspective.

Dickinson College Archives. "Clement Alexander Finley (1797-1879)." Dickinson College, Archives and Special Collections. Last modified 2005. Accessed January 16, 2023.

<https://archives.dickinson.edu/people/clement-alexander-finley-1797-1879>.

Clement Finley, the Surgeon General predecessor to Hammond, was ineffectual and incompetent. This source supplied me with a short biography of Finley and gave me brief context on his career and military service.

Dixon, Ina. "Civil War Medicine: Modern Medicine's Civil War Legacy." American Battlefield Trust. Last modified October 29, 2013. Accessed January 13, 2023.
<https://www.battlefields.org/learn/articles/civil-war-medicine>.

One of the first sources that I found in my research, this article convinced me that I wanted to pursue this topic of a Civil War medical frontier, and intrigued me with appalling statistics and captivating tales. It covered a broad range of material, which prompted me to further explore the topics I found most fascinating, and it also contained helpful details about Letterman's achievements and impact.

"Dorothea Dix and Cornelia Hancock: Two Views of Civil War Nursing." National Women's History Museum. Last modified May 4, 2018. Accessed May 12, 2023.
<https://www.womenshistory.org/articles/dorothea-dix-and-cornelia-hancock>.

Dorothea Dix, a prominent reformer and activist even before her work with the Commission, was responsible for transforming nursing into a respectable profession requiring training, hiring standards, and evaluation. Before her work organizing a corps of skilled nurses, feeble convalescent soldiers were stranded with whatever nursing duties the Army Bureau required. This source supplied more background on Dix and the needs she met.

"Dorothea Lynde Dix." American Battlefield Trust. Accessed May 12, 2023.
<https://www.battlefields.org/learn/biographies/dorothea-lynde-dix>.

This source elaborated further on Dorothea Dix's contributions as well as her work with hospital and asylum reforms. A champion for the mentally ill, Dix lobbied for more humane treatment in mental illness institutions. From all this, I gained more insight into Dix's motivation and methods for her Commission reforms, allowing me to weave another perspective into my paper (specifically on Dix, as state judges advised).

Dorwart, Bonnie Brice. "Disease in the Civil War." Essential Civil War Curriculum. Last modified November 2012. Accessed January 12, 2023.
<https://www.essentialcivilwarcurriculum.com/disease-in-the-civil-war.html>.

This work primarily described 19th century diseases, their causes, symptoms, and treatments. Although I had to edit out many paragraphs of my NHD paper discussing diseases and the abominable "cures" utilized by quack physicians, this article still contributed to my paper's argument by providing an idea of the pre-Commission situation.

"Dr. William Hammond." American Battlefield Trust. Accessed May 11, 2023.
<https://www.battlefields.org/learn/biographies/dr-william-hammond>.

Hammond was quite esteemed in the medical and research fields even before being recognized on a national, federal level. From this article, I learned more about Hammond's background (according to state judges' recommendations), such as how he was appointed chair of Anatomy and Physiology at the University of Maryland.

“Dr. William Hammond, Surgeon General.” National Museum of Civil War Medicine. Last modified July 18, 2022. Accessed April 7, 2023.
<https://www.civilwarmed.org/dr-william-hammond-surgeon-general/>.

I gained a lot of eye-opening background on Hammond from this article. I was surprised to learn that before either of them rose to national acclaim, Letterman and Hammond had previously worked together in West Virginia and that they had even already begun hospital and ambulance reforms on a smaller scale, which was what had drawn the Commission's attention to them both.

Duncan, Louis Caspar. *The Medical Department of the United States Army in the Civil War*. Philadelphia: P. Blakiston's Sons & Company, 1917.

The section of this book that I found most striking described the extreme amount of physical work, mental stress, and emotional burdens thrust upon surgeons. Duncan wrote that a surgeon, “having been long at his work, would put down his knife, exclaiming that...this was too much for human endurance, hysterical tears streaming down his face.” This reminded me that although men like Letterman might have been in charge of organizing teams of physicians, it was still these surgeons themselves who had to carry out the gritty amputations, driven day and night to aid suffering soldiers.

“Founder Clara Barton.” American Red Cross. Accessed May 11, 2023.
<https://www.redcross.org/content/dam/redcross/enterprise-assets/about-us/history/history-clara-barton-v5.pdf>.

While Clara Barton did work with the Commission during the Civil War, sending clothing, food, and supplies to wounded and sick soldiers on behalf of the Commission, she was never formally affiliated with any relief agency. When doing research for this paper, I found the differences between Clara Barton and Dorothea Dix very interesting, since both were prominent nurses who spearheaded movements, but only Dix chose to involve herself with the Commission.

Geisburg, Judith. “Ms. Dix Comes to Washington.” *The New York Times*, April 17, 2011.
<https://archive.nytimes.com/opinionator.blogs.nytimes.com/2011/04/27/ms-dix-comes-to-washington/>.

I thought it was important to include how Dorothea Dix was the first woman to hold an American federal executive position (Superintendent of Army Nurses), as this source pointed out. This article also described Dix's authoritative, capable manner, and her immediate, organized response to the outbreak of the Civil War as she traveled to the Capitol.

Goellnitz, Jenny. "Civil War Medicine: An Overview of Medicine." Ohio State University, ehistory. Accessed January 12, 2023.
<https://ehistory.osu.edu/exhibitions/cwsurgeon/cwsurgeon/introduction>.

This article documented the grip of deadly diseases during the Civil War, reported on the poor hygiene standards, and elaborated on the harmful treatments used by doctors. With its straightforward syntax and helpful compilation of information, this source was an excellent starting point for creating my outline.

Goellnitz, Jenny. "Statistics on the Civil War and Medicine." Ohio State University, ehistory. Accessed May 10, 2023.
<https://ehistory.osu.edu/exhibitions/cwsurgeon/cwsurgeon/statistics>.

This article supplied me with information on mortality statistics comparing Union with Confederate troops. A significantly higher percentage of Confederate soldiers died from disease (whether it was from "pulmonary diseases," "malarial fevers," etc), which leads to the conclusion that the Sanitary Commission and Northern leaders like Hammond and Letterman did in fact make a huge difference.

"Jonathan Letterman." American Battlefield Trust. Accessed January 13, 2023.
<https://www.battlefields.org/learn/biographies/jonathan-letterman>.

As noted in this report, before the Second Battle of Bull Run, Letterman had very limited authority; however, the horror and chaos of the battle's aftermath led to McClellan granting him "free range" to restructure military medical services. This article discussed Letterman's history and was helpful by contributing particulars (dates and statistics) about his term.

"Letterman, Jonathan (1824-1872)." Reynolds-Finley Historical Library, University of Alabama at Birmingham. Accessed January 13, 2023.
<https://library.uab.edu/locations/reynolds/collections/civil-war/medical-figures/jonathan-letterman>.

This source provided details about Letterman's ambulance corps and his reorganization of regiments and leadership. One of the first secondary sources that I found in my research, this account of Letterman summarized his major achievements and gave me content for my preliminary outline.

Lewis, Jone Johnson. "Sanitary Commission (USSC)." ThoughtCo. Last modified February 12, 2019. Accessed January 16, 2023.
<https://www.thoughtco.com/sanitary-commission-ussc-3528670>.

When I first wrote about the Commission, I did not realize how vital women were to the Commission's smooth functioning. This article elaborated on the roles that women played (such as fundraising, managing the organization, organizing medical services, and directly nursing) and also described how, after the war, these Commission women were hired to jobs previously barred to females because of their Commission experience.

Lustrea, John. "Eat Your (Desiccated) Vegetables." National Museum of Civil War Medicine. Last modified January 3, 2019. Accessed January 16, 2023.
<https://www.civilwarmed.org/vegetables/>.

I originally wanted to illustrate the Commission's ingenuity in meeting needs by using the example of the "desiccated" vegetables they created, which were a compact ounce of carrots, turnips, parsnips, greens, and any other available produce dried into a cube to be later soaked in water and consumed. This article gave me further information about the widespread vitamin deficiencies and malnutrition throughout Civil War camps. Although I eventually was forced to cut the paragraph on desiccated vegetables, studying the Commission's resourcefulness did give me a general overview of how they typically operated.

MacRae, Michael. "The Civil War and the Birth of the U.S. Prosthetics Industry." The American Society of Mechanical Engineers. Last modified June 6, 2011. Accessed January 17, 2023.
<https://www.asme.org/topics-resources/content/the-civil-war-and-birth-of-us-prosthetics-industry>.

This source supplied me with statistics and figures about Civil War soldiers and casualties.

Maxwell, William Quentin. *Lincoln's Fifth Wheel: The Political History of the United States Sanitary Commission*. New York: Longmans, Green & Co.; London: Longmans, Green & Co.; Toronto: Longmans, Green & Co, 1956.
<https://hdl.handle.net/2027/mdp.39015011003087>.

The first chapter of this book detailed the unsteady beginnings of the U.S. Sanitary Commission as they sought governmental approval in Washington, D.C. for over a week. Commission president Henry Bellows struggled to frame their proposal, inspired by a British sanitary agency, in a way that would be accepted by Americans who feared too much power given to any organization. Maxwell's superb writing covering the tense storyline and drama involved in the founding of the Commission gave me a sense of the opposition and challenges they faced, down to Lincoln shrugging them off as the "fifth wheel of the coach."

Norwood, Arlisha R. "Dorothea Dix (1802-1887)." National Women's History Museum. Last modified 2017. Accessed May 12, 2023.
<https://www.womenshistory.org/education-resources/biographies/dorothea-dix>.

This source detailed Dix's career, especially in regards to her work with nurses during the Civil War. I was amazed to learn that she trained and hired 15% of all Union army nurses herself, despite her uncompromising standards. Although male nurses dominated the field in that era, Dix conquered her own frontier through organizing a corps of trained, capable, female nurses.

“Olmsted and the Civil War.” National Park Service. Last modified February 2, 2022. Accessed January 13, 2023.

<https://www.nps.gov/frla/learn/historyculture/olmsted-and-the-civil-war.htm>.

This NPS article contributed a biography of Olmsted, which gave me more insight into his background and character. It also contained concrete details (“worked with 286 local aid societies,” etc.) about the impact of the Commission, as far as legacy can be measured in numbers and figures.

Patterson, Gerard A. *Debris of Battle: The Wounded of Gettysburg*. Mechanicsburg: Stackpole Books, 1997.

Patterson’s very well-researched writing helped to build the foundation for my paper. Because of this book, I was able to understand the historical figures I was writing about better, with more depth. Giving color to my mental impression of Letterman’s character, Patterson frankly discussed the great leader’s shortcomings and triumphs in an objective, clear-sighted way that no other source did, which enabled me to confidently draw my own conclusions about Letterman.

Patterson, Michael Robert. “Jonathan K. Letterman – Major, United States Army.” Arlington National Cemetery. Last modified April 5, 2023.

<https://www.arlingtoncemetery.net/lettermn.htm>.

This source yielded background information on Letterman, especially about his achievements, endeavors, and projects before he was appointed Medical Director of the Army of the Potomac. It was very interesting to consider how Letterman’s previous experiences with the army and government helped to shape his perspective and ideas over time.

Reilly, Robert F. “Medical and surgical care during the American Civil War, 1861–1865.” *Proceedings (Baylor University Medical Center)* 29, no. 2 (April 29, 2016): 138-142.

<https://doi.org/10.1080/08998280.2016.11929390>.

This NIH paper partially inspired my thesis for this project, with its comparison of medical and organizational advances made during the Civil War era. It also informed me on the awful pre-reform campground conditions, as well as newly Commission-instituted hygiene standards.

Reimer, Terry. “Medical Improvements in the Civil War and Their Affect on Modern Military Medicine.” National Museum of Civil War Medicine. Last modified November 9, 2016.

Accessed January 13, 2023. <https://www.civilwarmed.org/surgeons-call/modern/>.

This source, short but compact, mainly provided information about Letterman’s and Hammond’s collaboration in creating tiers of hospital care. It also reported on Hammond’s impact on hospitals (such as on the reduction of the death rate percentage from nearly all patients to an incredible 9%).

Robertson, Elizabeth. "The Union's 'Other Army': The Women of the United States Sanitary Commission." Gilder Lehrman Institute of American History. Accessed May 11, 2023. https://www.gilderlehrman.org/sites/default/files/inline-pdfs/Elizabeth%20Robertson_0.pdf.

This source gave me an overview on the Sanitary Fairs that Commission women organized as fundraisers; these fairs were a significant source of supplies and funds, usually featured many exhibits and events showcasing regional (sometimes agricultural) products, and were organized months in advance.

"Seven Ways to Compute the Relative Value of a U.S. Dollar Amount - 1790 to Present." Measuring Worth. Accessed May 11, 2023. <https://www.measuringworth.com/calculators/uscompare/>.

I used this website to calculate how much the amount of money raised by the U.S. Sanitary Commission's Sanitary Fairs (\$50 million) would be worth in today's currency, adjusting for inflation.

Spielvogel, J. Christian. *Interpreting Sacred Ground: The Rhetoric of National Civil War Parks and Battlefields*. Tuscaloosa: University of Alabama Press, 2013. https://www.google.com/books/edition/Interpreting_Sacred_Ground/Bz6Ue4iT2ScC?hl=en&gbpv=0.

As this book reads, "There was an unwritten code of honor among the infantry that forbade the shooting of men while attending to the imperative calls of nature." It was this quote, describing the effects of diarrhea and dysentery that plagued thousands of Civil War soldiers, that hooked me onto this topic.

Thompson, Helen. "Six Ways the Civil War Changed American Medicine." *Smithsonian Magazine*, June 17, 2015. <https://www.smithsonianmag.com/science-nature/six-ways-civil-war-changed-american-medicine-180955626/>.

This article, which elaborated on the distinct fields of medicine (including plastic surgery and prosthetics) that emerged during this time, contained a lot of pertinent information about changes in perspective on how to care for wounds. The summary of major medical breakthroughs (while my other research focused on organizational advances) was important so that I could create an informed thesis, studying both sides of the argument before choosing a side to argue for.

"United States Sanitary Commission." U.S. Army Heritage and Education Center. Accessed January 16, 2023. https://ahec.armywarcollege.edu/exhibits/CivilWarImagery/Sanitary_Commission1.cfm.

Another source that discussed the Commission's role, this work also included a contemporary photograph of a Sanitary Commission lodge. The article detailed what, specifically, the Commission did; it advised on medical care and general welfare,

advocated for the soldiers' physical and mental health, organized hospitals and camps, and distributed supplies (many of which were donated).

Weber, Lawrence. "The Creation of the U.S. Sanitary Commission." Warfare History Network. Last modified February 2010. Accessed May 11, 2023.
<https://warfarehistorynetwork.com/article/the-creation-of-the-u-s-sanitary-commission/>.

This source provided information on Dorothea Dix's role in the founding of the Commission, as well as further background on the Commission. I also gained an idea of how the Commission expanded over time, as it eventually divided its work into three departments - the Department of Preventative Service, the Department of General Relief, and the Department of Special Relief.

Wilbur, C. Keith. *Civil War Medicine*. Old Saybrook: The Globe Pequot Press, 1998.

This book inspired my project, as Wilbur's thorough research and neatly outlined writing pushed my paper significantly forward. Information from this comprehensive book, covering many details on Letterman's achievements and the Commission's history, was a great asset to me as I wrote. At the start of my research, this book was able to give me a general overview of what I was about to dive into and provided many valuable notes and insights.

Wolf, Ronald. "Techniques of Civil War Medical Innovator Jonathan Letterman Still Used Today." U.S. Army. Last modified February 1, 2019. Accessed January 16, 2023.
https://www.army.mil/article/216935/techniques_of_civil_war_medical_innovator_jonathan_letterman_still_used_today.

This article outlined the many various ways that Letterman's creative organization and innovative ideas are still used in the present-day U.S. military wounded evacuation process. Although I was not able to include a paragraph discussing Letterman's and Hammond's long-term impact, knowing how deeply these leaders impacted not only American medicine but the entire nation was truly fascinating to read about.

Wynn, Jake. "From Antietam to D-Day - Medical Evacuation on the Battlefield." National Museum of Civil War Medicine. Last modified June 6, 2018. Accessed January 13, 2023.
<https://www.civilwarmed.org/evacuation-2/>.

This source gave a brief overview of the progression of military medical evacuation through American history. It also contained some details about how field hospital organization was rearranged from regimental control to divisional authority.