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## New College Within the College Posters

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# New College Within the College Posters

The latest batch of [College Within the College](#) posters have been uploaded to the [Jefferson Digital Commons](#).

**College within the College(CwiC)** is a four year academic area of concentration designed to enrich the Medical College curriculum for those students who seek additional training in Population Health. This program aims to step beyond the individual-level focus of mainstream medicine by addressing a broad range of factors that impact health, such as: environment, literacy, ethnicity, social structure, resource distribution, health systems, and health education/promotion. This collection consists of posters and presentations developed by Jefferson CwiC-PH medical students in their exploration of service, research/evaluation, and policy analysis in local, regional, and international settings.

Current poster topics Include:

- [Lost in Legislation: Barriers in Actualization of Post-Apartheid Healthcare Reform in South Africa and American Analogies](#)
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- [The Public Health of Youth and High School Athletics](#)
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- [Developing Maternal and Child Health Curriculum in Rural Uganda](#)
- [The Intersection Between Medication Tablets and Electronic Tablets: Determining the Usability and Acceptability of a Patient-Centered Cardiovascular Risk Assessment \(PCCRA\) iOS App](#)
- [School Wellness Assessment: Creating a Culture of Health](#)
- [How a Civil War surgeon's population health initiatives helped save the Union](#)



# How a Civil War surgeon's population health initiatives helped save the Union

2LT Tyler Walker, U.S. Army Reserves, Medical Service Corp  
Sidney Kimmel Medical College of Thomas Jefferson University

*"There's a popular delusion that the highest duties of medical officers are performed in prescribing a drug or amputating a limb." – Dr. Jonathan Letterman*

## Introduction



Dr. Jonathan Letterman was the medical director for the Army of the Potomac during the American Civil War. Dr. Letterman graduated from Jefferson Medical College in Philadelphia in 1849. With his appointment to the largest portion of the Union Army, Dr. Letterman was tasked with improving what would today be called a population health nightmare. Soldiers lived in filth, ate food devoid of nutrition, were forced to train beyond what was necessary no matter the conditions, and worst of all, were not provided with an organized medical department to treat them if they were wounded or became ill. He focused his attention on improving the healthcare soldiers received, bettering the culture of army medicine, and teaching individuals healthy and sanitary behaviors. His innovative ideas not only saved the lives of thousands of soldiers wounded on the battlefield, they prevented disease, increased the fighting strength of the Union Army, and ultimately aided the United States in winning the Civil War.

## Healthcare Reform

During the Civil War, casualties would number in the thousands during a single day of battle. Prior to Dr. Letterman's reforms, the wounded were often taken care of by family, friends, or volunteers. Dr. Letterman changed this by organizing the first ever ambulance corps that revolved around an ambulance designed by Baron Dominique Jean Larrey for Napoleon's Army in the early 1800s. These ambulances were lightweight horse-drawn carts, equipped with medical supplies and operated by medically trained soldiers. These ambulances were very effective and at the battle of Antietam, almost 10,000 men were removed from the battlefield in under 24 hours.<sup>1</sup>

Letterman also reformed hospitals. He made them safer by using well ventilated tents or large pavilion style hospitals so more men could be taken care of at once. His improvements led to a lower mortality for men who reached the hospital from the battlefield. At Antietam in September of 1862, more than 20% of those who reached a hospital died. In July of the next year at Gettysburg, after many improvements had been made, only 10% of those who reached a hospital died.<sup>2</sup>



## Social & Cultural Environment Reform

Dr. Letterman changed the culture of medicine in the Union Army by making surgeons appointed by skill and not family or political influence. He also removed a soldier's rank as a consideration for the type of care they received and based care on triage. During this era, high ranking officers would often be treated before mortally wounded soldiers, even if they didn't have life-threatening wounds. Dr. Letterman established his hospital system around triage with hospitals being tasked with differing levels of care. Triage and levels of care are still in place today in both civilian and military medicine.

## Individual Behavior Reform

Dr. Letterman was a keen observer and noticed the unsanitary and unhealthy conditions in which soldiers lived. He made recommendations to the commanding officers that included: latrine use, how to cook food to ensure the most nutrition, the depth walls should be dug, how long men should sleep each night, and how to organize camps to ensure good ventilation in each soldier's tent.<sup>3</sup> Although Letterman did not have the scientific research or germ theory to back up his actions, his observations proved correct and greatly improved the health of the army.

Without Letterman's reforms, assuming that the "died of wounds" mortality had remained unchanged, an additional 25,928 Union soldiers would have died over the course of the war.<sup>4</sup>

## Letterman and "The Triple Aim"

It is interesting to observe how Dr. Letterman's innovations addressed what would today be called determinants of health. Through his reforms, he addressed care, health, and cost, the three tenants of the Triple Aim.<sup>5</sup> Letterman sought to improve the individual health of soldiers through education, advocacy, and the acquisition of proper supplies. He improved the care soldiers received during the Civil War by creating his ambulance corps, designing safer hospitals, and changing the very culture around medicine by recruiting competent physicians. Through these reforms, he lowered the burden his department needed. Letterman was fastidious about record keeping, largely to reduce wasteful spending.

## Conclusion

The lessons from Letterman are clear: getting to know your population, understanding the extent of your influence, and expressing strong leadership are all ingredients to bettering the health of a population. Letterman is an example for any practitioner or student of medicine and/or population health. His legacy is one of selfless service to his country and the United States Army and its effects have stretched into the population at large. His work played a major role in improving the health and morale of the army that fought to restore the Union and end slavery during the American Civil War and his reforms are still relevant and practiced to this day. His attention to healthcare beyond the individual level has contributed to our understanding of what is today called population health. Letterman shows us that improving the health and quality of life for a group of individuals can have a powerful impact on society and can even change the course of history.



Photo from Jefferson Archives

## References

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- <sup>4</sup>Stross, R. (2015). The Strategic Genius of Jonathan Letterman: The Relevance of the American Civil War to Current Health-Care Policy Makers. *Military Medicine*, 290(2), 101-107.
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