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The Role of the United States Public Health Service in the Control of Syphilis during the Early 20th Century

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The Role of United States Public Health Service in the Control of Syphilis during the Early 20th Century

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by

George Sarka

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ABSTRACT OF THE
DISSERTATION

The Role of United States Public Health Service

in the Control of Syphilis during the Early 20th Century

by

George Sarka

Doctor of Public Health

University of California, Los Angeles, 2013

Professor Paul Torrens, Chair

Statement of the Problem: To historians, the word syphilis usually evokes images of a bygone era where lapses in moral turpitude led to venereal disease and its eventual sequelae of medical and moral stigmata. It is considered by many, a disease of the past and simply another point of interest in the timeline of medical, military or public health history. However, the relationship of syphilis to the United States Public Health Service is more than just a fleeting moment in time. In fact, the control of syphilis in the United States during the early 20th century remains relatively unknown to most individuals including historians, medical professionals and public health specialists. This dissertation will explore following question: *What was the role of the United States Public Health Service in the control of syphilis during the first half of the 20th century?* This era was a fertile period to study the control of syphilis due to a plethora of factors including the following: epidemic proportions in the U.S. population and military with syphilis; the

emergence of tools to define, recognize and treat syphilis; the occurrence of two world wars with a rise in the incidence and prevalence of syphilis, the economic ramifications of the disease; and the emergence of the U.S. Public Health Service with its champions, successes and failures.

Methods: To answer this question, an extensive review of literature was done including primary and secondary sources from the military, public health specialists, medical specialists, historical reviews, etc.

Summary: The control of syphilis was not possible until the U.S. Public Health Service had the tools to define, recognize and treat this disease which became reality in the early twentieth century. The importance of controlling syphilis for the U.S. Public Health Service surged during the First and Second World Wars where it became a major public health and military problem. It was also obvious that there needed to be both Governmental and public support for the control of syphilis in order for the U.S. Public Health Service to succeed in its mission. Clearly the 1920s and the early 1930s demonstrated that the control of syphilis could not be accomplished until the word syphilis metamorphosized from a taboo to a household term where it could be discussed in pubic in such venues as newspapers, radio, theater, etc. Additionally, there was a need for a champion like that of Thomas Parran MD, the 6th Surgeon General of Public Health to ignite that passion towards the control of syphilis with educational problems, increased research and financial aid.

After World War II, a national program for the control of syphilis had less importance to the U.S. Public Health Service due to several reasons. With the advancement in treatment for syphilis and gonorrhea, therapy via the Rapid Treatment Centers was replaced with antibiotics which now included penicillin. This new medication was simple to administer, rapid in onset, safe with minimal adverse side effects and most importantly effective. Secondly, physicians were

now able to provide such treatment in their office or clinics. Finally, due to cutbacks in the funding post war by the federal government, treatment of syphilis and gonorrhea became the responsibility of the state rather than that of the U.S. Public Health Service.

With the end of War World II, the focus of U.S. Public Health Service and need for reorganization would be necessary because of an epidemiological transition in the nation's disease patterns from that of communicable diseases (tuberculosis, syphilis, pneumonia, diarrheal diseases and diphtheria) to that of chronic diseases (heart disease, cancer, hypertension and accidents with their sequelae). However, syphilis stills a role to play in the U.S. Public Health Service with the Tuskegee Syphilis Study. Here both moral and ethical decisions about treating patients became paramount and resulted in major policy changes within the Service.

The dissertation of George Sarka is approved.

Deborah C. Glik

Gerald F. Kominski

Theodore Porter

Paul Torrens, Committee Chair

University of California, Los Angeles

2013

Dedication

Without the support and encouragement of my parents, George and Mary Sarka as well as my fiancée, Ms. Virginia Ho, my pursuit in the field of public health and this dissertation would not be possible. Although none of the above individuals has specialized in historical matters, medicine or public health, their insight into the importance and relevance of this subject truly reflects how great their generosity was. Thank you so much, Mom, Dad and Virginia.

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Publications

"The Nexus between Sir William Osler and 'Fat Joe"; the Pickwickian Syndrome and Sleeping Beauty AKA 'the Big Chief" submitted on 11/13/11 to the American Osler Society and accepted for presentation and publication for the 42nd Annual Meeting of the American Osler Society in Chapel Hill, North Carolina 4/22-25/12

"Osler, Keats and Tuberculosis"submitted on 11/15/10 to the American Osler Society and accepted for presentation and publication on 1/12/11 at the 41st Annual Meeting of the American Osler Society in Philadelphia, Pennsylvania, 5/1-4/11

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"Sir William Osler and the History of the Treatment of Syphilis" presented and published at the 39th Annual Meeting of the American Osler Society in Cleveland, Ohio, 4/21-23/09

Introduction:

> From the days of Homer[1], Apollo[2], the far darter[3], has been a much more formidable foe than his colleague Mars[4]. With the two in conjunction unspeakable woes afflict the sons of men. In this great strait[5] David[6], you remember, chose three days of pestilence as the equivalent of three months' military disaster. To-day {*World War I*} the front of Mars is wrinkle, the world is at war, and the problem for the children of Aesculapius[7] is to keep the grandfather Apollo from taking a hand in the fray. In this game another member of the family, Hygeia[8] holds the trump card and gives victory to the nation than can keep a succession of healthy efficient men in the field.[9]

Throughout history, war and disease have played a major role in human suffering and death.

> Warfare and disease have always gone hand in hand. Disease affects armies, and armies spread disease.[10]

In fact, there have been far more deaths as a result of disease than from actual battle in all conflicts until recently.[11]

> During the Napoleonic wars {1803-1815}, eight times more people in the British army died from disease than from battle wounds.[12]

> During the Crimean war {1853-1856}, the appalling conditions of the sick and wounded caused a public outcry. In that war 1,761 British soldiers died of wounds and 16,497 died of disease—almost ten times as many. The main causes of death were cholera, typhoid, and typhus, due principally to a total neglect of hygiene.[13]

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[1] In Greek classical tradition, the author of epic poetry, notably the Iliad and the Odyssey
[2] Greek god of prophecy, medicine, music, and poetry
[3] Far darter means distant, deadly archer. In Greek mythology, Apollo would inflict disease by shooting arrows at the individual.
[4] Roman god of war
[5] "Great strait" refers to a desperate situation
[6] David was the Biblical King of Israel
[7] Greek god of medicine and healing
[8] Greek goddess of health
[9] Osler, William, The War and Typhoid Fever, *Br Med J* 1914;2:909.
[10] Noon, Geoffrey, *Oxford Companion to Military Medicine: Military Medicine*, Oxford University Press, 2001, 2004 at the website: http://www.answers.com/topic/medicine-military#ds_copyrights on 9/1/12.
[11] Smallman-Raynor, M.R., et al, War Epidemics: An Historical Geography of Infectious Diseases in Military Conflict and Civil Strife, Oxford, Oxford University Press, 2004.
[12] Connolly, Márie A. et al., Deadly comrades: was and infectious diseases, The Lancet Supplement December 2002; Volume 360:s23.
[13] Noon, Geoffrey, *Oxford Companion to Military Medicine: Military Medicine*, Oxford University Press, 2001, 2004 at the website: http://www.answers.com/topic/medicine-military#ds_copyrights on 9/1/12.

Even more profound in terms of number of casualties from infectious diseases was the era of the American Civil War (1861-1865) where the mortality of soldiers from various maladies extended far beyond the time of the surrender by General Robert E. Lee at the village of Appomattox Courthouse on April 9, 1865.

> In the American Civil War, two-thirds of the estimated 660,000 deaths of soldiers were caused by pneumonia, typhoid, dysentery, and malaria, and this death toll led to a 2-year extension of the war. These diseases became known as the "third army."[14]

Infectious diseases tend to thrive in the squalid and wretched conditions created by human conflict. These afflictions affect both armies and the civilians leaving no one immune from the ravages of war.

> Infectious diseases {consisting of both old and new pathogens} are opportunistic and exploit the niches left by conflict-induced collapses in nutrition, hygiene and population movements.[15]

The military fighting in new epidemiological theaters of war have demonstrated higher morbidity and/or mortality rates due to disease.[16],[17] Major epidemics during war tend to be more prominent especially in areas such as concentration camps and refugee settlements. War itself is an obstacle to disease eradication due to multiple factors such as mass movements of populations, overcrowding, poor sanitation, lack of access to clean water and other resources, malnutrition as well as the overwhelming number of battle casualties and sick individuals. During war, public health infrastructure and health care services often become fragmented, inadequate or nonexistent.

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[14] Connolly, Márie A. et al., Deadly comrades: was and infectious diseases, The Lancet Supplement December 2002; Volume 360:s23.
[15] Historical geography of war and disease at the website: http:www.geog.cam.ac.uk/research/projects/warepidemics/ on 8/25/12
[16] Research Advisory Committee on Gulf War Veterans' Illnesses, *Gulf War Illness and the Health of Gulf War Veterans: Scientific Findings and Recommendations,* Washington, D.C.: U.S. Government Printing Office, November 2008.
[17] Belmont Jr., Philip J. et al., Epidemiology of Combat Wounds in Operation Iraqui Freedom and Operation Enduring Freedom: Orthopaedic Burden of Disease, *Journal of Surgical Orthopaedic Advance* 2010*,* 19(1):2-7.

> …, the collapse of public health infrastructure and the lack of health services hamper control programmes such as vaccination or vector control. [18]

Prevention and control of infectious diseases are essential functions of public health and a major way to reduce the suffering of such war-afflicted populations.

There is frequently an erosion of moral values at both an individual and societal level in war with a rise in promiscuity, prostitution and rape which are all vessels that lead to an increased incidence of sexually transmitted diseases.

> The association of syphilis[19] with prostitution has been largely instrumental in putting much valuable statistical and general knowledge of the disease into semi-private reports and sources not available to the large mass of the thinking public.[20]

Since the Italian Wars of the late 15th century between France and Spain*, syphilis* has been an example of one of those sexually transmitted diseases.

> Syphilis apparently first appeared in Italy in the middle 1490s, in the wake of warfare; contemporary accounts associated with it with the invasion of Italy by the armies of Charles VIII of France in 1494-1495. Armies of that era were almost ideal disseminators of disease: dirty, ill-disciplined, drawn from the far of the Continent, disabandoned at the end of each campaign to scatter back into the far corners. [21]

Syphilis was phenomenally lethal in the initial decades of its appearance in Europe during the late 15th and 16th centuries. Eventually, the natural course of syphilis evolved into a chronic stage, no longer immediately fatal but still dreaded for its capacity to cause long-term disabilities and eventual death in a more clandestine manner.

Syphilis being a venereal disease was also unique in another way germane to medical treatment and public health control.

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[18] Connolly, Márie A. et al., Deadly comrades: was and infectious diseases, The Lancet Supplement December 2002; Volume 360:s23.

[19] Name for a venereal disease taken from Hieronymus Fracastorius' (1478-1553) poem of 1530 titled "Syphilis Sive Morbus Gallicus" (Syphilis, or the French Disease), which described the plight of a mythical shepherd named 'Syphilus" afflicted with the French disease (syphilis) as punishment for cursing the gods.

[20] Stokes, John H., The Third Great Plague: A Discussion of Syphilis for Everyday People, Philadelphia, W.B.Saunders Company, 1918, p. 165.

[21] Hays, J.N., The Burdens of Disease Epidemics and Human Response in Western History, 2nd Edition, Piscataway, New Jersey, Rutgers University Press, 1998, 2009. P.63.

> Venereal diseases are not like other contagious diseases, since a person attacked is for a much longer period a source of danger to the community. He or she remains silent and conceals the disease owing to an innate sense of shame. Such concealment mitigates against notification, unless voluntary and private in nature. [22]

Thus, the control of syphilis is a unique problem for public health due its venereal nature and ramifications within the individual and society.

To historians, the word *syphilis* usually evokes images of a bygone era where lapses in moral turpitude led to venereal disease and its eventual sequelae of medical and moral stigmata. It is considered by many, a disease of the past and simply another point of interest in the timeline of medical, military or public health history. However, the relationship of syphilis to the United States Public Health Service is more than just a fleeting moment in time.

Although there have been many important milestones in the history of public health such as the use of vaccinations to prevent disease, improvements in sanitation, the incorporation of quarantine measures for certain contagious diseases, the utilization of epidemiology and biostatistics in the control of disease, improvements in nutrition and food safety, cooperation between agencies in achieving public health goals, the emergence of antibiotic, antiparasitic and antituberculous therapy, etc., the control of syphilis in the United States during the early 20th century remains relatively unknown to most individuals including historians, medical professionals and public health specialists. This dissertation will explore following question: *What was the role of the United States Public Health Service in the control of syphilis during the first half of the 20th century?* It is not the intent of this dissertation to diminish the significance of other public health accomplishments. It is simply to offer insight into another important issue in public health.

[22] French, Herbert C., Syphilis in the Army and its Influence on Military Service: Its Causes, Treatment, and the Means which it is advisable to Adopt for its Prevention, London, John Bale, Sons &Danielsson, Ltd, 1908, p.11.

The early twentieth century was a fertile period to examine the interaction between the control of syphilis and the US Public Health Service. The prevalence of syphilis during this era reached epidemic proportions in the United States population demographics warranting control of the disease. This in large part fell on the shoulders of US Public Health Service.

> Syphilis is one of the most prevalent of all infectious diseases, causes an incalculable amount of suffering and economic loss, and because it has so far eluded sanitary control is a constant menace not only to the licentious but to the clean-living public as well.[23]

Estimated prevalence in the US population was that syphilis affected anywhere from 5% to 20% of the population in 1918.[24] The prevalence, morbidity and mortality in "negroes" were estimated to be even higher than that of Caucasians per Edward Vedder in 1918.

> All the evidence indicates that syphilis is far more common among negroes than among whites, and that it is even more frequent among negro women than among negro men. We may estimate that the rates for the colored race are at least double those for the white race. Syphilis is undoubtedly the greatest cause of death and disability in the negro race."[25]

The prevalence of syphilis in blacks in certain areas of the rural south was estimated up to 22.5% by the US Public Health Service in 1932.[26] Syphilis affected one in ten adults in the United States in1940 per estimates by the US Public Health Service.[27]

> There is reason to believe that if all conditions due to syphilis were reported as such it would be found to a leading cause of death in the United States.[28]

Not surprising, the military also saw alarming numbers of new recruits with syphilis primarily associated with the two world wars.

> The rate for the regular army from September, 1917 to May, 1918, averaged a little better than 90 {per 1,000}. With the second week of mobilization the venereal rate for the

[23] Vedder, EB., Syphilis and Public Health, Philadelphia: Lea &Febinger; 1918, p.2.
[24] Ibid., p.77.
[25] Ibid., p.101.
[26] Olanksy, S., Simpson, L. Schuman, S., Environmental Factors in the Tuskegee Study of Untreated Syphilis, Public Health Reports July 1954; Vol.69, No. 7:p.692.
[27] Vonderlehr, R.A., Are We Checking the Great Plague? Survey Graphic, April 1, 1940, Vol.29;No.4:p. 217.
[28] Parran, Thomas, *Shadow on the Land: Syphilis*, New York, Reynal and Hitchcock, 1937, p.10.

> National Army[29] shot up to 367 per 1000. The rate of the Regular Army[30] was 80. The very high rate in the National Army is to be accounted for by the fact that when venereal disease is discovered for the first time in a soldier it is counted as a new case, although it may be an old infection; four weeks had to elapse before the incidence of venereal disease in the body of the troops could be determined. The rate for the National Army for the first four weeks after mobilization was twice that of the National Guard. This would appear to suggest that the prevalence of venereal disease is greater in the civil population than in the army.[31]

It was quickly discovered when the United States entered the First World War that venereal disease constituted a major cause of rejection for the armed services.[32] Similar problems in selective service were seen again in the Second World War.

Not only was syphilis of epidemic proportions in numbers but it also had a significant financial toll to the military and society. For example, the economic burden of venereal disease to the military service (Army) of the United States in 1919 was $13,363,940.[33]

> The Surgeon-General's Office recently compiled statistics on the cost of venereal disease in the Army. During the calendar year ending Dec. 31, 1919, venereal diseases caused a loss of 1,923,420 days of duty among the troops. Since practically all of this time represents days spent in the hospital under treatment for gonorrhea, chancroid or syphilis, and the estimated cost of such hospitalization is $7 per day, the direct loss to the Army from these diseases was $13,463, 940.[34]

In the 1930s, Surgeon General Thomas Parran calculated the costs of the venereal diseases to American industry and estimated a loss of more than $100 million annually.[35]

> In industries the costs of venereal diseases are tremendous. It has been estimated that from 8 to 10 million workers lost 21 million working days each year at an average of $4 a day as a result of infection with these conditions. The cost may well be more than $100,000,000 annually.[36]

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[29] A term used in World War I for the reserve force in the U.S Army.
[30] A term used for the active US Army.
[31] Pusey, William A., Venereal Problems in the U.S.Army, *J. Amer. Med. Association*, 1918, 71:1022-1023
[32] Perrott, G. St. J., Findings of Selective Service Examinations, *The Milbank Memorial Fund Quarterly* (October 1944), Vol. 22 ,No.4: pp.358-366.
[33] Economic Loss from Venereal Diseases to Army, JAMA 75 in the Government Services Section, November 13, 1919; p.1353.
[34] Ibid., p.1353.
[35] Brandt, Allan M., *No Magic Bullet: A Social History of Venereal Disease In the United States since 1880,* New York, Oxford University Press, 1985, p.133.
[36] Ibid., p.133.

The federal government certainly saw the importance of control of syphilis and provided $4,000,000 to the US Public Health Service in 1939.[37]

> In 1939, the federal government allocated over $8,000,000 for maternal and child programmes, over $9,000,000 for general public health work and over $4,000,000 for venereal disease control. [38]

Furthermore, the effects of two World Wars, the Roaring Twenties, the Great Depression, the New Deal and the birth of the infamous Tuskegee Syphilis Study on syphilis all had significant effects on the control of syphilis and the US Public Health Service, further justifying the question presented in this dissertation.

In order to answer the question of "*What was the role of the US Public Health Service in the control of syphilis during the early 20th century?*" the dissertation will be divided into four main chapters. The first chapter will briefly review the historical, scientific and medical information concerning syphilis. This will be followed in the second chapter by a review of the origins of the US Public Health Service with special attention where applicable to its relationship to syphilis. The third chapter will be divided into four eras, each focusing of the role of the US Public Health Service in the control of syphilis. These eras will include the following: the years preceding and during World War I (1905-1919); the Roaring Twenties, the Great Depression and the New Deal (1920-1938); the period preceding and during World War II (1939-1945) and finally the Tuskegee Syphilis Study years (1932-1972). Chapter four will deal conclusions concerning the subject. By the end of the dissertation, the reader will have a better understanding of the role of the US Public Health Service in the control of syphilis and its importance to historians, medical professionals, public health specialists and others interested in this subject.

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[37] Porter, Dorothy, *The History of Public Health,* Atlanta, Georgia, Editions Rodopi B.V., 1994, p.247.
[38] Ibid., p.247.

By the end of this monograph, one may want to modernize a well-known Oslerian[39] quotation from the following: "He, who knows syphilis, knows medicine"[40] to "He, who knows syphilis, not only knows medicine but also knows an important part of role of the US Public Health Service in the control of syphilis."[41]

[39] An aphorism by Sir William Osler(1849-1919) considered by many "the father of internal medicine."
[40] Osler, Sir William, Annual Oration on the Campaign Against Syphilis, The Lancet, May 26, 1917, p. 789.
[41] Needleman, J., Sarka, G., Conversation at UCLA School of Public Health regarding Osler, Medicine, Syphilis and Public Health, October 2009.

Chapter I: What is Syphilis?

> In the Year of Christ 1493, or thereabouts, this Evil (syphilis) began amongst the People…It is thought that this Disease in our days ariseth not, unless by infection from carnal Contact, as in copulating with a diseased Person, since it appears now that young Children, old Men and others, not given to fornication or bodily lust, are very rarely diseased: Also the more a Man is addicted to these Pleasures, the sooner he catcheth it…In Women the Disease resteth in their secret Places, wherein are little pretty Sores, full of venomous Poison, being very dangerous such as unknowingly meddle with them.
>
> Ulrich von Hutten (1488-1523)[42]

Sir William Osler (1849-1919), the great author, educator, historian and physician at the turn of the 20th century used the following, ominous words from an unknown 16th century author to describe the sudden appearance of syphilis more than 500 years ago:

> A mysterious epidemic, hirtherto unknown, which had struck terror in all hearts by the rapidity of its spread, the ravages it made, and the apparent helplessness of the physicians to cure it.[43]

Syphilis was deadly disease in the first few decades of its appearance in Europe.

> Whether because of their lack of resistance or because of the exceptional virulence of the early strain of syphilis, the disease attacked its victims with a violence almost unknown today. They suffered from high fever, delirium, violent headaches and pains in the bones, horrible sores, and bone ulcers. Death was not uncommon…The disease was as contagious as smallpox and spread both through venereal contact and ordinary processes of living…[44]

Eventually as part of natural selection[45] or Darwinian[46] "survival of the fittest[47]," syphilis evolved into a chronic stage (tertiary syphilis)[48], no longer immediately fatal but still dreaded for its capacity to cause long-term disabilities and eventual death.

> New diseases always are devastating. An infection in a virgin soil is more severe than among peoples who have suffered with it for generations and build up a partial immunity.[49]

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[42] von Hutten, Ulrich, *De Morbo Gallico (The French Disease)*, 1519.
[43] Jones, C., Syphilis and Aids: the Ominous Project at the website: http://www.cbc.ca/ideas/features/Aids/aidsspin.html on 1/30/10
[44] Parran, Thomas, *Shadow on the Land: Syphilis*, New York, Reynal and Hitchcock, 1937, p.35
[45] Natural Selection means survival of the fittest
[46] Pertaining to Charles Robert Darwin (1809-1882) who was a naturalist and wrote of *On The Origin of the Species* which deals about evolution
[47] Survival of the fittest is an alternative description for natural selection first used by philosopher Herbert Spencer.
[48] Cardiovascular or neurological involvement of syphilis

"Cupid's disease," a benevolent to impish term for syphilis, has often been referred to as the "great mimicker" in that it "gives rise to confusion among physicians …with countless infections and immune-mediated processes."[50] Syphilis, a communicable, bacterial disease is caused by the spirochete (meaning corkscrew-like), *Treponema pallidum* and intricately tied to sexual behavior and morals.

> Morality is a venereal disease. Its primary stage is called virtue; its secondary stage, boredom; its tertiary stage, syphilis.[51]

This disease has three stages. Syphilis can present as a simple and painless skin lesion on the genitals (primary stage); or manifest as a diffuse rash on the body including the palms and soles (secondary stage); or several decades later, as a deadly infection involving the cardiovascular or neurological systems (tertiary stage) where one sees complications such as dilatation and/or rupture of the great vessels of the heart to dementia and insanity, often referred to as "general paresis of the insane." The polymath, Sir William Osler, stated the following about syphilis:

> So widespread are the manifestations of the spirochaete in the body that there is truth in the paradox I was in the habit of telling my students, Study one disease, study syphilis thoroughly and you take a knowledge of all others on the way—general medicine, nearly all surgery, and certainly all specialties.[52]

Syphilis is usually transmitted via sexual activity as a blood borne pathogen (i.e., transmitted via bodily fluids such as blood, semen, vaginal fluids, etc.)

> It is a biological accident that the organism of syphilis finds the best soil for its growth and spread on the mucous membranes of the human body. It is because of this that syphilis is spread chiefly through sex contact and belongs to the group of so-called venereal or sex-borne diseases, in which are included gonorrhea, chancroid and others.

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[49] Parran, Thomas, *Shadow on the Land: Syphilis*, New York, Reynal and Hitchcock, 1937, p.35.
[50] Domantay-Apostol, Genevieve P., Handog, Evangeline B., Ma. Teresita, Gabriel, G., Syphilis: The International Challenge of the Great Imitator, *Dermatol Clin* 26 (2008): pp.191.
[51] Kraus, Karl, Quotation from Morality and Criminal Justice, November, 1906.
[52] Osler, Sir William, Annual Oration on the Campaign Against Syphilis, *The Lancet*, May 26, 1917, p. 789.

> But aside from the fact that all of the genito-infectious diseases may be spread in the same way, they have nothing else in common.[53]

Most historians are aware of the numerous theories regarding the origins of syphilis (not to be discussed in this paper) as well as the plethora of therapies that were utilized in the treatment of this dreaded, venereal disease. Therapies for the cure of syphilis originated from folklore and whimsical remedies; then developed into toxins, herbs and "the silver or magic bullet[54]"; then matured into malariotherapy[55] (also known as fever therapy) and finally to antibiotics, the later being penicillin. It was also evident that individual therapies for syphilis such as antibiotics alone would not be sufficient to halt the spread of this disease in society. The optimal control of syphilis would eventually emerge when public health measures such as education of the population and prevention were incorporated as essential elements in the war against syphilis.

> Its venereal nature led late-nineteenth-century Americans to set syphilis apart from other infectious diseases. As much a moral as a medical problem, syphilis required unique control measures, geared toward changing human behavior as well as eliminating a specific germ. Often regarded as a mark of immorality, in fact, it was subjected to a widespread but tacit taboo that prevented its mention in polite society. Thus, means for control alone did not guarantee that control: although the public health and scientific communities made great strides towards elucidating etiology, diagnosis, prophylaxis, and therapy of syphilis during the first two decades of the twentieth century, various ethical considerations hindered their application.[56]

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[53] Parran, Thomas, *Shadow on the Land: Syphilis*, New York, Reynal and Hitchcock, 1937, pp.5-6.
[54] The "silver or magic bullet refers to the perfect drug to cure a disease with no danger of side effects. The term magic bullet was first used in this sense by the German scientist Paul Ehrlich to describe antibody and, later, the drug salvarsan that he created to treat syphilis" at the website: http://www.medterms.com/script/main/art.asp?articlekey=23525 on 7/13/12.
[55] Austin, Stephanie C., Stolley, Paul D., Lasky, T., The History of Malariotherapy for Neurosyphilis: Modern Parallels, *Journal of the American Medical Association,* July 22, 1992;268, 4: pp.516-519.
[56] Ziporyn, T., *Disease in the Popular American Press: The Case of Diphtheria, Typhoid Fever and Syphilis*, 1870-1920, New York, Greenwood Press, 1958, p.113.

Chapter II: A Brief Overview in the Origins of the U.S. Public Health Service

The development of the U.S. Public Health Service was not founded on the core principles of public health (assessment,[57] policy development[58] and assurance[59]) as we know them today. It had its origins in the Marine Hospital Service. This agency was created by the Fifth Congress of the United States which enacted the Marine Hospital Act[60] on July 16, 1798.[61] This Act was approved by the 2nd President of the United States, John Adams (1735-1826) and was based on a British model of organization. This British system of medical care for mariners was instituted after the 16thcentury triumph of the Royal Navy[62] over the Spanish Armada. The policy of medical care for its mariners was an act of gratitude from the British government for saving the nation which now had become the dominant world power. This policy was continued into the colonies and eventually adopted by the newly-formed US Government in 1798.

> The temporary relief and maintenance of sick or disabled seamen in the hospitals or other proper institutions now established in the several ports of the United States, or in ports where no such institutions exist, then in such other manner as be (the Secretary of the Treasury) shall direct[63].

Congress mandated funds of twenty cents per month from the salary of all American seamen to support their medical care[64].

> The marine hospital fund was administered by the Treasury Department and financed through a monthly deduction from the wages of the seamen. Medical care was provided

[57] Assessment is the collection and analysis of data to identify important public health concerns.
[58] Policy Development is developing priorities and strategies based on the assessment of public health needs.
[59] Assurance is making certain that appropriate services are available and accessible to the needs of the population.
[60] Rao, Gautham, Marine Hospitals at the website: http://crywolfproject.org/sites/default/files/Marine%20Hospitals-crying%20wolf.pdf on 11/30/12.
[61] Mullan, Fitzhugh, Plagues and Politics: The Story of the United States Public Health Services, New York, Basic Books Inc., 1989, p.14.
[62] Synonymous term for the British Navy
[63] Mullan, Fitzhugh, Plagues and Politics: The Story of the United States Public Health Services, New York, Basic Books Inc., 1989, p.14.
[64] Ibid., p.14.

> through contracts with existing hospitals and, increasingly as time went on, through the construction of new hospitals for this purpose.[65]

The Marine Hospital Act of 1798 was the first historical example providing medical care via the taxation of wages, perhaps a harbinger of the Patient Protection and Affordable Care Act of 2010? It was early example of federal involvement in the healthcare market. However, the Act was more that merely medical coverage for American seamen.

> Congress enacted this legislation to stabilize a labor force that was crucial to national economic development. In this era before the advent of railroads, water-borne transportation was the only way to move commodities over long distances.[66]

> The young Republic of the United States, in the early years following the gaining or our independence, realized that she must develop and build a strong merchant marine as an important factor in the commerce of the country and to serve as an auxiliary to naval forces in case of threatened or actual war. [67]

The primary mission of the Marine Hospital Service was to address the health issues germane only to the maritime trade. Medical and public health issues such as scurvy, smallpox, syphilis/gonorrhea, yellow fever and other health threats brought to the United States from other countries on ship were addressed by this service but limited only to the merchant seamen when their vessels were docked in American ports.

> The earliest marine hospitals were located along the East Coast, with Boston being the site of the first such facility, but later they were also established along inland waterways, the Great Lakes, and the Gulf and Pacific Coasts.[68]

Indirectly, the Marine Hospital Service provided a more basic public health function of slowing the spread of potential epidemics by isolating in hospitals the sick mariners from healthy citizens.

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[65] John Maynard Woodworth at the website: http://www.surgeongeneral.gov/about/previous/biowoodworth.html on 11/5/12

[66] Rao, Gautham, Marine Hospitals at the website: http://crywolfproject.org/sites/default/files/Marine%20Hospitals-crying%20wolf.pdf on 11/30/12.

[67] Williams, Ralph Chester, *The United States Public Health Service:1798-1950,* Washington, D.C., Commissioned Officers Association of the United States Public Health Service, 1951, p.25.

[68] John Maynard Woodworth at the website: http://www.surgeongeneral.gov/about/previous/biowoodworth.html on 11/5/12

> Although this network of hospitals was primarily concerned with protecting the health of sailors, it also slowed the spread of epidemics, an especially crucial task in an age when the understanding of epidemiology was rudimentary and there were few remedies for most diseases. Simply by isolating sick sailors from healthy citizens, the Act provided port cities with some protection against epidemics.[69]

Even in those early years, venereal disease was a problem for the Marine Hospital Service. Not only was there a large number of patients with syphilis but a significant part of a hospital's budget in the Marine Hospital Service was devoted towards the treatment of this disease. In 1836, Dr. Charles H. Stedman[70], Director at the Marine Hospital Service in Chelsea (Boston area) attempted to educate physicians at the institution of the significant numbers and importance of syphilis. Dr. Stedman reviewed 175 cases seen over a three month period and found the following:

> Of this number, venereal diseases were the most prominent with thirty cases of syphilis recorded and eight of gonorrhea. Nineteen had fevers, four had fractured thigh bones and one had a "finger torn off."[71] Several years later, the Boston hospital director, when asked to cut his budget, responded that he could reduce it by half if he were to refuse admission to all those with syphilis and consumption (tuberculosis).[72]

Although the Marine Hospital Service was successful at its mission in its early years, problems eventually ensued. Over time, the demand for Marine Hospital Services exceeded that which came from the merchant seamen's tax. Congress eventually needed to appropriate funds for the construction of hospitals and to meet the needs of its constituents.

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[69] Lord, Alexandra M., Condom Nation: The U.S. Government's Sex Education Campaign from World War I to the Internist, Baltimore, The Johns Hopkins University Press, 2010, p.5

[70]United States Marine Hospital at Boston, Statements of the Origin, Regulations and Expenses of the United States Marine Hospital at Chelsea for the Relief of Sick and Disabled Seamen in the Port of Boston and Charlestown, Massachusetts, Boston, Published by Benjamin True, 1834, p. 5.

[71] Stedman, Charles H., Report of Cases in the U.S. Marine Hospital, Chelsea, The Boston Medical and Surgical Journal 15, no. 16 (November 23, 1036): 245-251.

[72] Mullan, Fitzhugh, *Plagues and Politics: The Story of the United States Public Health Services*, New York, Basic Books Inc., 1989, p.19.

> From 1798 to 1873 supplemental appropriations by the Congress to provide care for merchant seamen totaled $4,830,944.34, exclusive of funds provided by the Congress for construction of new Marine Hospitals.[73]

Additionally, instead of providing health care solely to the nation's seamen, the funds authorized by Congress were often siphoned to enrich politicians, physicians, businessmen, etc. During the Civil War, the Martine Hospital Service was a disaster and was openly accused of running hospitals for political purposes rather than its intended goal of medical care for seamen.

In 1870, the Federal Marine Hospital Service underwent a massive reorganization after its failures during the Civil War. The formerly loosely-connected network of local hospitals was now under the control of a central command with its headquarters located in Washington, D.C. The 18thPresident of the United States, Ulysses S. Grant (1822-1885) appointed John Maynard Woodworth (1837-1879) on March 29, 1871[74] as its first Supervising Surgeon (1871-1879). This title would later be known as the Surgeon General of Public Health of which there have been seventeen successors appointed in a similar manner. It was due to the efforts and foresight of Surgeon General Woodworth that the Marine Hospital Service was reformed and adopted a military model for his medical staff where he instituted entrance examinations for potential applicants to demonstrate competence in their field and insisted that his physicians wear uniforms to reinforce an atmosphere of discipline, obedience and regimentation.

Woodworth created a successful framework of mobile, career service physicians who could be assigned as needed to the various marine hospitals. The commissioned officer corps (now known as the Commissioned Corps of the U.S. Public Health Service or the Public Health Service Commissioned Corps) was established by federal legislation in 1889.

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[73] Williams, Ralph Chester, *The United States Public Health Service:1798-1950,* Washington, D.C., Commissioned Officers Association of the United States Public Health Service, 1951, p.42.
[74] John Maynard Woodworth at the website: http://www.surgeongeneral.gov/about/previous/biowoodworth.html on 11/5/12

> On January 4, 1889, the Congress recognized this new personnel system by formally authorizing the Commissioned Corps. The Corps was established along military lines to be a mobile force of professionals subject to reassignment to meet the needs of the Service. Originally, the Corps was composed only of physicians. However, over the years, as the functional responsibilities of the PHS and the Corps have broadened, a broad range of health professionals has been included in the PHS.[75]

During his tenure as Surgeon General, Woodworth would comment on the significance of syphilis to Marine Hospital Service.

> Trauma and syphilis were particular nemeses of sailors with Woodworth stating flatly in his 1878 report that at least 40 percent of seamen suffered from venereal disease "in one of its protean forms."[76]

Prior to 1872 and Dr. Woodworth's appointment as Surgeon General, the Marine Hospital Service had no specific interest in public health matters. Such issues relating to the protection of state or community health were in the domain of that state or locality. For example, since the early days of the American republic, the public health issue of quarantine was the function of the state.

> Quarantine was generally a state function. The doctrine of state sovereignty continued to hold a sway in the health field and was to handicap national public health action for many years. [77]

The principle problem with leaving the issue of quarantine to states rested on differences in the enforcement of regulations associated with inconsistencies from state to state, locality to locality, etc., often being variable to nonexistent. After 1872, the Marine Hospital Service had reorganized in structure and command, its visionary leader, Surgeon General Woodworth sought to broaden its scope of duties beyond that of care of just merchant seamen.

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[75] Definition of Surgeon General at the website: http://www.medterms.com/script/main/art.asp?articlekey=11998 on 11/21/12

[76] Mullan, Fitzhugh, Plagues and Politics: The Story of the United States Public Health Services, New York, Basic Books Inc., 1989, p.29.

[77] Rosen, George, A History of Public Health, Baltimore, The Johns Hopkins University Press, 1993, p. 225.

> From the time of the reorganization of the Service in 1871, Surgeon General John M. Woodworth contemplated that the Marine Hospital Service would become in fact a national health service.[78]
>
> Early in his administration Doctor Woodworth established cordial relations with State and local health authorities, particularly in the southern States during epidemics of yellow fever. [79]
>
> During the period from 1873 to 1905 the Marine Hospital Service assisted States or wholly controlled the work of suppressing epidemics of yellow fever in the United States.[80]

With the increasing mass immigration (mainly occurring at ports such as Ellis Island in New York) and its potential for disease and epidemics, the power to quarantine was a natural outgrowth for the Marine Hospital Service. It was the yellow fever epidemic in New Orleans in 1877 with its rapid accent up the Mississippi river valley due to failure of state and local public health measures that demanded national attention on the issue of quarantine. Congress responded appropriately with the passage of the National Quarantine Act in 1878.

> Nevertheless, in 1878, a first small and hesitant step was taken in this direction with the passage of the National Quarantine Act, which empowered the Surgeon General of the Marine Hospital Service to enforce port quarantine as long as he did not interfere with the laws and procedures of the states. Nor was he given any appropriation to carry out this objective.[81]

This Quarantine Act of 1878 represented not just an extension of power for the Marine Hospital Service but rather a significant step towards the formation and growth of a federal public health service.

> This push reflecting in two growing trends in America: the growth of federal (as opposed to local or state) power, and the emergence of public health as a highly professionalized and scientific field of inquiry.[82]

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[78] Williams, Ralph Chester, *The United States Public Health Service:1798-1950,* Washington, D.C., Commissioned Officers Association of the United States Public Health Service, 1951, p.115.
[79] Ibid., p.82.
[80] Ibid., p.115.
[81] Rosen, George, A History of Public Health, Baltimore, The Johns Hopkins University Press, 1993, p. 225.
[82] Lord, Alexandra M., Condom Nation: The U.S. Government's Sex Education Campaign from World War I to the Internist, Baltimore, The Johns Hopkins University Press, 2010, p.6.

However, this victory for the Marine Health Service was short-lived. The issue of quarantine represented the first extension in the mission of the Marine Hospital Service in over 80 years. As well, it also provided the impetus for Surgeon General Woodworth to promote his federal health agency in expansion of other responsibilities similar to those of the state and local health agencies such as in sanitation, vaccinations, etc. In 1879, Surgeon General Woodworth along with Dr. Joseph Billings representing of US Army and the American Public Health Association[83] proposed the creation of a National Health Department. An acrimonious battle ensued regarding the details of how the National Health Department was to be organized. Dr. Joseph Billings of the Army and the American Public Health Association on one side insisted that quarantine functions were to be part of a National Health Department while Surgeon General Woodworth tried to preserve the quarantine powers of the Marine Hospital Service which were eventually usurped by his opponents. The ramification of the above led to the National Board of Health on March 3, 1879[84] whose members reported directly to the President. This National Board of Health was comprised of seven physicians as well as one member from the Army, Navy, Department of Justice and the Marine Hospital Service.[85]

> Its duties {*the National Board of Health*} were to collect information on public health matters, to advise Federal government departments and state governments, and to report to Congress a plan for a national health organization with special attention to quarantine.[86]

The Marine Hospital Service was to maintain all of its functions except that of quarantine which were now delegated to the National Board of Health, a major disappointment to Surgeon General Woodworth's ambition for expansion of the Service. Unfortunately, eleven days after the

[83] The American Public Health Service organized in1872 was the first national body of public health workers in the United States.
[84] Williams, Ralph Chester, *The United States Public Health Service:1798-1950,* Washington, D.C., Commissioned Officers Association of the United States Public Health Service, 1951, p.76.
[85] Rosen, George, A History of Public Health, Baltimore, The Johns Hopkins University Press, 1993, p. 225.
[86] Ibid., p. 225.

passage of the National Board of Health, Dr. Woodworth died at the age of 41. He was succeeded by Dr. John B. Hamilton.

Woodworth's successor, Dr. John B. Hamilton (1847-1898) quickly became the second Surgeon General of the United States (1879-1898). Having served in the Union Army, graduated from Rush Medical College and been officer-in-charge at several marine hospitals, he was well-suited for his next position as Surgeon General and carried on the ideals and visions of his predecessor.

The National Board of Health quickly and aggressively sought to promote policies and establish programs of public health surveillance and intervention. Such policies and programs elicited many objections from states and local jurisdictions especially in regard to quarantine activities resulting in political turmoil and eventual early demise for the National Board of Health. Surgeon General Hamilton representing the Marine Hospital Services joined in the fight against the Board with testimony of alleged corruption and incompetence of its members. Appropriations for the National Board of Health ended on June 30, 1883[87] due in part to Surgeon General Hamilton efforts. Although the Board remained as a statute on the books for another decade, it essentially ceased to function after 1883 with the Marine Hospital Service resuming its former activities of surveillance and quarantine per the Quarantine Act of 1878 and officially having full authority per statute in l891.

> Nevertheless, during its short life the National Board of Health showed how a Federal agency could further community health action on a nationwide basis. Furthermore, it pointed to the need for solving the problem of Federal-State relations if public health action on a national basis was to be effective. [88]

[87] Mullan, Fitzhugh, Plagues and Politics: The Story of the United States Public Health Services, New York, Basic Books Inc., 1989, p.29.
[88] Rosen, George, A History of Public Health, Baltimore, The Johns Hopkins University Press, 1993, p. 226.

As the Marine Hospital Service underwent changes in mission, organization and responsibilities, it was not the only agency dealing with public health issues. There was the rise of state and local health departments with diverse public health functions since 1850s. The birth of the American Public Health Association (APHA) founded by Dr. Stephen Smith in 1872 reflected the growing trend in society towards reform in hygiene and sanitation. The APHA was composed of individuals of diverse backgrounds with a common interest in public health: scientists, municipal officers, physicians, engineer, lawyers as well as officers of Marine Hospital Service.

> The APHA's founders recognized that two of the Association's most important functions were advocacy for adoption by the government of the most current scientific advances relevant to public health, and public education on how to improve community health. Along with these efforts, APHA has also campaigned for the development of well-organized health departments at both the federal and the local level.[89]

Woodworth, Hamilton and others in the Marine Hospital Service felt that the federal government should be more active in public health matters and that agency should embody such functions.[90]

The end of the 19th century saw the Marine Hospital Service broaden their range and scope of public health activities. There was a gradual expansion of the Marine Hospital Service's territory from that of being solely in the nation's ports to all major and growing American cities. Its mission of infectious disease prevention now included public health activities such as improvements in sanitation and vaccinations. As scientific (empirically-based) medicine became the new norm of American medical community, there was a gradual acceptance that disease was the result of microorganisms per the germ theory rather than the archaic hypothesis of miasma where poisonous vapors or particulate matter in mist from decomposing matter were the cause of

[89] APHA Timeline and History at the website: http://www.apha.org/about/news/presskit/aphahistory.htm on 11/1/12.
[90] Mullan, Fitzhugh, Plagues and Politics: The Story of the United States Public Health Service, New York, Basic Books, Inc, 1989, p. 23.

illness. In response to the changing theory of disease, the Marine Hospital Service incorporated new scientific advancements within their organization. This included the incipiency of a bacteriological laboratory in 1887 to help diagnose, treat and further research on disease. This Marine Hospital Service Hygienic Laboratory in 1887 was the forerunner of the National Institutes of Health in 1930 and provided a new approach for public health to fight disease.[91]

With increasing immigration at the end of the 19th century, the Federal Government took the responsibility of processing immigrants from the states in 1891. The federal Marine Hospital Services was assigned the responsibility for the medical inspection of arriving immigrants at sites such as Ellis Island in New York (the major site for immigration at that era due to the massive influx of immigrants from Europe). Immigration centers were generally off shore to prevent the onset of epidemics. The commissioned officers played a major role in fulfilling the Service's commitment to prevent contagious diseases from entering the country as well as imposing disease prevention practices at the nation's ports.

In 1902, further changes occurred within the Marine Hospital Service with Congress authorizing a name change, more germane to the agency's mission: the Public Health and Marine Hospital Service as well as the establishment of specified administrative divisions. This was done in recognition of its expanding scope of activities in the field of public health.

> The most important change was that "public health" was place in the name, thus for the first time designating by name a bureau of the Federal Government in which public health matters could be coordinated. [92]

[91] Lord, Alexandra M., Condom Nation: The U.S. Government's Sex Education Campaign from World War I to the Internist, Baltimore, The Johns Hopkins University Press, 2010, p.7.
[92] Williams, Ralph Chester, *The United States Public Health Service:1798-1950,* Washington, D.C., Commissioned Officers Association of the United States Public Health Service, 1951, p.166.

In addition to the name change, this Act advanced cooperation between State, Territorial and Federal Public Health Departments with mandated yearly conferences to foster cooperation and goodwill between the agencies.

> Important in advancing cooperation with State health departments was provision contained in the Act approved July 1, 1902, authorizing the Surgeon General to hold conferences with the State and Territorial Health Officers when his opinion the interests of the public health would thereby be promoted.[93]

In 1906, the Public Health and Marine Hospital Service further highlighted its importance to congressional legislators when a typhoid epidemic threatened the nation's capital. Through its officer's efforts of conducting a massive and thorough epidemiologic study, the source of the epidemic was linked to tainted milk. Congressional legislators convinced of the Public Health and Marine Hospital Service importance authorized increasing funds for its budget and expansion.

> The Service was now poised to take on more aggressive tactics to fight communicable diseases, a category that included sexually transmitted diseases such as syphilis and gonorrhea.[94]

In 1912, the name of this federal agency was further shortened to the Public Health Service, an appellation that accurately reflected what it had been doing for over one hundred years and the federal government's first real commitment to public health. Congress enacted legislation to broaden the powers of the Public Health Service in the authorization of investigations into human diseases (such as syphilis, tuberculosis, hookworm, malaria, and leprosy), sanitation, water supplies, and sewage disposal. This Service continued to expand its public health activities as the nation entered the 20th century, with the Commissioned Corps leading the way.

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[93] Ibid., p.135.
[94] Lord, Alexandra M., Condom Nation: The U.S. Government's Sex Education Campaign from World War I to the Internist, Baltimore, The Johns Hopkins University Press, 2010, p.8.

> By 1915, the US Public Health Service, the US Army and the Rockefeller Foundation were the major agencies involved in public health activities supplemented on a local level by a network of city and state health departments.[95]

As the century progressed, the Public Health Service commissioned officers served their country by controlling the spread of communicable diseases, one of which was syphilis. The Public Health Service had limited involvement with venereal diseases until the advent of World War I. Prior to the Great War[96], it mainly dealt with these venereal afflictions with seamen in the marine hospitals. With increasing immigration in the late 19th century, inspection for venereal disease (including syphilis) became part of their duties. It was not until the years preceding World War I that the Public Health Service became significantly involved in the control of venereal disease along with the cooperation of local, state, independent health agencies and the Military's Commission on Training Camp Activities (to be described later in this paper).

World War I emphasized the importance of syphilis and other venereal diseases as a public health problem. As a result of such concerns, Congress passed the Chamberlain-Kahn Act on July 9, 1918.[97]

> The passage of which was stimulated by concern over the number of Army recruits infected with syphilis or gonorrhea.[98]
>
> Under the provisions of the Chamberlain-Kahn Act, an Interdepartmental Social Hygiene Board was created, consisting of the Secretaries of War, Navy, and Treasury as ex-officio members, and of the Surgeons General of War, Navy, and Public Health Service or representatives approved by the respective Secretaries.[99]

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[95]Porter, Dorothy, *The History of Public Health,* Atlanta, Georgia, Editions Rodopi B.V., 1994, p.241.
[96] Alternative name for World War1
[97] Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008, p.69.
[98] Lederer, Susan E., Parascandola, J., Screening Syphilis: Dr.Ehrlich's Magic Bullet Meets the Public Health Service, The Journal of the History of Medicine, October 1998, Vol. 53: pp.360.
[99] United States Public Health Service, Annual Report of the Surgeon General of the Public Health Service of the United States, 1919, Government Printing Office, Washington, p.234 at the website: http://books.google.com/books?id=ENQgAQAAIAAJ&printsec=frontcover&source=gbs_navlinks_s#v=onepage&q=&f=false on 3/15/10

Paramount to war against syphilis, the Chamberlain-Kahn Act also served to establish a newly designated Division of Venereal Disease (*DVD*) within the Bureau of Public Health Service. There was an appropriation "for the purposes of the act $1,200,000 for the control of these diseases in cooperation with State boards or departments of health." [100] This act also provided funds, under the supervision of the Interdepartmental Social Hygiene Board for one of the essential provisions of the Commission on Training Camp Activities— the maintenance of detention homes for female individuals around military camps who belong to the following groups: single, working class women; those deemed to have caught "khaki fever"[101]; "charity girls"[102] and prostitutes.

The duties of the Division of Venereal Disease (DVD) were extensive and included the following: to investigate the cause, treatment and prevention of venereal diseases; to cooperate with state boards or departments of health in the prevention and control of venereal disease; and to prevent the spread of these diseases in interstate traffic. Dr. Claude C. Pierce[103] was placed in charge of the DVD. With the aid from the Division of Venereal Disease, almost every state (44 out of 48) soon made provisions for the control of venereal disease as part of the work of the state health department. By June 1919, there were 227 clinics for the treatment of venereal disease organized throughout the country.[104] Additionally, the Public Health Service also launched a venereal disease education program in cooperation with state departments at that time. Ironically, eleven years earlier, the Surgeon General of the Service had tried to publish a

[100] Ibid, p.10.
[101] Seemingly innocent young girls who lost control at the sight of a uniform, i.e., a stereotypical view of women who were overcome by their feelings per Parascandola, J., Sex, Sin, and Science, Westport, Connecticut: Praeger Publishers, 2008, p. 54.
[102] Girls who haunted the fringes of military camps were often carriers of venereal disease per Fosdick, Raymond Blaine, Chronicle of a Generation: An Autobiography, New York, Harper (1958), p.147.
[103] Williams, Ralph Chester, *The United States Public Health Service:1798-1950,* Washington, D.C., Commissioned Officers Association of the United States Public Health Service, 1951, p.590.
[104] Parascandola, J., Sex, Sin, and Science, Westport, Connecticut: Praeger Publishers, 2008, p.69.

pamphlet on venereal disease but it was rejected by the Treasury Department, the institutional home of the Public Health Service on the basis that it was not sufficiently dignified to bear the imprint of the Department.[105]

On November 11, 1918, World War I came to an end with the signing at the Treaty of Versailles. At that time, the Division of Venereal Disease had only been in existence for four months with a limited effect on the war efforts to control venereal disease.

> In the United States, there was a marked decline of interest in venereal diseases after the First World War, and federal control programs virtually halted.[106]

Dr.Thomas Parran, Jr. (1898-1968), a future Surgeon General of the U.S. Public Health Service wrote the following of that time:

> Congress apparently thought the spirochetes of syphilis were demobilized with the army. More accurately, no further thought whatever was given to syphilis and the first national public health effort came to an untimely end.[107]

Unfortunately, without the impetus of the wartime emergency, both the federal and local governments reduced funding for the venereal disease programs. In 1926, Dr. Thomas Parran was placed in charge of the DVD. His enthusiasm for combating syphilis led to a renewal of working relationships with state departments and for increasing research on the subject and new treatments.

> He identified syphilis among blacks in the South as a particularly severe problem but the absence of federal funds for treatment programs and the meager state health department budgets made progress virtually impossible.[108]

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[105] Williams, Ralph Chester, *The United States Public Health Service:1798-1950,* Washington, D.C., Commissioned Officers Association of the United States Public Health Service, 1951, p.592.
[106] Oriel, J.D., The Scars of Venus: A History of Venereology, London: Springer-Verlag, 1994, p.206.
[107] Parran, Thomas, Shadow on the Land: Syphilis, Reynal and Hitchcock, 1937, p.85.
[108] Mullan, Fitzhugh, Plagues and Politics: The Story of the United States Public Health Services, New York, Basic Books Inc., 1989, p.86.

With the closure of World War I, both the public health crusade as well as the military campaign against syphilis was considered to have been won. The end of the Great War heralded a return to "normalcy"[109] including that of public health policy on how to deal with syphilis.

Not surprisingly, the United States Government regressed to a former position of isolation in both the political arena as well as in the realm of public health policy. Yet, beyond this façade of normalcy, the nidus for infection with syphilis continued to permeate throughout American society while public health remained to a large extent impotent and naive.

> "Drag the snake out of the bushes and beat its head off in public." The order came from Herman N. Bundesen, commissioner of the Chicago Board of Health. The snake was syphilis. The year was 1922. That snake, as is the nature of snakes, proved hard to catch and even harder to kill. However much it might have been beaten in public, its head stayed on.[110]

> Peace came (with end of World War I). The troops were demobilized and a large part of the navy was scrapped. Public indifference even sanctioned an attempt at peacemaking with the pallid spirochete. But you can't make peace with germs.[111]

It would not be until 1936, when the moral cause against syphilis would arise again under the public health leadership of Dr. Thomas Parran, Jr. He was truly a champion for awareness and control of syphilis. As a physician, soldier and Surgeon General of the United States (1936-1948), Dr. Parran would lead the crusade against syphilis throughout World War II.

> Unfortunately, the enthusiasm that had gone up like a rocket came down like a stick. The national spirit swung like a pendulum from "anything to win the war" to aversion for the war status. Discipline was replaced by the license of the roaring twenties. President Harding's phrase "getting back to normalcy" was the excuse for dumping useful effort and bureaucratic regimentation on the same rubbish heap. Congress apparently thought the spirochetes of syphilis were demobilized with the army. More accurately, no further thought whatever was given to syphilis, and this national public health effort came to an untimely end.[112]

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[109] Ibid, p.85.
[110] Poirier, Suzanne, Chicago's War on Syphilis, 1937-40: The Times, the Trib and the Clap Doctor, Urbana and Chicago, University of Illinois Press, 1995,p.1.
[111] Vonderlehr, R.A., Are We Checking the Great Plague? Survey Graphic, April 1, 1940, Vol.29; No.4:p. 217.
[112] Parran, Thomas, *Shadow on the Land: Syphilis*, New York, Reynal and Hitchcock, 1937, p.85.

The years of 1936-1939, saw more changes strengthening and expanding the US Public Health Service than the preceding 10 years.

> If World War I had served as a stimulus for the formation of national venereal disease control effort via the U.S. Public Health Service, the advent of the Second World War demonstrated its absolute necessity.[113]

It was during the 1930s and lasting well into the 1972 that the Public Health Service would begin its controversial Tuskegee Syphilis Study (to be discussed later in this paper). This study was based on the hypothesis that untreated African-American men with syphilis have a different natural history of disease than Caucasians. A study originally-designed to be done for 6 months went on for 40 years with a plethora of violations in ethics that hopefully will never be repeated.

After World War II, a national program for the control of syphilis had less importance to the U.S. Public Health Service due to several reasons. With the advancement in treatment for syphilis and gonorrhea, therapy via the Rapid Treatment Centers was replaced with antibiotics which now included penicillin. This medication was simple to administer, rapid in onset, safe with minimal adverse side effects and most importantly effective. Secondly, physicians were now able to provide such treatment in their office or clinics. Finally, due to cutbacks in the funding post war by the federal government, treatment of syphilis and gonorrhea became the responsibility of the state.

The creation of the Public Health Service as a national health agency did not occur until 1950s. It remained a unit within the Department of the Treasury until 1938 and then was transferred under the Administration of Franklin Delano Roosevelt to the Federal Security

[113] U.S. Department of Health, Education and Welfare, Public Health Service, Bureau of Disease Prevention and Environmental Control, National Communicable Disease Center, Venereal Disease Program, *Syphilis, a Synopsis*. Washington, D.C., U.S. Government Printing Office, 1967, p.14.

Agency which incorporated health, welfare and educational services.[114] On April 11, 1953[115], Congress established the Department of Health, Education, and Welfare which incorporated the U.S. Public Health Service under its authority and finally, creating a national health agency.

[114]Williams, Ralph Chester, *The United States Public Health Service:1798-1950,* Washington, D.C., Commissioned Officers Association of the United States Public Health Service, 1951, p.471.
[115]Rosen, George, A History of Public Health, Baltimore, The Johns Hopkins University Press, 1993, p. 444.

Chapter III: Syphilis and the U.S. Public Health Service

Era #1
Public Health, Science, Sex, Syphilis and then the "Great War" (1905-1919)

> America's entry into the First World War reinforced the new lessons being learned about the importance of public health. When selective service examinations revealed that a substantial proportion of young men were either physically or mentally unfit for combat, the sudden realization of the nation's ill health boosted political support for public health expenditures. The war years brought attention to the problems of infectious diseases and especially the sexually transmitted diseases that had hitherto been blanketed in an embarrassed silence.[116]

The Trinity of Discoveries

"*The control of syphilis could not be a reality until the tools to implement the concept were at hand.*" [117]The dawn of the twentieth century was the advent of great discoveries in the understanding of syphilis which aided the U.S. Public Health Service in the battle against and control of this deadly and stealth bacterium. The five year period from 1905 to 1910 heralded a trinity of discoveries that ushered in the modern age of syphilis management. The first of these was the discovery of the spirochete, syphilis. The spirochete was given the genus and species of *Treponema pallidum {Gr. trepõ,* to turn + *nẽma*, thread} by Eric Hoffman (1868-1959) and Fritz Schaudinn (1871-1906)[118]. The second discovery was the advent of serologic (blood) testing for syphilis via the Wasserman Test in 1906 devised by August von Wasserman (1866-1925). The Wasserman test affected both the social and the medical understanding of syphilis because it was the first test that could reveal the disease at an asymptomatic stage. This meant that a person with syphilis with no current outward/physical manifestations of disease could be detected via a blood

[116] Porter, Dorothy, *The History of Public Health,* Atlanta, Georgia, Editions Rodopi B.V., 1994, p.242.
[117] U.S. Department of Health, Education and Welfare, Public Health Service, Bureau of Disease Prevention and Environmental Control, National Communicable Disease Center, Venereal Disease Program, *Syphilis, a Synopsis*. Washington, D.C., U.S. Government Printing Office, 1967, p. 13.
[118] Stedman's Medical Dictionary Illustrated, 23rd Edition, Baltimore: The Williams & Wilkins Company, 1976.

test. Thus, identifying asymptomatic victims and reducing the potential spread of disease was now possible by public health. The final member in the trinity of discovery was the development of arsphenamine therapy, "Compound 606[119], the Magic Bullet[120]" in 1909-1910 by Paul Ehrlich (1854-1915).

> In order to pursue chemotherapy successfully we must look for substances which possess a high affinity and high lethal potency in relation to the parasites, but have a low toxicity in relation to the body, so that it becomes possible to kill the parasites without damaging the body to any great extent. We want to hit the parasites as selectively as possible. In other words, we must learn to aim and to aim in a chemical sense. The way to do this is to synthesize by chemical means as many derivatives as possible of relevant substances.[121]

In 1908, scientist Paul Ehrlich began attempts to cure "sleeping sickness"[122] by isolating an arsenic compound that would work selectively on the bacteria without destroying the host. He experimented with hundreds of different arsenic compounds. In 1909, Ehrlich and his colleague, Sahachiro Hata, found that compound number 606, or arsephenamine, did not work to destroy the bacterium that caused sleeping sickness, but it did have the capacity to destroy *Treponema pallidum*, i.e. syphilis. Ehrlich dubbed this compound "salvarsan."[123] Ehrlich used the phrase "silver bullet"[124] to describe the way in which he wished to use chemicals to destroy pathogens without harming the host. The use of "salvarsan" to treat syphilis was one landmark in

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[119] The 606th compound tested in Erlich's series.
[120] The "magic or silver bullet refers to the perfect drug to cure a disease with no danger of side effects. The term magic bullet was first used in this sense by the German scientist Paul Ehrlich to describe antibody and, later, the drug salvarsan that he created to treat syphilis" at the website: http://www.medterms.com/script/main/art.asp?articlekey=23525 on 7/13/12.
[121] Ehrlich, Paul, ‚Ueber den jetzigen Stand der Chemotherapie'. Berichte der Deutschen Chemischen Gesellschagt, 1909, 42, 17-47. Translated in B. Holmstedt and G. Liljestrand (eds.), *Readings in Pharmacology (1963), 286.*
[122] Is an infection caused by a parasite and carried by the tsetse fly which results in brain swelling, sleep disturbances, coma and eventually death if untreated per Chin, James, *Control of Communicable Diseases, 17th Edition,* Washington D.C., American Public Health Association, 2000, pp.514-520.
[123] Parascandola, John, The Theoretical Basis of Paul Ehrlich's Chemotherapy, *The Journal of the History of Medicine*, 1981, pp.19-43.
[124]The "magic or silver bullet refers to the perfect drug to cure a disease with no danger of side effects. The term magic bullet was first used in this sense by the German scientist Paul Ehrlich to describe antibody and, later, the drug salvarsan that he created to treat syphilis" at the website: http://www.medterms.com/script/main/art.asp?articlekey=23525 on 7/13/12.

the beginning of modern medicine and public health. It was the first target-drug against a specific pathogen.

> Salvarsan was not without its problems—it was toxic, required years of treatment, and was difficult to administer. Only 25% of patients ever completed the therapy.[125]

While Ehrlich's "silver bullet" was not as miraculous as many had hoped it would be, the scientific discovery inspired other researchers to continue the mission. Even today, the attitude of searching for a "silver" or "magic'" bullet to treat illnesses pushes research forward. Regarding his discovery, Ehrlich wrote the following in 1910:

> It has been shown to be possible, by deliberately planned and chemotherapeutic approach, to discover curative agents which act specifically and aetiologically against diseases due to protozoal infections, and especially against the spirilloses, and amongst these against syphilis in the first place. Further evidence for the specificity of the action of dihydroxydiaminoarsenobenzene {Salvarsan, "606"} is the disappearance of the Wasserman reaction, which reaction must…be regarded as indicative of a reaction of the organism to the constituents of the spirochetes.[126]

Syphilis, Public Health and "the Great War" Collide

Before World War I, the U.S. Public Health Service was involved with venereal disease in a limited way. Marine hospitals routinely treated seamen with syphilis and gonorrhea. Immigrants could be denied entry into the United States for having syphilis. Since screening immigrants was a function of the U.S. Public Health Service, syphilis was a disease for which officials checked. However, the control of syphilis could not become a reality for the U.S. Public Health Service until the tools to implement the concept were at hand: identification of the microorganism, serological diagnosis of asymptomatic carriers and treatment. These tools provided the knowledge necessary where a national control program could be devised. The impetus required

[125] Sherman, Irwin W., *The Power of Plagues*, Washington, DC: ASM Press, 2006,p.268.
[126] Ehrlich, Paul and Hata, S, "Closing Notes to the Experimental Chemotherapy of Spirilloses, 1910. Reprinted in F. Himmelweit (ed.), The Collected Papers of Paul Ehrlich (1957), Vol. #, 302.

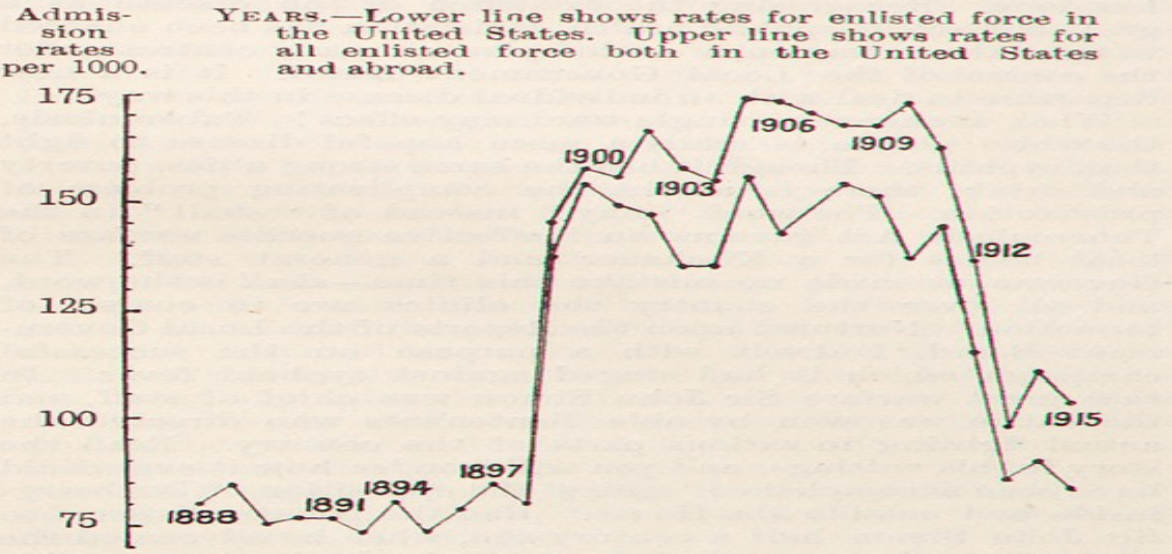
for the synthesis of a national program can probably be traced to the problems created by the outbreak of World War I.

Sir William Osler, Bart, M.D., F.R.S. (1849-1919) in his famous 1917 oration, "the Campaign Against Syphilis", cites epidemiologic data (see Figure 1 on the next page) from the military concerning the statistics about syphilis in its recruits from 1888 to 1915. Prior to 1888, there was no compulsory physical examination for soldiers. Beginning in 1898 with the advent of the Spanish American War followed by the Philippine insurrection as well as troops being sent abroad to Cuba, Puerto Rico and China, the military admission rates for syphilis increased both in the United States and abroad. The rise in syphilis is further highlighted with the use of the Wassermann test starting in 1906, the augmentation in mandatory physical examinations and preventive measures against syphilis and other venereal diseases by the military. Lastly, one sees a rise in the levels of syphilis admissions again in 1914-1915 with movement of military troops at the U.S.-Mexican border.

LEGISLATIVE ACTION.

Stricter prophylaxis should reduce these figures. I have had from Colonel Bradley, U.S A , and Major Lyster, U.S.A., now stationed in England, the full details of the methods now carried out so successfully in the United States Army.

The annexed chart speaks for itself :—



1888–98.—During this decade the Army was stationed throughout the United States principally at small posts. No compulsory physical inspection; no systematic propaganda to reduce venereal disease. The rates represent practically those patients unable to do duty. Cases not treated or those doing duty were usually not recorded.

1898.—Spanish War. Militia called into service.

1898–99.—Great change in Army; marked expansion. Old soldiers disappear; volunteers come in. Young recruits sent to Cuba, Porto Rico, Philippines.

1899–1901.—Philippine Insurrection. Troops in Cuba, Porto Rico, China.

1901–09.—High rates prevail in United States and abroad.

1909–11.—Principles of preventive medicine applied; prophylaxis urged.

1911.—Syphilis increases. Wassermann test used in diagnosis.

1912.—Systematic measures. Fortnightly physical inspections and prophylaxis enforced by G.O., May 31st. Pay stopped, G.O. 31.

1914–15.—Concentration on Mexican border.

Figure 1 Osler, Sir William, Annual Oration on the Campaign Against Syphilis, *The Lancet,* May 26, 1917, p. 791.

The Mexican campaign of 1916 with the incursion of folk hero—Francisco "Pancho" Villa[127] in the southwestern United States provided the American military with a "dress rehearsal" for the upcoming involvement in the World War I. With an army of 10,000 American soldiers to deal with the invaders, military camps were constructed along the Texas-Mexican border. Because of numerous reports of immoral behavior and venereal disease, Raymond B. Fosdick from the Rockefeller's Bureau of Social Hygiene was dispatched to evaluate the situation. In addition, Max Exner, a representative from the Young Mens Christian Association (YMCA) also surveyed the conditions at the Mexican border. Both men saw venereal disease as a public health issue necessitating a multidirectional approach for its control.

> Long before the first Americans embarked on their mission to 'make the world safe for democracy,' the U.S. War Department undertook a major campaign to make the military camps in the United States safe for the soldiers—safe from the twin threats of immorality and venereal disease. The war engendered a sense of both awe and anxiety: awe for the opportunity to reorder and control society; anxiety surrounding the vast potential for disruption. The battle against venereal diseases—unprecedented in magnitude and intensity—reflected both themes. In the charged atmosphere of world war, venereal disease threatened military efficacy and health and, equally important symbolized moral failure and social decay.[128]

Fearing the eventual involvement of America in the Great War of Europe, Congress established the Council of National Defense In 1916.

> Not surprisingly, given the experience of previous wars, concerns arose about the threat of venereal disease to the health of the American military. If it is true that Venus always accompanies Mars, i.e. that venereal disease and war are inextricably linked, then those preparing for America's entry into World War I were also preparing to fight syphilis and its ilk.[129]

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[127] Today, Villa is remembered with pride by most Mexicans for having led the most important military campaigns of the constitutionalist revolution, in which his troops were victorious as far south as Zacatecas and Mexico City, east as far as Tampico, and west as far as Casas Grandes. Because of Villa's Columbus escapade and subsequent evasion of U.S. troops, he is also often cited as the only foreign military personage ever to have "successfully" invaded continental U.S. territory—Cummings, Joe, Francisco "Pancho" Villa at the website: http://www.mexconnect.com/articles/1305-francisco-pancho-villa on 2/25/10.

[128] Brandt, Allan M., *No Magic Bullet: A Social History of Venereal Disease In the United States since 1880,* New York, Oxford University Press, 1985,p.52.

[129] Parascandola, J., *Sex, Sin, and Science*, Westport, Connecticut: Praeger Publishers, 2008, p.47.

It was quickly discovered when the United States entered the First World War that venereal disease constituted a major cause of rejection for the armed services.[130] In fact, Sir William Osler writes that "no insurance company today (as of May 14, 1917) will take a man who has a Wassermann reaction."[131] Even Raymond B. Fosdick corroborates this idea in his 1958 autobiography with the following statement.

> Our argument had been not primarily one of morals, but of military necessity, for in those pre-penicillin days venereal disease was a far more crippling disability than it is now.[132]

In Europe as well as the United States, it is estimated that at the turn of the 20th century, 5% to 20% of the population had syphilis or would have syphilis in their lifetime.[133] While all evidence indicates that the number of persons already infected with syphilis was immense, syphilis undoubtedly became even more prevalent during the war years. However, statistics on syphilis were often misleading because of the negative connotation associated with this disease and so eloquently explained by Sir William Osler in 1917.

> The truth is, syphilis has been, and remains, the despair of the statistician. Trustworthy data are not forthcoming. Even in death a stigma is associated with it, and the returns are everywhere but under the special caption of the disease itself.[134]

The military may have been one of the few exceptions to the rule on reliable data regarding syphilis due to selective service examinations. Some statistics on venereal disease were provided by Dr. William A. Pusey, Chairman of the Committee on Venereal Disease on November 23, 1918 in his Venereal Problems in the American Army.

> Between 1897 and 1900, a period that covered the Spanish-American war, the venereal rate went up from an average of 80 per 1000 to 160. Since 1913, the rate has remained under 90, except during 1916. In 1916, when there was a rapid increase of the

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[130] Perrott, G. St. J., Findings of Selective Service Examinations, *The Milbank Memorial Fund Quarterly* (October 1944), Vol. 22 ,No.4: pp.358-366.
[131] Osler, Sir William, Annual Oration on the Campaign Against Syphilis, *The Lancet*, May 26, 1917, p.789.
[132] Fosdick, Raymond Blaine, *Chronicle of a Generation: An Autobiography,* New York, Harper (1958), p.147.
[133] Vedder, EB., *Syphilis and Public Health,* Philadelphia: Lea & Febinger; 1918, pp.26-108.
[134] Osler, Sir William, Annual Oration on the Campaign Against Syphilis, *The Lancet*, May 26, 1917, p.787.

> army and mobilization on the Mexican border, the rate went to 91.4. Dr. Pusey takes the rate of 90 as the mean average to be striven for in the present crisis, although the rate of 91 in 1916 would certainly be fairly justifiable as the standard. The rate for the regular army from September, 1917 to May, 1918, averaged a little better than 90. With the second week of mobilization the venereal rate for the National Army shot up to 367 per 1000. The rate of the Regular Army was 80. The very high rate in the National Army is to be accounted for by the fact that when venereal disease is discovered for the first time in a soldier it is counted as a new case, although it may be an old infection; four weeks had to elapse before the incidence of venereal disease in the body of the troops could be determined. The rate for the National Army for the first four weeks after mobilization was twice that of the National Guard. This would appear to suggest that the prevalence of venereal disease is greater in the civil population than in the army.[135]

It is of note that because of the critical need for soldiers during World War I, the surgeon general abandoned the selective service regulation regarding military rejection for venereal disease for two main reasons. There were far too many individuals who harbored chronic infections to dismiss from military service.[136] Secondly, this disqualification might encourage men to "solicit infections prior to induction as a means of avoiding service."[137]

Another important perspective to war is its potential effect on populations.

> The movement of large segments of a population due to famine, war or mass migration is usually accompanied by an increase in the incidence of many infectious diseases.[138]

In most public health studies on war-related disease outbreaks, a focus on those with contaminated water supplies (with its resultant cholera and dysentery) or poor hygiene (with the risk of typhoid and tuberculosis) have been central to such papers. An exception to this paradigm has been an historical research paper by Miles and McBride.[139] In their study of historical health data from military health screenings from 1901-1918, the following ideas concerning syphilis in black Americans have emerged from that period in the following quote:

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[135] Pusey, William A., Venereal Problems in the U.S.Army, *J. Amer. Med. Association*, 1918, 71:1022-1023
[136] Brandt, Allan M., *No Magic Bullet: A Social History of Venereal Disease In the United States since 1880,* New York, Oxford University Press, 1985, p.77.
[137] Ibid., p.77.
[138] Miles, Toni P., McBride, D., World War I Origins of the Syphilis Epidemic Among 20th Century Black Americans: A Biohistorical Analysis, *Soc. Sci. Med.* (1997), Vol. 45, No. 1, p. 61.
[139] Ibid., pp. 61-69.

> The social disruption created by World War I was a critical and unique environmental condition which ignited a syphilitic epidemic among black Americans. [140]

Dr. Edward Bright Vedder, a U.S. Army physician, medical educator/historian and researcher on deficiency diseases provides statistics from the U.S. military as well as worldwide from that era on syphilis including that of black Americans.

> All the evidence indicates that syphilis is far more common among negroes than among whites, and that it is even more frequent among negro women than among negro men. We may estimate that the rates for the colored race are at least double those for the white race. Syphilis is undoubtedly the greatest cause of death and disability in the negro race.[141]

The Advent of the Commission on Training Camp Activities (CTCA)

On April 6, 1917, the United States entered World War I. Many training camps emerged throughout the country. Due to pressures from the public, religious leaders and the media (journalists), the War Department recommended on April 17, 1917 per the advice of Raymond B. Fosdick, the establishment of the Commission on Training Camp Activities (CTCA) with the goal of preventing the "moral decay" of soldiers**.** Subsequently, Raymond B. Fosdick was appointed the chairman of the CTCA.

> The Commission on Training Camp Activities on which I (Fosdick) served as chairman was launched, therefore, with the single purpose—and again I use Baker's (Secretary of War in 1917) words—"of rationalizing as far as it can be done the bewildering environment of a war camp."[142]

Secretary of War, Newton D. Baker strongly supported the use of the CTCA as well as the involvement of states and communities as exemplified in the following letters sent to the governors of all states in 1917:

> Our responsibility in this matter is not open to question. We cannot allow these young men, most of whom will have been drafted to service, to be surrounded by a vicious and

[140] Ibid., p.61.
[141] Vedder, EB., *Syphilis and Public Health,* Philadelphia: Lea & Febinger;1918,p.101.
[142] Fosdick, Raymond Blaine, *Chronicle of a Generation: An Autobiography,* New York, Harper (1958), p.143.

> demoralizing environment; nor can we leave anything undone which will protect them from unhealthy influences….From the standpoint of our duty and our determination to create an efficient army, we are bound, as a military necessity, to do everything in our power to promote the health and conserve the vitality of the men in the training camps. I am determined that these camps, as well as the surrounding zones within an effective radius, shall not be places of temptation and peril…The War Department intends to do its full part in these matters, but we expect the cooperation and support of the local communities. If the desired end cannot otherwise be achieved, I propose to move the camps from those neighborhoods in which clean conditions cannot be secured.[143]
>
> I regard the work of the Commission on Training Camp Activities as a most significant factor in winning the war.[144]

The support for these CTCA was so important that even the twenty-seventh President of the United States, Woodrow Wilson highlighted its significance for the moral health of the military.

> "The Federal Government," he wrote, referring to the Commission, "has pledged its word that as far as care and vigilance can accomplish the result, the men committed to its charge will be returned to the homes and communities which so generously gave them with no scars except those won in honorable warfare." [145]

When the United States entered World War I, the U.S. Public Health Service worked with the individual states and the CTCA in venereal disease control work. Both Raymond B. Fosdick and Secretary of War, Newton D. Baker believed in a "policy of absolute repression," augmented by provisions for "wholesome recreation, sex, education, and medical treatment. This fourfold campaign became known as the "American Plan" for stopping venereal disease in the armed services.[146] The Commission on Training Camp Activities recommended four different approaches to reduce the moral turpitude among the troops. These included the following provisions: the availability of amusement and recreational resources in the camps; the organization of athletic activities within the camps; the mobilization of recreational and social

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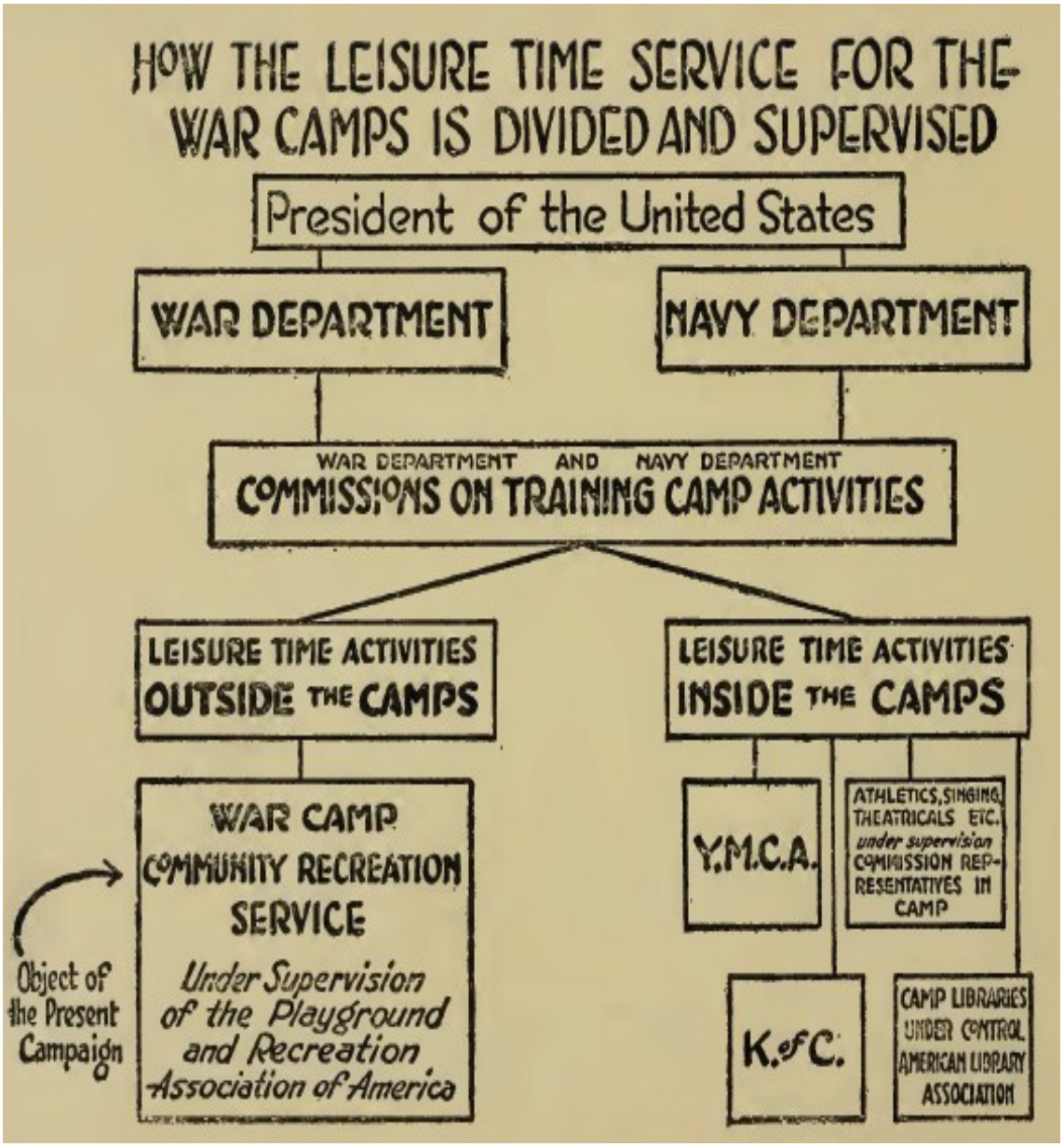
[143] Ibid., pp. 145-146.
[144] United States War Department, *Commission on Training Camp Activities,* 1917, War Department, Washington D.C., cover page at the website: http://ia311225.us.archive.org/3/items/commissionontrai00unitrich/commissionontrai00unitrich.pdf on 3/18/10
[145]Fosdick, Raymond Blaine, *Chronicle of a Generation: An Autobiography,* New York, Harper (1958), p.157.
[146] Gabbert, Ann R., Prostitution and Moral Reform in the Borderlands, *Journal in the History of Sexuality* (2003), Vol. 12:4, pp.600.



agencies in communities near the camps; and the regulation, inspection and control of public amusements in the neighborhoods of camps[147]

Figure 2:Paradigm for the CTCA from the U.S.War Department in 1917.
http://ia311225.us.archive.org/3/items/commissionontrai00unitrich/commissionontrai00unitrich.pdf

[147] Parascandola, J., *Sex, Sin, and Science*, Westport, Connecticut: Praeger Publishers, 2008,p.53.

> The complexion of our early work was determined—unexpectedly for me (Fosdick)—by two sections of the Military Draft Act: sections 12 and 13, which were to have far reaching and unforeseen consequences. They prohibited the sale of liquor to men in uniform, and they gave the President the power to establish, around all military camps, broad zones in which prostitution was outlawed. [148]

The CTCA had three divisions to accomplish its goals consisting of the following:

- Intracantonment Recreation (dealing with recreational activities with the camps)
- Extracantoment Recreation (dealing with recreational activities in communities surrounding the camps)
- Prevention of Venereal Disease (protecting servicemen from venereal disease)[149]

To the military and public health service, the CTCA was a perfect solution to address the susceptible morals of their military recruits.

> When one considers that these men in camp have left their families, homes and friends, their clubs, churches and college gatherings, their dances, their town libraries, athletic fields, theatres and movie houses—in fact, all the normal social relationships to which they have been accustomed—and have entered a strange new life in which everything is necessarily subordinated to the need of creating an efficient fighting force, the importance of the Commission's work becomes apparent. An army in fighting trim is a contented army; contentment for the average man cannot be maintained without the normal relations of life.[150]

Thus, it was paramount to "re-establish…old social ties."[151] There were many organizations of all faiths were called to service including the Young Men's Christian Association, the Knights of Columbus, Young Men's Hebrew Association, etc. The task was arduous and monumental in size with some camps having up to 50,000 military recruits.

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[148] Fosdick, Raymond Blaine, *Chronicle of a Generation: An Autobiography,* New York, Harper (1958), p.144.
[149] Parascandola, J., Sex, Sin, and Science, Westport, Connecticut: Praeger Publishers, 2008,p.53.
[150] United States War Department, *Commission on Training Camp Activities,* 1917, War Department, Washington D.C, p.4. at the website: http://ia311225.us.archive.org/3/items/commissionontrai00unitrich/commissionontrai00unitrich.pdf on 3/18/10
[151] Ibid., p.4.

In the recreation/athletic work area, the CTCA developed programs with skilled organizers and coaches. The goal was to encourage participation by as many troops as possible during their leisure time. "Special stress is laid on hard competitive sports that develop the fight instinct."[152] For example, "special emphasis (was) laid on boxing, not only because it is an excellent sport, but because of it intimate connection with bayonet fighting."[153] Other sports that were utilized were baseball, basketball, soccer, etc.

Camp music was also strongly encouraged with the "Commanding Officers uniformly enthusiastic over the idea of sending a singing army to France."[154] A song book was created for the military recruits under the title "*Songs of the Soldiers and Sailors."*[155] An example of success enthusiasm and success with mode of activity can be seen in the following letter from an unknown officer.

> Between five and six thousand men participated in the most inspiring evening I have ever enjoyed. When everybody sang 'The Battle Hymn of the Republic' and Harry Barnhart got the soldiers emphasizing 'Glory! Glory! Hallelujah! His Truth is Marching on!" you should have seen the faces glowing under the lights. The camp became inspired. The men cheered and cheered. Then the Southern boys called for 'Carry Me Back to Old Virginny' and 'My Old Kentucky Home.' Then we sang 'A Perfect Day' and 'My Hero.' They called for 'Old Black Joe.' The harmony was wonderful. Automobiles way out on the road tooted their horns, and it was ten minutes before the enthusiasm subsided. We sang from eight o'clock until ten o'clock, and ended with the 'Star Spangled Banner.' I have never heard this song SUNG before. The Commanding Officer came forward after the singing and said it was the greatest thing he had ever listened to.[156]

Dramatic entertainment involving motion pictures and vaudeville was also utilized. Educational work in learning foreign languages such as French was incorporated into the curriculum for military recruits.

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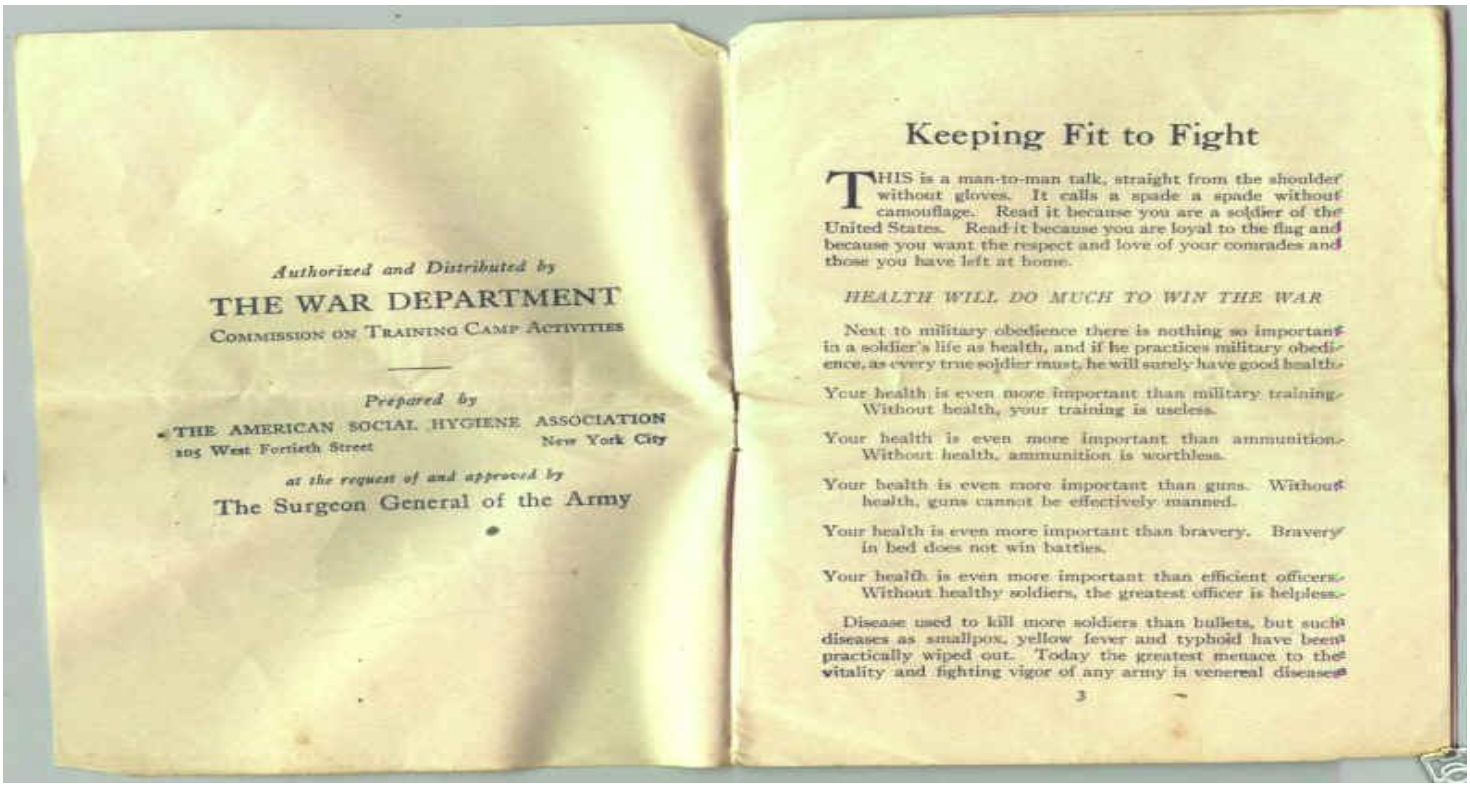
[152] Ibid., p.12.
[153] Ibid., p.13
[154] Ibid., p.15.
[155] Ibid., p.16
[156] Ibid., p.15

In the morality arena, the Armed Services educated the military troops about sex via lectures, films and pamphlets. One such periodical was the famous *Keeping Fit to Fight.* This pamphlet was an important tool in the war against sexually transmitted diseases—comparable to a military Bible against sexual temptation for all new recruits.



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THE WAR DEPARTMENT

COMMISSION ON TRAINING CAMP ACTIVITIES

Prepared by

THE AMERICAN SOCIAL HYGIENE ASSOCIATION

105 West Fortieth Street New York City

at the request of and approved by

The Surgeon General of the Army

Keeping Fit to Fight

THIS is a man-to-man talk, straight from the shoulder without gloves. It calls a spade a spade without camouflage. Read it because you are a soldier of the United States. Read it because you are loyal to the flag and because you want the respect and love of your comrades and those you have left at home.

HEALTH WILL DO MUCH TO WIN THE WAR

Next to military obedience there is nothing so important in a soldier's life as health, and if he practices military obedience, as every true soldier must, he will surely have good health.

Your health is even more important than military training. Without health, your training is useless.

Your health is even more important than ammunition. Without health, ammunition is worthless.

Your health is even more important than guns. Without health, guns cannot be effectively manned.

Your health is even more important than bravery. Bravery in bed does not win battles.

Your health is even more important than efficient officers. Without healthy soldiers, the greatest officer is helpless.

Disease used to kill more soldiers than bullets, but such diseases as smallpox, yellow fever and typhoid have been practically wiped out. Today the greatest menace to the vitality and fighting vigor of any army is venereal disease.

3

Figure 3: http://www.diggerhistory.info/pages-nurses/venereal.htm

> *Keeping Fit to Fight* bluntly informed soldiers that hospitalization for venereal disease was inefficient and a waste of government time, money, and equipment. The message was simple: "All loose women are dangerous." In addition to professional prostitutes, men should avoid "charity girls, or private snaps." Perhaps tempering the "abstinence only" message with a bit of realism, the final advice was that if a soldier yielded to temptation, he was required by army regulation to seek prophylactic treatment.[157]

[157] Gabbert, Ann R., Prostitution and Moral Reform in the Borderlands, *Journal in the History of Sexuality* (2003), Vol. 12:4, p601.

In the realm of motion pictures for education of military recruits on social hygiene and sexually transmitted diseases, several lecture films were issued by the military and allied agencies.[158] The first one was titled *Damaged Goods,* a silent film by Eugene Brieux and played in California around 1915, starring the veteran actor Richard Bennet.[159] *Fit to Fight* and *The End of the Road* were to follow. These films were based on medical observation and fact by "scientific groups, physicians, physiologists, and psychologists, and produced and directed under expert guidance, demonstrated conclusively the theory that education is a strong force in maintaining health and avoiding disease."[160]

Clearly, the military with public health focused on a single theme—that of prostitution and/or loose women**.** Syphilis was a sexist, gender-biased disease where the naive male soldier was a victim rather than the root cause of this sexual conflagration of lust.

> …the offensive against prostitution stressed the connection between threatened health and threatened military efficiency. Social hygienists, reformers, and military officials typically employed dramatic, if over-extended, analogies to make the attack on the red-light districts even more immediate.[161]

J. Frank Chase[162] who belonged to the New England Watch and Ward Society was in support of an Army Corps of Moral Engineers to check commercialized vice. He more ostensibly advocated the theme in the following paragraph:

> It is generally recognized that a bad and diseased woman can do more harm than any German fleet of airplanes that has yet passed over London. One woman of such character as effectually destroys a soldier as a German gun would, and more so. A German gun

[158] The American Social Hygiene Association, the United States War Department, the War Department Commission on Training Camp Activities, and, in the case of women's films, the Young Women's Christian Association: Pinney, Jean B., the Motion Picture and Social-Hygiene Education, *Journal of Educational Sociology* (Nov. 1936)*,*Vol. 10, No. 3;p.160.
[159] Ibid., p.160
[160] Ibid., p.160.
[161] Brandt, Allan M.*, No Magic Bullet: A Social History of Venereal Disease In the United States since 1880*, New York, Oxford University Press, 1985, p.73.
[162] Ibid., p73.

> might do much more harm to men in front of it, but it would not leave the wounded as a menace to his associates, as is a man who suffers from "social diseases."[163]

Unfortunately, none of these programs had a lasting effect on controlling "the Great Pox."

> Venereal disease rates following the closing of the red-light districts indicated that these reforms had had no immediate impact. Though levels of venereal disease in the training camps varied dramatically, they remained high, causing great concern about the health of American youths and their sexual mores. During the year ending August 30, 1918, the surgeon general of the Army reported 126 venereal admissions per 1,000 men, almost 13 percent. Seeking to dispel the popular perception of a profligate army, Secretary Baker rejected the idea that soldiers were particularly prone to sexually transmitted diseases. He suggested this misapprehension had been created because the military collected and published their venereal statistics.[164]

These programs did not work because of three important reasons: first of all, the necessity for eternal vigilance in venereal disease control; secondly, the large numbers of military personnel with venereal disease and lastly, no matter what one does, men and women will continue to have sex whether it be illicit, out of marriage or via the acceptable moral venue, i.e. within marriage.

> Baker and Fosdick questioned the assertion that soldiers needed prostitutes, countering that army recruits, like college students, should more appropriately entertain themselves in athletics.[165]

Of note, throughout history, there have been two main approaches to the control of sexually transmitted diseases: the moral approach and the non judgmental approach.

> The moral approach contends that the best way to prevent infection is to advocate a social and sexual ethic that makes it impossible to acquire an infection—sexual abstinence until marriage. This, proponents believe, can be achieved through education and the suppression of prostitution. The other approach attempts to divorce itself from any particular judgment about sexual behavior and suggests that individuals should be provided with the means for protecting themselves from infection should they choose to engage in sexual behavior, and treatment should be nonpunitive so as to encourage infected individuals to see help.[166]

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[163] Ibid., p.73
[164] Brandt, Allan M., *No Magic Bullet: A Social History of Venereal Disease In the United States since 1880,* New York, Oxford University Press, 1985, p. 77.
[165] Gabbert, Ann R., Prostitution and Moral Reform in the Borderlands, *Journal in the History of Sexuality* (2003), Vol. 12:4, pp.600.
[166] Sherman, Irwin W., *The Power of Plagues,* Washington, DC: ASM Press, 2006, p.272.

Ideally, a combination of both approaches was necessary to deal with the public health problem of syphilis and other venereal diseases.

The Chamberlain-Kahn Act and the Creation of the Division of Venereal Disease (DVD)

In the realization that syphilis was not only an individual problem but rather a societal (i.e., public health) crisis, Congress passed the Chamberlain-Kahn Act on July 9, 1918.[167]

> The passage of which was stimulated by concern over the number of Army recruits infected with syphilis or gonorrhea.[168]
>
> Under the provisions of the Chamberlain-Kahn Act, an Interdepartmental Social Hygiene Board was created, consisting of the Secretaries of War, Navy, and Treasury as ex-officio members, and of the Surgeons General of War, Navy, and Public Health Service or representatives approved by the respective Secretaries.[169]

In addition, the Chamberlain-Kahn Act also served to establish a Division of Venereal Disease within the Bureau of Public Health Service. There was an appropriation "for the purposes of the act $1,200,000 for the control of these diseases in cooperation with State boards or departments of health."[170] This act also provided funds, under the supervision of the Interdepartmental Social Hygiene Board for one of the essential provisions of the Commission on Training Camp Activities— the maintenance of detention homes for female individuals around military camps who belong to the following groups: single, working class women; those deemed to have caught "khaki fever"[171]; "charity girls"[172] and prostitutes.

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[167]Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008, p.69.
[168] Lederer, Susan E., Parascandola, J., Screening Syphilis: Dr.Ehrlich's Magic Bullet Meets the Public Health Service, *The Journal of the History of Medicine*, October 1998, Vol. 53: pp.360.
[169] United States Public Health Service, *Annual Report of the Surgeon General of the Public Health Service of the United States,* 1919, Government Printing Office, Washington, p.234 at the website: http://books.google.com/books?id=ENQgAQAAIAAJ&printsec=frontcover&source=gbs_navlinks_s#v=onepage&q=&f=false on 3/15/10
[170] Ibid., p.10.
[171] Seemingly innocent young girls who lost control at the sight of a uniform, i.e., a stereotypical view of women who were overcome by their feelings per Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008, p. 54.
[172] Girls who haunted the fringes of military camps were often carriers of venereal disease per Fosdick, Raymond Blaine, *Chronicle of a Generation: An Autobiography,* New York, Harper (1958), p.147.

The duties of the Division of Venereal Disease were the following: to investigate the cause, treatment and prevention of venereal diseases; to cooperate with state boards or departments of health in the prevention and control of venereal disease; and to prevent the spread of these diseases in interstate traffic. Dr. Claude C. Pierce[173] was placed in charge of the DVD. With the aid from the Division of Venereal Disease, almost every state (44 out of 48) soon made provisions for the control of venereal disease as part of the work of the state health department. By June 1919, there were 227 clinics for the treatment of venereal disease organized throughout the country.[174] Additionally, the Public Health Service also launched a venereal disease education program in cooperation with state departments at that time. Ironically, eleven years earlier, the Surgeon General of the Service had tried to publish a pamphlet on venereal disease but it was rejected by the Treasury Department, the institutional home of the Public Health Service on the basis that it was not sufficiently dignified to bear the imprint of the Department.[175]

> In 1908 Dr. Claude H. Lavinder was instructed by Surgeon General Wyman to prepare a simple pamphlet on venereal diseases for distribution to persons coming for treatment of the Marine Hospitals and outpatient dispensaries…The publication of the pamphlet was refused by the Assistant Secretary of the Treasury on the ground that such literature was not sufficiently dignified to bear the imprint of the Treasury Department.[176]

By World War I, the public health aspects of venereal disease were emphasized by the US Public Health Service with vigorous program to control the spread of syphilis.

> Significant contributions to its progress have come from Service officers, notably Drs. Thomas Parran, John F. Mahoney, Raymond A. Vonderlehr and J.Rodney Heller.[177]

The Treaty of Versailles, the Military, Public Health and the Future of Syphilis

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[173]Williams, Ralph Chester, *The United States Public Health Service:1798-1950,* Washington, D.C., Commissioned Officers Association of the United States Public Health Service, 1951, p.590.
[174] Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008, p.69.
[175] Williams, Ralph Chester, *The United States Public Health Service:1798-1950,* Washington, D.C., Commissioned Officers Association of the United States Public Health Service, 1951, p.592.
[176] Ibid., p.592.
[177] Ibid., p.592.

On November 11, 1918, World War I came to an end with the signing at the Treaty of Versailles. At that time, the Division of Venereal Disease had only been in existence for four months with a limited effect on the war efforts to control venereal disease.

> In the United States, there was a marked decline of interest in venereal diseases after the First World War, and federal control programs virtually halted.[178]

Dr.Thomas Parran, Jr. (1898-1968), a future Surgeon General of the U.S. Public Health Service wrote the following of that time:

> Congress apparently thought the spirochetes of syphilis were demobilized with the army. More accurately, no further thought whatever was given to syphilis and the first national public health effort came to an untimely end.[179]

Unfortunately, without the impetus of the wartime emergency, both the federal and local governments reduced funding for the venereal disease programs. It would not be until 1936, when the moral cause against syphilis would arise again under the public health leadership of Dr. Thomas Parran, Jr. As a physician, soldier and Surgeon General of the United States (1936-1948), Dr. Parran would lead the crusade against syphilis during World War II (to be discussed in a future paper).

I will end with a quote from Sir William Osler, who so eloquently summarizes the war against syphilis in 1917 with the following quote:

> Fighting in this spirit, the soldiers of our "New Model" will put up an irresistible barrage against the most formidable enemy of the race—an enemy entrenched behind the strongest of human passions, and the deepest of social prejudices.[180]

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[178] Oriel, J.D., *The Scars of Venus: A History of Venereology*, London: Springer-Verlag, 1994, p.206.
[179] Parran, Thomas, *Shadow on the Land: Syphilis*, Reynal and Hitchcock, 1937, p.85.
[180] Osler, Sir William, Annual Oration on the Campaign Against Syphilis, *The Lancet*, May 26, 1917, p. 792.

Chapter III: Syphilis and the U.S. Public Health Service

Era #2
"And the Spirochaete Played On"
Syphilis versus Public Health during the Era of the Roaring Twenties, the Great Depression and the New Deal
(1920-1938)

Introduction:

> Unfortunately, the enthusiasm that had gone up like a rocket came down like a stick. The national spirit swung like a pendulum from "anything to win the war" to aversion for the war status. Discipline was replaced by the license of the roaring twenties. President Harding's phrase "getting back to normalcy" was the excuse for dumping useful effort and bureaucratic regimentation on the same rubbish heap. Congress apparently thought the spirochetes of syphilis were demobilized with the army. More accurately, no further thought whatever was given to syphilis, and this national public health effort came to an untimely end.[181]

With the closure of World War I, both the public health crusade as well as the military campaign against syphilis was considered to have been won. The end of the Great War heralded a return to "normalcy[182]" including that of public health policy on how to deal with syphilis.

Not surprisingly, the United States regressed to its former position of isolation in the political arena as well as in the realm of public health policy. Yet, beyond this façade of normalcy, the nidus for infection with syphilis continued to permeate throughout society while public health remained to a large extent impotent and naive.

> "Drag the snake out of the bushes and beat its head off in public." The order came from Herman N. Bundesen, commissioner of the Chicago Board of Health. The snake was syphilis. The year was 1922. That snake, as is the nature of snakes, proved hard to catch and even harder to kill. However much it might have been beaten in public, its head stayed on.[183]

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[181] Parran, Thomas, *Shadow on the Land: Syphilis,* New York, Reynal and Hitchcock*, 1937,* p.85.
[182] Ibid., p.85.
[183] Poirier, Suzanne, *Chicago's War on Syphilis, 1937-40: The Times, the Trib and the Clap Doctor*, Urbana and Chicago, University of Illinois Press, 1995,p.1.

The Advent of the Roaring Twenties:

With the onset of the roaring twenties, there was a revival as well as a celebration of youth and its culture. It was a time of crazy and frenetic dances such as the Charleston and dance marathons, an era of silly songs and the prominence of jazz as well as a period of radically new styles of clothing. Youthful "Flapper[184]" women began to exert their new found independence by smoking and drinking in public as well as having the audacity to wear short skirts, bobbed hair and the cavalier use of makeup.

From a public health perspective, the three biggest downsides of the "Roaring 20s" in the United States were Prohibition, the soaring rates of sexually transmitted diseases (STDs) and the collapse of Stock Market on October 24, 1929. Prohibition was the catalyst that fueled organized crime and for many people, made disregarding the laws, more or less, "respectable." Prohibition was also responsible for the very high consumption rates of hard liquor with its resultant binge drinking and alcohol abuse which in turn foster illicit sexual behavior. Soaring rates of sexually transmitted diseases (STDs), especially syphilis were rarely discussed as a consequence during the era. Although the rise in syphilis started in World War I, the "Roaring '20s" just added to this public health problem in terms of increasing numbers of American civilians. As a consequence of this, premarital testing for syphilis would become the law in many states by the late 1930s.

Yet, there was another side of this epoch in relation to venereal disease to be considered.

> The 1920s, despite their apparent frivolity, marked less of a watershed in the area of sexual morality than has often been assumed. Though among the young there was a distinct increase in sexual activity, a strong crosscurrent of demands for moral rectitude and gentility persisted. While women took champagne baths at speakeasies and couples went on jaunts in roadsters along country lanes, respectability was reasserted in many quarters. It is important to remember that if the twenties marked the decade of bathtub

[184] A young woman, especially one in the 1920s who showed disdain for conventional dress and behavior from the American Heritage Dictionary online at the website: http://education.yahoo.com/reference/dictionary/?s=Flapper

> gin, so, too, was it the decade of prohibition. In spite of the new openness towards sexuality, the sexually transmitted diseases were drawn once again behind a veil of secrecy. Until the 1930s the venereal problem would go largely unheeded.[185]

Lastly, there was the Stock Market Crash of 1929 which heralded the Great Depression of the 1930s and its public health ramifications to be discussed later in this paper.

> It seemed as though Dow Jones Industrial Stock Index would never quit increasing. Stock speculation went sky high in the bull market of 1928-1929. No one suspected that a signal of the end would occur on October 24, 1929, with the infamous stock market crash, and that more than a decade of depression and despair would follow such an era of happiness and prosperity. Until that time, American life seemed fundamentally sound. The typical American was still hardworking and sensible. The coming storms lay unseen beyond the horizon.[186]

A Changing of the Guard:

With the Armistice of Versailles on November 11, 1918, there came the eventual demise of the Commission on Training Camp Activities (CTCA). However, three agencies still continued as bastions for the social hygiene education program: the Division of Venereal Disease (DVD) under the supervision of the Public Health Service; the Interdepartmental Social Hygiene Board[187] (ISHB); and the American Social Hygiene Association[188] (ASHA). The latter took over and continued the social hygiene education program of the CTCA. However, Congress failed to renew the Interdepartmental Social Hygiene Board's (ISHB) appropriation in 1921, thereby, heralding the decline of the military's role with the Public Health Service in the war against syphilis. In fact, with the end of the Great War, the military would devote its resources towards more important issues within the organization until the dawn of World War II and Surgeon

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[185] Brandt, Allan M., *No Magic Bullet: A Social History of Venereal Disease In the United States since 1880,* New York, Oxford University Press, 1985, p.122.
[186] "*Roaring Twenties*" at the website: http://www.u-s-history.com/pages/h1564.html
[187] "On July 9, 1918, Congress passed a comprehensive law, establishing an Interdepartmental Social Hygiene Board composed of the Secretaries of War, Navy, and Treasury, and setting up a Division of Venereal Diseases in the Public Health Service." from Parran, Thomas, *Shadow on the Land: Syphilis,* New York, Reynal and Hitchcock, *1937* p. 83.
[188] ASHA was an American non-profit organization established in 1914 which has been involved in improving the health of individuals with its core mission dealing with sexually transmitted diseases and their dangerous consequences

General Thomas Parran. This marked the first critical sign of the decline in efforts to combat venereal disease after the war. Although there were many who argued that failure to renew the ISHB appropriation would result in a moral debacle, the die was already cast. Progressive reformers, social hygienists, the League of Women Voters, the Women's Christian Temperance Union, the Parents-Teachers Association, and the National Federation of Women's Organization all argued for the renewal of the ISHB but their pleas fell on deaf ears. Not unexpectedly, the Venereal Disease Division of the Public Health Service fearing their own demise argued that the ISHB's activities unnecessarily duplicated their own duties to the public. Even the medical profession represented by the American Medical Association proffered a cogent argument against the ISHB, claiming that it had overstepped its boundaries by invading the domains of both public health as well as that of physicians. Thus, by 1922, the ISHB ceased to exist despite vocal opposition to its termination.

The second critical sign of the decline in efforts to combat venereal disease after the war was in the arena of media. The open discussion of venereal disease fostered by the Great War would fall victim to the new era and new societal rules. Newspapers and magazines no longer publicized the problem of venereal disease. The wartime film *Fit to Fight* (renamed *Fit to Win* and showed in theaters under the auspices of Public Health) was declared obscene by the New York State Board of Censors. The Pennsylvania Board of Censors banned any film that used the words venereal disease. In 1922, Public Health capitulated to these censors by withdrawing antivenereal films from circulation.

There was change in the approach towards preventing venereal disease which resulted in a third critical failure during this era. The use of mechanical prophylaxis (condoms) and chemical prophylaxis (the use of chemicals to clean the genitals after sex in an effort to kill the spirochete)

was no longer advocated as a means of preventing venereal disease. The return to prewar, archaic and inane beliefs in the control of syphilis was based on the supposition that endorsement of either mechanical or chemical prophylaxis was tantamount to sanctioning increased promiscuity. Such a philosophy was promulgated by many state and local public health boards, religious organizations and even Hugh Smith Cumming (1869-1948), the 5th Surgeon General of the United States (1920-1936).

> It must be borne in mind that persons most in need of protection are usually the more irresponsible groups in a community and under the circumstances often would not have sufficient foresight to provide the protection.[189]

During the 1920s, the answer to the problem of venereal disease was that of sexual abstinence which was strongly promoted by the educational campaigns of that time**.** The use of mechanical prophylaxis (condoms) was rarely mentioned by public health officials during the 1920s and 1930s in part due to the inherent relationship of condoms to birth control. The American Social Hygiene Association fearing alienation of its Catholic constituents never mentioned the "C word"— condoms. Even the future Public Health Surgeon General in 1936, Thomas Parran, a Catholic who headed the Department of Venereal Disease in the 1920s and who championed the antisyphilis campaign in the 1930s remained essentially silent on this issue of condoms except for a brief exert in his 1937 book, *Shadow of the Lands: Syphilis* as cited below:

Mechanical prophylaxis is encouraged in military and naval services of many nations.[190]

Did Parran push his Catholic morality to the breaking point concerning the question of mechanical prophylaxis in his venereal disease campaign and realize that he could go no further?

Campaigns Launched by the Public Health Service to Combat Syphilis:

[189] Brandt, Allan M., *No Magic Bullet: A Social History of Venereal Disease In the United States since 1880,* New York, Oxford University Press, 1985, p.125.
[190] Parran, Thomas, *Shadow on the Land: Syphilis,* New York, Reynal and Hitchcock, 1937, p.206.

Educational campaigns regarding venereal disease were an important tool under the purview of the U.S. Public Health Service. Women, girls, boys and men were all targeted groups in this campaign. The programs were most aggressive for young boys (the male adolescents) because they were believed to be at greatest risk for syphilis and other venereal diseases. Two major programs evolved during this time: the Keeping Fit Program for adolescent boys and the Youth and Life Program for women and girls.

The Keeping Fit Campaign:

Following the Great War, a conservative approach towards sexual education campaigns for male adolescents from age 12 to 20 was initiated by the U.S. Public Health Service (PHS) who partnered with the Young Men's Christian Association (YMCA) in an effort to combat venereal disease labeling their project "Keeping Fit." The campaign actually had two components, a program for white boys and one for African-American boys.

> In 1918, the U.S. Public Health Service (PHS) told American parents that "it is no longer possible for you to choose whether your child will learn about sex or not." According to the PHS, most American boys learned about sex from "improper sources" by the age of nine. The "unfortunate effect of these early impressions" had, PHS warned, not only resulted in a gross misunderstanding of sex, but also been a major factor in the spread of venereal disease (*The Parents' Part* [the U.S. Public Health Service, 1918], p. 5). To counter and correct this miseducation, PHS joined with the Young Men's Christian Association (YMCA) to create a sex education program aimed at adolescent boys. Officially launched in the spring of 1919, the "Keeping Fit" campaign provides a unique insight into the federal government's attempt to medicalize and regulate American sexuality through the forum of public health.[191]

The program consisted of pamphlets which contained moralistic appeals mixed with fear-based warnings about the consequences of carelessness. To emphasize this point, the pamphlets drew images with brief slogans or captions, with each panel focusing on one aspect of the

[191] Lord, Alexandra M., Models of Masculinity:Sex Education, the United States Public Health Service and the YMCA, 1919-1924, *Journal of the History of Medicine and Allied Sciences* (2003), Vol. 58; No.2:p. 123.

venereal disease menace. The first six panels highlighted the importance of physical activity, the next five panels discussed proper eating and bathing, and the final thirty-five panels explored the issue of both sexuality and disease.

> Venereal disease itself is referred to in vague and often dire terms, with women and men who engage in sex out of wedlock all being cast as carriers of the disease. There are no real explanations as to how reproduction works or what sexual maturity entails. Overall, the PHS discussion of sexuality was so elliptic that boys who lacked a prior knowledge of the "facts of life" would be unlikely to learn the basics of human reproduction from viewing the exhibit. Although remarkable by modern standards for its failure to address sexuality, the reticence displayed by the organizers of Keeping Fit was typical of most sex education campaigns during this period.[192]

The general public saw the Keeping Fit Campaign as a success. Independent assessments of program also characterized it as a success. Yet, the Keeping Fit Campaign was put on the sidelines in 1925 by the US Public Health Service. The disappearance of Keeping Fit and the failure by US Public Health Service to follow through on sex education campaigns for adolescents and children in the following years raise several questions. The most important of these is why the US Public Health Service was not more aggressive in pursuing this or a similar type of campaign? It is clear that the factors shaping the American sex education programs were and still are numerous. At the most basic level, Keeping Fit failed not because of opposition from conservatives who feared sex education, but because of financial constraints, tensions between states and the federal government, and, most importantly, shifting views of adolescence and education. However, the Keeping Fit Campaign was not a total failure as suggested in the following paragraph:

> This sidelining of PHS should not be interpreted as evidence of Keeping Fit's ineffectiveness or unimportance. This program laid the groundwork for several important innovations in both the structure of government-sponsored public health campaigns and

[192] Lord, Alexandra M., Models of Masculinity:Sex Education, the United States Public Health Service and the YMCA, 1919-1924, *Journal of the History of Medicine and Allied Sciences* (2003), Vol. 58; No.2:p. 133.

> approaches to sex education. Keeping Fit medicalized and federalized sex education, taking it out of the hands of parents and placing it firmly in the hands of the government. More importantly, though, Keeping Fit set a new standard for the way in which public health campaigns could be run—by envisioning health education as an ongoing and continuous effort, Keeping Fit's organizers challenged contemporary views of PHS health campaigns as stopgap measures intended to address specific or regionally focused health crises. Although it is true that Keeping Fit itself did not become a permanent exhibit in the way in which its creators had hoped, the program was the first step in what can now be seen as a continuous campaign by the American government to educate the public on sexuality and sexually transmitted diseases. In this sense, it can be argued that Keeping Fit never really died; rather, it simply changed over time. [193]

Youth and Life Campaign:

The materials developed in this program by the U. S. Public Health Service for women and girls sought to reverse their patterns of sexual behavior. However, one of the main criticisms of this program was that it never focused on the male counterpart. A variety of pamphlets and tactics were used in this program as compared to the one pamphlet and one tactic message for adolescent boys. Stereotyped images of women as mothers, wives, daughters and prostitutes were used to endorse and advocate passive images of women and female sexuality.

> While the reasons for this approach were varied, the diffuse nature of this campaign meant that the PHS's message never really reached its intended audience. Not surprisingly, this programme failed to alter young women's sexual behaviour.[194]

Additionally, the Youth and Life Campaign was underfunded and poorly marketed which added to ultimate demise of this program. It never became the bellwether for the U.S. Public Health Service's sex education campaign for women in the way that Keeping Fit became the focal point for its campaign for boys. But all was not lost.

> While the PHS' campaign failed to alter the sexual behaviour of young women, failed to reverse the recent sexual revolution, and failed, most importantly, to restructure the American family, the programme should not be dismissed as unimportant. The materials

[193] Lord, Alexandra M., Models of Masculinity:Sex Education, the United States Public Health Service and the YMCA, 1919-1924, *Journal of the History of Medicine and Allied Sciences* (2003), Vol. 58; No.2:pp.151-152.
[194] Lord, Alexandra M., 'Naturally Clean and Wholesome': Women, Sex, Education, and the United States Public Health Service, 1918-1928, *Social History of Medicine* (2004), Vol. 17; No.3: p.440.

> which the PHS developed for this campaign continued to be used in a sporadic fashion throughout the late 1920s and 1930s. Moreover, they set the standard for sex education in the twentieth century.[195]

The American Social Hygiene Association (ASHA)

The other important player in the war against syphilis was the American Social Hygiene Association. During the 1920s and 1930s, this nonprofit American organization served as a central coordinator for the local or regional committees, doctors, public health officials, and social welfare agencies that were combating venereal disease and vice. Additionally, ASHA published medical periodicals such as the *Journal of Social Hygiene* and the *Social Hygiene Bulletin*.

> Other core responsibilities during that era included performing studies on the prevalence of syphilis, undertaking community vice and VD surveys, publishing synopses of laws affecting prostitution and vice, and supporting legislation which required a premarital exam for syphilis. The organization also promoted character and sex education as a means of preventing the spread of venereal disease. The ASHA educational program emphasized preparation for a wholesome family life, avoiding venereal disease, and physical as well as moral fitness.[196]

The Great Depression and Syphilis:

Funds for the U.S. Public Health Service Division of Venereal Disease dramatically declined during the 1920s, decreasing from $4 million to $60,000.00 by 1926.[197] During the Great Depression, funds for venereal disease programs became even more difficult to obtain with the Department of Venereal Disease being little more than a holding operation. As the funding decreased, so did the money made available to states for venereal disease control.

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[195] Lord, Alexandra M., 'Naturally Clean and Wholesome': Women, Sex, Education, and the United States Public Health Service, 1918-1928, *Social History of Medicine* (2004), Vol. 17; No.3: p.440.
[196] American Social Health Association, 1905-2005 at the website: http://special.lib.umn.edu/findaid/xml/sw0045.xml
[197] Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008, p.74.

The American Social Hygiene Association feared similar consequences in funding which would result in the disruption of traditional family roles and economic hardships, leading to increases in prostitution and venereal disease which the Depression invariably did. Although the Depression took its toll on ASHA, the organization did manage to continue many of its programs through cooperative efforts with multiple other organizations.

The New Deal and the Surgeon General's Campaign against Syphilis:

During the years of the New Deal, Thomas Parran, the 6th Surgeon General of the US Public Health Service under President Roosevelt, committed the country towards the eradication of venereal disease especially syphilis by dramatically publicizing these infections. By the time Dr. Parran, a member of the US Public Health Service since World War I, mounted his attack, publicizing it first in the *Survey Graphic* and then in the *Readers Digest*, the Great Depression had eroded much of the funding for venereal-disease control. According to the moral precepts of such groups as the American Social Hygiene Association, the disruption in traditional family roles created by the Depression generated higher rates of venereal disease. Syphilis and gonorrhea were seen as the consequences of the Depression's social instability rather than as infectious diseases. In the early 1930s, it was estimated that nearly one in ten Americans suffered from syphilis.

Without question, the economic crisis of the Depression did lead to a greater prevalence of the infections because fewer people could afford the expensive treatments. In the early 1930s, the cost of treatment using injections of arsenic compounds alternated with injections of bismuth to reduce the chance of toxic reaction averaged between $305 and $380 but could cost as much as

$1,000.[198] Typically more than one member of a family needed treatment. Because of the expense and the stigma surrounding venereal diseases, many victims turned to quacks and patent medicines[199]. Parran attacked the traditional argument that VD victims got what they deserved and calculated the larger social costs of the diseases. Millions of dollars were spent in treating syphilis, and the costs went even higher as the complications of the untreated disease developed. Parran also calculated the costs of the venereal diseases to American industry and estimated a loss of more than $100 million annually.[200]

> In industries the costs of venereal diseases are tremendous. It has been estimated that from 8 to 10 million workers lost 21 million working days each year at an average of $4 a day as a result of infection with these conditions. The cost may well be more than $100,000,000 annually.[201]

Since the disease could be diagnosed and treated, Parran believed it could join the ranks of other controlled communicable diseases and set out to publicize it.

Silence = Death:

In 1934, Parran had come to national attention after he refused to delete the word "syphilis" from a speech on "Public Health Needs" via the Columbia Broadcasting System. He insisted on giving the entire speech or none of it. The program was cancelled at the last minute and in protest, he resigned from the public health committee of the National Advisory Council on Radio in Education.

> Parran, reacting angrily to being censored, pointed out the hypocrisy in the standards for radio broadcasting. In a press release issued by his office the next day, he commented

[198]Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008, p.82.
[199] Refers to medical compounds of questionable effectiveness sold under a variety of names and labels.
[200] Brandt, Allan M., *No Magic Bullet: A Social History of Venereal Disease In the United States since 1880,* New York, Oxford University Press, 1985, p.133.
[201] Ibid., p.133.

> that his speech should have been considered more acceptable than "the veiled obscenity permitted by Columbia in the vaudeville acts of some of their commercial programs."[202]

Parran's article, "The Next Great Plague To Go," attacked the veil of secrecy associated with syphilis. It was published in 1936 in which Parran argued that it was time to talk about syphilis in the open. In his opinion, the major obstacles in the war against syphilis were summarized in the following statement:

> …that nice people do not have syphilis, nice people do not talk about syphilis, and nice people do not have anything to do with syphilis.[203]

In 1937, Parran published a book about his campaign against syphilis, *Shadow on the Land: Syphilis*, which became a best-seller. He defined venereal disease as the most pressing of all public health problems and called for a "New Deal" for its victims. His campaign made dramatic strides against venereal diseases, and he committed the federal government to its resolution. By 1938, he had the following results to support his efforts:

> New laws, requiring both applicants for a marriage license to show medical certificates that they were free from syphilis, had gone into effect in several states.[204]

- Billboard posters all over the country, showing a happy couple playing with their healthy baby and urging: "Safeguard Baby's Right to Be Born Healthy. Every expectant mother should go early to a physician for an examination and blood tests."[205]
- The organization of an American Academy of Dermatology and Syphilology.[206]
- Postgraduate courses on venereal-disease control for health officers and private practitioners in many institutions of medicine and public health.[207]
- A survey by the American Institute of Public Opinion establishing that the majority of American residents interviewed were in favor of federal clinics for the treatment of venereal disease.[208]

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[202] Brandt, Allan M., *No Magic Bullet: A Social History of Venereal Disease In the United States since 1880,* New York, Oxford University Press, 1985, p.122..
[203] Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008, p.92.
[204] Medicine: Safeguard Baby, *Time,* February 14, 1938 at the website http://www.time.com/time/magazine/article/0,9171,848847,00.html
[205] Ibid.
[206] Ibid.
[207] Ibid.
[208] Ibid.

Blood Testing for Syphilis as a Prerequisite for a Marriage License

In the 1930s and 1940s, blood testing to screen for syphilis became a prerequisite for obtaining a marriage license in most states due to the fact that it was common, the mother may be unaware of the disease and it was treatable. Today, few states still require this blood test before a marriage license.

VD and the New Deal Reform:

Parran's program represented some of the most positive elements of Roosevelt's New Deal reform. The Surgeon General of the Public Health Service rejected the traditional emphasis on morality and ethics and defined the disease as a combatable infectious disease. He attempted to force the government to accept certain basic responsibilities for the care of venereal-disease victims and to commit federal funds to its eradication, as he had seen done in several European countries. Unfortunately, the tide of public opinion about sexually transmitted diseases undermined his goals. Public fears about the danger of venereal disease meant it ultimately would not join the ranks of diseases that the techniques of medicine and public health could effectively control. His attempts to redefine venereal disease as curable met with only partial success, and his goal of a nation freed from the burden of sexually transmitted diseases was never reached. The old triad of fear, stigma, and taboo formed an alliance that would stretch much further into the twentieth century.

> Never give in, never give in, never; never; never; never - in nothing, great or small, large or petty - never give in except to convictions of honor and good sense.[209]

When Thomas Parran came to power, he reformed the Public Health Service in rejecting the Progressive ideas of the past in dealing with syphilis in terms of volunteerism, charity and morality. This Surgeon General possessed the clairvoyance for the necessary solutions to control

[209] Sir Winston Churchill (1874-1965)

syphilis. Parran's campaign against syphilis concentrated on three important themes. First, he rejected the traditional emphasis with the anti-venereal movement on sexual morality and ethics. Second, he wanted to base his campaign on scientific and medical facts (an example of evidence-based medicine) as well as incorporating the battle against syphilis in the realm of infectious disease where it could be treated. And lastly, he advocated forcing the State to accept primary responsibility for the care and treatment of those with venereal disease. Parran's campaign against syphilis represented an epic moment in the war against syphilis. Parran identified a major public health problem and provided a strategy to deal with it. The Surgeon General's commitment to use federal funds to identify social problems of a large magnitude that only the national government could mitigate was paramount and one of the major elements to the New Deal and its social reform.

Nowhere was the campaign against syphilis pursued with more prominent than in Chicago. On August 13, 1937, a syphilis parade marched from the Loop to City Hall carrying banners proclaiming, "Friday the thirteenth is an unlucky day for syphilis.[210]" In the realm of the media, the New Deal made use of the Living Newspaper[211] via the Federal Theater Project which became a very popular and successful method of informing society of the consequences of syphilis in 1938 with the release of *Spirochete* by playwriter Arnold Sungaard.

> A Living Newspaper is a theatrical genre conceived and created by the Federal Theater Project (*FTP—under the aegis of the Works Progress Administration)* in the 30s in order to dramatize current events and Hallie Flanagan, head of the FTP, created a staff of the Living Newspaper which "was set up like a large city daily, with editor-in-chief, managing editor, city editor, reporters and copyreaders." The process was composed of three steps. First the researchers would gather information pertaining to the subject, all of which would be footnoted in the script. Secondly, the research staff and the dramatists would discuss the implications of the material and suggest further avenues of research.

[210] Poirier, Suzanne, *Chicago's War on Syphilis, 1937-40: The Times, the Trib and the Clap Doctor*, Urbana and Chicago, University of Illinois Press, 1995, p.217.
[211] *What is a Living Newspaper?* at the website: http://xroads.virginia.edu/~MA04/mccain/audiohist/intro5.htm.

> After refining the material, the dramatists would "distill the essence" from the information and develop the script. Living Newspapers are, therefore, realistic social allegories.[212]
>
> Historically, Living Newspapers have also urged social action (both implicitly and explicitly) and reacted against naturalistic and realistic theatrical conventions in favor of the more direct, experimental techniques of agitprop theatre, including the extensive use of multimedia.[213]

The Living Newspaper, *Spirochete* dealt with the history of syphilis and served as both an information and teaching tool for the public. This "fictionalized-documentary" reviewed the history of medical treatment for the disease, attacked the conspiracy of silence, and urged on the Wassermann campaign of testing and treatment. During intermission, theatergoers were invited to be tested in the lobby.

> Using the image projections, extensive sound design, shadowplay, brief scenes, and "little man" character (here, a patient embodying all syphilis sufferers throughout history) made standard by the New York Unit, *Spirochete* followed syphilis from its introduction in Europe in the 15th century through to the social stigma surrounding it in the 1930s. The play pushed for audiences to support the Marriage Test Law of 1937, which required blood tests for syphilis prior to marriage. *Spirochete* became the second most produced Living Newspaper, after *One-Third of a Nation* and ran in four other major cities *(New York, Boston, Seattle, and Philadelphia)* as part of a nationwide syphilis-education and -prevention campaign.[214]

In Conclusion:

Although much was lost in the campaign against syphilis during the "Roaring '20s," with its return to Progressive era beliefs of volunteerism, charity and morality, Surgeon General of PHS Thomas Parran with the support for social reform via the New Deal in the 1930s did make dramatic improvements in the war against syphilis as well as other venereal diseases. Parran defined and made the problem of syphilis a public issue; offered reasonable solutions to its

[212] *What is a Living Newspaper?* at the website: http://xroads.virginia.edu/~MA04/mccain/audiohist/intro5.htm.
[213] *Ibid.*
[214] *Ibid.*

prevention and treatment; and committed the federal government to its resolution, all of which fit well within the paradigm of the New Deal. The Progressive notions of the 1920s in dealing with syphilis in terms of volunteerism, charity and morality matured into those of evidence-based medicine, public education and a responsibility of the government for the care and treatment of syphilitic victims. The campaign against syphilis changed from a problem revolving around the individual to a societal responsibility. Although Parran never achieved his ultimate goal of control and eradication of syphilis, his foresight enabled future generations of the Public Health Service to utilize these tools and demonstrate that he was correct.

The "Winds of War"[215] would soon besiege the world in late 1930s and early 1940s. It would rekindle the mutual cooperation of two, old friends—that of the military and the Public Health Service in a crusade against syphilis like that of World War I.

As one might have expected, the entry of the United States into the Second World War gave the anti-venereal campaign its second wind. [216]

However, this time both organizations would have a new armament of medical treatments and public health policies to defeat a common enemy.

> A pessimist sees the difficulty in every opportunity; an optimist sees the opportunity in every difficulty.[217]

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[215] This novel revolves around a combination of real and fictional individuals who are connected to the family of its principle character, Victor "Pug" Henry who is middle-aged Naval Officer and confidant to President Franklin Delano Roosevelt-from Wouk, Herman, *The Winds of War,* New York, Little Brown and Company, 1971.

[216] Quétel, Claude, *History of Syphilis,* Baltimore, The Johns Hopkins, University Press, 1992, p. 192.

[217] Sir Winston Churchill (1874-1965)

Chapter III: Syphilis and the U.S. Public Health Service

Era #3
The War against Hitler, Hirohito and V.D. but Remember that Syphilis was the Worst of the Three!
(1938-1945)

Introduction

> Peace came (with end of World War I). The troops were demobilized and a large part of the navy was scrapped. Public indifference even sanctioned an attempt at peacemaking with the pallid spirochete. But you can't make peace with germs.[218]

During the roaring twenties and devastating thirties, syphilis had been metamorphosized into a state of oblivion.

> Then in 1936, Surgeon General Parran suddenly re-awakened public opinion. "Stop Syphilis" became a maxim after we realized the shortsightedness of the false economy of the 1920's. The equivalent of the cost of just one battleship distributed over the last twenty years would have made syphilis a disappearing disease today.[219]

World War II would serve as a new battleground in the struggle against syphilis. There were changes in the level of engagement from both the military and the public health services. Both agencies were willing to work together to fight against this common enemy. Syphilis was often portrayed and even characterized as beguiling, licentious, seductive yet deadly as a feminine ally of the Axis powers. Winning the war against syphilis was tantamount to defeating Hitler, Mussolini and Hirohito combined! The military and public health services had acquired much experience since the Great War, a quarter century earlier. Eventually, both services would have a new weapon in their arsenal against the Great Pox—that of penicillin.

[218]Vonderlehr, R.A., Are We Checking the Great Plague? *Survey Graphic,* April 1, 1940, Vol.29; No.4:p. 217.
[219] Ibid., p. 217.

It is the purpose of this paper to elucidate how the fight against syphilis served as a catalyst to unify and strengthen both the military and public health services in their goals to eradicate this disease. It will also demonstrate how both agencies were dependent on each other in order to succeed at this goal. Although there are striking similarities to efforts seen in World War I, many differences are manifested in the campaign against Cupid's Disease during the 1940s.

"The Winds of War"[220]

In 1936, it was estimated that more than 500,000 U.S. citizens with syphilis sought treatment and that another half million were infected but failed to take treatment.[221] It was estimated that syphilis affected one in ten adults in the United States.[222]

> In 1936, Dr. T. Parran, then Surgeon General of the US Public Health Service, reawakened public interest and this, aided by the support of various organizations, led to the LaFollette-Bullwinkle Bill[223], which amended the Venereal Control Act of 1918. This Bill authorized a policy of grants-in-aid to States, sufficient to establish and maintain adequate measures for the prevention, treatment and control of venereal disease. [224]

Thomas Parran was the Surgeon General whose vision and mission shaped the policy for public health as well as the military in the war against syphilis for over a decade.

> Title 6 funds supported efforts to identify and treat syphilis, the National Venereal Disease Control Act of 1938 made funds available for rapid treatment centers that employed the new sulfa drugs and, later, penicillin, and during 1937 his book about syphilis, *Shadow on the Land*, was published and very well received.[225]

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[220] This novel revolves around a combination of real and fictional individuals who are connected to the family of its principle character, Victor "Pug" Henry who is middle-aged Naval Officer and confidant to President Franklin Delano Roosevelt-from Wouk, Herman, *The Winds of War,* New York, Little Brown and Company, 1971.

[221] Vonderlehr, R.A., Are We Checking the Great Plague? *Survey Graphic,* April 1, 1940, Vol.29;No.4:p. 217.
[222] Ibid. p. 217
[223]The LaFollette-Bullwinkle Bill (Venereal Disease Control Act of May 24, 1938) provided the basic funds as well as the additional stimulus for a venereal disease control campaign in which the U.S. Public Health Service cooperated with State and local health authorities-- Vonderlehr, R.A., Progress in Venereal
[224] World Health Organization, Venereal-Disease Control in the USA with Special Reference to Penicillin in Early, Prenatal, and Infantile Syphilis, Technical Report Series, No.15 , Geneva, World Health Organization, May 1950, p. 8.
[225] U.S. Department of Health & Human Resources, Office of the Surgeon General: Thomas Parran, Jr. (1936-1948) at the website: http://www.surgeongeneral.gov/about/previous/bioparran.htm on 5/25/10.

In this book, *Shadow of the Land,* Parran reported the following statistics regarding the incidence and prevalence of syphilis in the United States.

> …he reported that there were a half-million new cases of syphilis in the United States each year. Over 680,000 syphilis patients were under treatment with arsphenamine[226] at any one time. There were as many more untreated cases, which meant that almost 1,400,000 people, or over 1 percent of the US population of 130 million were syphilitic.[227]
> .

Assistant Surgeon General of the U.S. Public Health Service, Dr. R. A. Vonderlehr, provided statistics concerning venereal disease clinic activities regarding gonorrhea and that of syphilis in the United States for the fiscal years of 1938 and 1939 supporting the fact that syphilis was a common, significant public health epidemic worthy of continued surveillance. These statistics are provided in the following table published in 1940.

[226] "Formerly used in the treatment of syphilis, yaws, and some other diseases of protozoan origin, after neutralization with NaOH. The synthesis of arsphenamine in 1907 and the demonstration of its usefulness as a therapeutic agent by Paul Ehrlich and co-workers (1909) marked the beginning of chemotherapy"-- Stedman's Medical Dictionary 23rd Edition, Baltimore, The Williams & Wilkins Company, 1976, p. 113.
[227]Schmidt, Paul J., Syphilis, a disease of direct transmission, *Transfusion* August 2001, Vol. 41: p. 1069.

TABLE 1-Comparison of venereal disease clinic activities in the United States-fiscal years I938 and I939

	Fiscal year 1938.	Fiscal 1939.	Percent. per increase during 1939.
i. Number of venereal disease clinics reported as functioning during fiscal year.	I746	2,405	37.7
2. Number of venereal disease clinics reporting activities to State and Territorial health departments	1,122	2,085	85.8
3. Number of venereal disease patients brought under treatment for first time in clinics1	197,303	314,594	59.4
4. Number of treatments administered in venereal disease clinics1	5,177,827	7,923,958	53.0
5. Number of doses of arsenical drugs administered in venereal disease clinics1.	1,854,735	3,166,342	70.7
6. Number of patients discharged from venereal disease clinics as arrested or cured1	78,042	102,880	3I.8
7. Number of laboratory tests performed by or for venereal disease clinics 1.	323,177	2,350,695	77.7

1 Activities reported to State health departments by cooperating clinics.[228]

Table 1: Disease Control in the United States During Fiscal Year 1939, *British Journal of Venereal Disease* 1940, 16: p.80.

The economic burden of venereal disease control for federal government was significant and demonstrated a genuine commitment to its control.

> In 1939, the federal government allocated over $8,000,000 for maternal and child programmes, over $9,000,000 for general public health work and over $4,000,000 for venereal disease control. [229]

With the advent of World War II, concerns about venereal disease, especially syphilis became a priority for both the military and public health services. This concern became reality when the

[228] Vonderlehr, R.A., Progress in Venereal Disease Control in the United States During Fiscal Year 1939, *British Journal of Venereal Disease* 1940, 16: pp.82.
[229] Porter, Dorothy, *The History of Public Health,* Atlanta, Georgia, Editions Rodopi B.V., 1994, p.247.

country instituted the peacetime draft, known as the Burke-Wadsworth Act[230] which made military service compulsory for men from age 21 to 35, later extended for registration purposes from ages 18 to 65. President Franklin D. Roosevelt signed this Selective Training and Service Act (STSA) on September 16, 1940. This draft continued until 1947 during which time 11 million men were inducted into military service.

Recognizing the need to cooperate in the campaign against syphilis, the military hierarchy met with civilian leaders in 1940 from the Public Health Service and the American Social Hygiene Association (ASHA) as had been done in World War I. This conference led to the formation of the "Eight-Point Agreement" that same year. As a result of the U.S. Army, Navy and Public Health Services, and by private health and welfare agencies, the establishment of a wartime venereal disease program was borne and adopted by all including State and territorial health officers.[231] The points in the "Eight Point Agreement" consisted of the following statements listed below:

1. Early diagnosis and adequate treatment by the military of enlisted personnel infected with venereal diseases;
2. Early diagnosis and treatment of civilian population by local health departments
3. Reporting by military medical officers, where possible, of probable sources of infection of servicemen to state or local health authorities;
4. Reporting by local or state authorities to military medical officers of contracts of enlisted men with infected civilians;
5. Recalcitrant infected persons with communicable syphilis or gonorrhea should be forcibly isolated during the period of communicability;
6. Decrease as much as possible opportunities for contact with infected persons;
7. Aggressive programs of education in the military and civilian populations;

[230] "Signed into law by Franklin Roosevelt in 1940, the Burke-Wadsworth Act the first peace-time draft in United States history. Under the Burke-Wadsworth Act, all American males between twenty-one and thirty-five years of age registered for the draft. The government selected men through a lottery system. If drafted, a man served for twelve months. According to the Burke-Wadsworth Act's provisions, drafted soldiers had to remain in the Western Hemisphere or in United States possessions or territories located in other parts of the world. The act provided that not more than 900,000 men were to be in training at any one time, and it limited service to 12 months"- Burke-Wadsworth Act at the website: http://www.selectiveservice.us/military-draft/7-use.shtml on 4/6/10.

[231] World Health Organization, Venereal-Disease Control in the USA with Special Reference to Penicillin in Early, Prenatal, and Infantile Syphilis, Technical Report Series, No.15 , Geneva, World Health Organization, May 1950, p. 8.

8. Public and military officials desire the assistance of ASHA and other voluntary
9. welfare organizations in developing and stimulating public support for the above measures.[232]

In addition, statistical studies from all participants in the campaign were to be an integral part of monitoring the war against venereal disease as demonstrated in the following statement from the U.S. Army in 1940:

> Analysis and interpretation of data on the incidence of various diseases also developed during 1940. The Statistical Division supplied information on incidence of disease among Army personnel, and the U.S. Public Health Service furnished similar information as to the civilian population in the United States. Toward the end of the year the surveys of foreign areas mentioned above began to provide this information for foreign areas.[233]

As in the past, both the military and the public health services felt that focusing on prostitution would literally yield "the most bang for the buck." However, this approach seemed to have its limitations and there were concerns that the military did not fulfill its commitment to develop a "comprehensive venereal disease program." In 1941, Surgeon General Parran and Raymond Vonderlehr published a book titled, *Plain Words About Venereal Disease.* It was clear to the Public Health Service and American Social Hygiene Association that many communities were not successful in the repressing prostitution. Because of such problems, Congressman Andrew May introduced a bill eventually known as the May Act on January 20, 1941 to prohibit prostitution near military establishments and empowered the Secretaries of War, the Navy and Federal Security Agency "to take such steps as they deem necessary" to suppress prostitution.[234]

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[232] Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008, pp.99-100.
[233] Heaton, Lieutenant General Leonard D., *Medical Department U.S. Army in World War II: Organization and Administration in World War II,* Washington D.C, U.S. Army Medical Department, Office of Medical History, 1963 at the website: http://history.amedd.army.mil/booksdocs/wwii/orgadmin/DEFAULT.htm on 5/1/10., p.34.
[234] Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008, p. 100.

This May Act became law on July 11, 1941 and "was modeled on the World War I Legislation that established 'moral zones' free of alcohol and prostitutes around the cantonments."[235]

The Military and Venereal Disease
Should the Army induct men with venereal disease?

> A quarter of a century ago (1915), public interest in the venereal diseases began to be manifested. War came, and mobilization began. Thousands of the young men examined in the selective draft had syphilis and gonorrhea. Indeed, these two diseases were the most frequent causes of rejection, even though modern techniques for their detection were not then available.[236]

The above quotation brings up an important question. Should the military (Army) induct men with venereal disease? Certainly at the beginning of the war, Army policy stated that registrants with any form of venereal disease were not acceptable for general service. However, acute or chronic syphilis victims could be admitted for limited service. In regard to the Selective Service Examination reasons for rejections into the military, syphilis ranked as the second most frequent cause. In Figure 3 representing military data up to February 1, 1944, 10.7% of the 2.7 million men were rejected for military service (class 4-F) secondary to syphilis.[237]

[235] Brandt, Allan M., No Magic Bullet: A Social History of Venereal Disease In the United States since 1880, New York, Oxford University Press, 1985, p. 162.
[236] Vonderlehr, R.A., Are We Checking the Great Plague? *Survey Graphic,* April 1, 1940, Vol.29;No.4:p. 217.
[237] Perrott, G. St. J., Findings of Selective Service Examinations, *The Milbank Memorial Fund Quarterly* (October 1944), Vol. 22, No.4: pp.359.

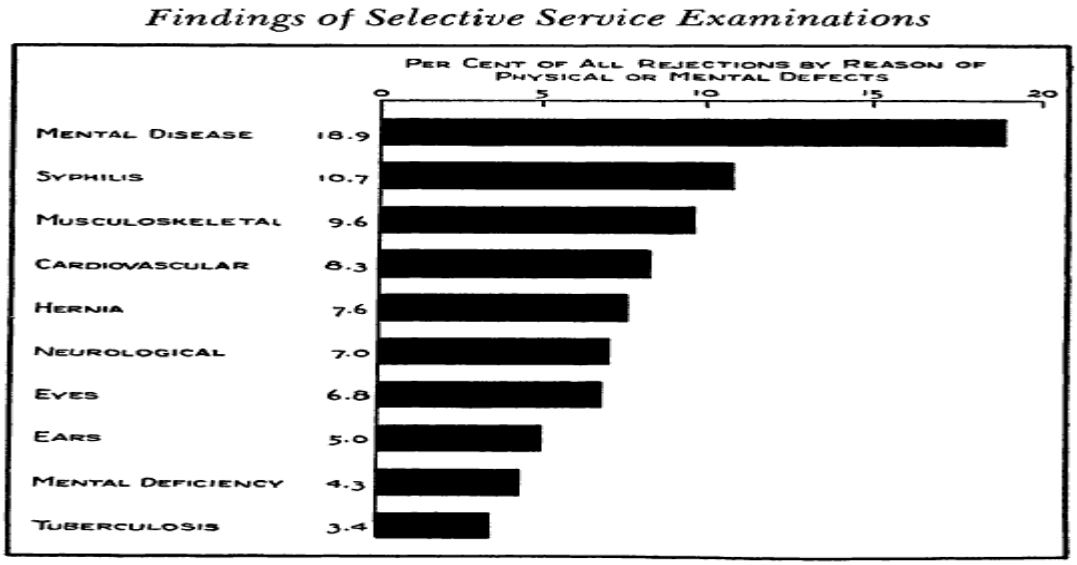

Figure 1: Perrott, G. St. J., Findings of Selective Service Examinations, *The Milbank Memorial Fund Quarterly* (October 1944), Vol. 22, No.4: pp.359.

It was not unusual for the military to defer induction of registrants with gonorrhea until treatment was completed since sulfa drugs were available and usually curative for this disease. After the United States had entered into World War II, manpower was critical to winning the war. As a result, the policy was reviewed and then revamped. Additionally, there was public sentiment against this former Army policy since it penalized moral behavior by drafting those who did not have syphilis and rewarded those who did.

> In the summer of 1942, the Army began experimenting with inducting men suffering from venereal disease and curing them before assigning them to active duty. An estimated 200,000 men with venereal disease were eventually inducted into the Army during World War II after standards were liberalized.[238]

The Double Standard for Women in the Military

Au contraire, females were rejected with venereal disease per the policy of the Women's Army Corps which was established in 1942.Initially some cases of venereal disease in these women were missed since routine gynecological exams with a pelvic were not necessarily done.

[238] Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008, p.101.

This policy however, was to change with time. All Army personnel were required to undergo monthly physical examinations including looking for the stigmata of venereal disease. According to the Surgeon General of the Army at that time, the decision of how often to check women was left up to surgeons at posts and field stations which varied in frequency from every month to six months. Complaints were raised by women that the gynecological exam was uncomfortable, immodest and not very sensitive in picking up venereal disease. The Army did try to ameliorate this problem by authorizing the following changes:

- insisting that the gynecology exam be simple and private with women suitably draped
- no inspection was to be made with the patient in the nude
- a female company officer was required to be present at all times during such exams

No Further Commission on Training Camp Activities (CTCA)

> With the invasion of Pearl Harbor, many such internal debates, including that about venereal policy, quieted, bringing together, in this case, the surgeon general with his military counterparts. The program that the military eventually developed during mobilization and the early years of the war, however, reflected few advances from the policy of World War I.[239]

One striking difference between the Army of World War I dealing with venereal disease and that of World War II was that there was no Commission on Training Camp Activities (CTCA). This was probably due to a number of factors including the military being immediately drawn into a two-front war without adequate preparation after the unexpected attack on Pearl Harbor on 12/7/41; the massive numbers of recruits to be inducted; the financial cost of such camps: and the cost-benefit ratio of the CTCA in arresting venereal disease. However, many of the core functions of that body regarding vice control were carried out by other entities. The military still did provide diversions for the troops such as athletics, educational activities, movies, etc.

[239]Brandt, Allan M., No Magic Bullet: A Social History of Venereal Disease In the United States since 1880, New York, Oxford University Press, 1985, p.163.

An Outline of the Army Venereal Disease Education Program during WWII[240]

During World War II, the Army had a very well-outlined program and policy to deal with the threat and reality of venereal disease. In fact, representatives of the military boasted the following about their program in an article from 1945:

> Thus, to our knowledge, the Army venereal disease educational program far exceeds any civilian experience for a comparable period. In fact, it is believed that the army program represents, in extent and scope, one of the largest health education projects ever attempted in the field of preventive medicine.[241]

The military's vision/mission and goals were cited in the following statement:

> To prevent venereal disease among troops through utilization of educational procedures as an adjunct to an overall control program and to study and evaluate various types of education materials and methods of approach. It became evident early that there are two distinct and separate phases of venereal disease education, and that failure to recognize these separate aspects in the use of education as a venereal disease control measure results in the loss of effectiveness. These phases are:
>
> 1. The imparting to the individual of adequate technical knowledge about venereal diseases, how they are spread, and how they may be prevented.
> 2. The motivation within the individual of the will to avoid either illicit sexual intercourse or unprotected sexual exposure.[242]

Not surprising, the above methods are still used today addressing many public health problems. The phase "imparting of technical knowledge" was the responsibility of the medical officer who did this by utilizing the art of lectures and other various training aids. The phase involving "motivation to avoid venereal disease" was much, more complex because it involved tangible as well as many "intangible factors" such as the following:

> …the religious and educational background of the soldier, the influence of home and community, the attitude of his commanding officer, the esprit de corps(*loyalty and attachment to the group of which one is a member)* of his unit, fear of diseases or their treatment, fear of shame or ridicule, and many others...[243]

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[240] Larimore, Captain Granville W., Sternberg, Lieutenant Colonel Thomas, H., Does Health Education Prevent Venereal Disease? The Army's Experience With 8,000,000 Men, *American Journal of Public Health* August 1945, Vol.35, pp.799-804.
[241] Ibid.,p.800
[242]Ibid., p.800.
[243] Ibid., p.800.

Not surprisingly, the Army had little to no control over many of these intangible factors. Furthermore, there were many other reasons for possible failure of the program including the following:

- The nature of the sex urge itself
- "Education for VD" afforded by sexy motion pictures, comic-strips, pin-up girls, and the use of sex in certain advertising
- "War psychology"
- Displacement of normal family and social relationships
- Newer methods of treatment, i.e., penicillin
- Alcohol
- State of morale

*The strictly moral approach to the problem of avoiding venereal disease has been relatively ineffective in the Army.[244]

However, the Army did recommend utilizing the following factors for motivation: intelligence, pride and patriotism and most importantly, fear.

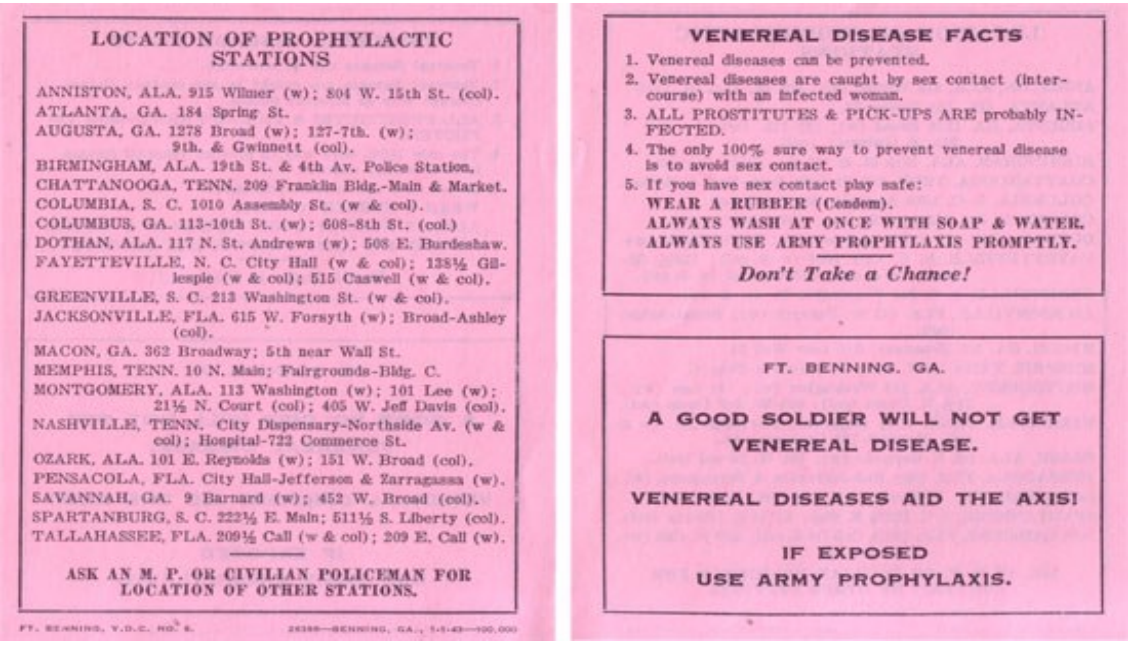
There were several principles that the Army considered essential for an optimal educational program against venereal disease:

- Integrated program
- Highest possible quality and attractiveness of all educational materials
- Abandonment of the pedagogical concept of health education and substitution of a new approach of "health advertising
- Avoidance on overemphasis on sex
- Technical accuracy of all materials[245]

The Army was also interested in measuring the success or failure of its program in the war against venereal disease. Such military experts felt that the single best criterion to measure the program was the "extent of utilization of prophylaxis in the Army, which at the present time (*1945*) is at the rate of more than fifty million individual prophylactic items per month."[246]

[244] Ibid., p.804
[245] Ibid., p.803.
[246] Ibid., p.804.

For the new recruit, the matriculation process regarding education about venereal disease was a continuous process from the time of induction to the date of discharge. The education began at the induction station with the distribution of a pamphlet such as the one below to recruits at Fort Benning, GA:



LOCATION OF PROPHYLACTIC STATIONS

ANNISTON, ALA. 915 Wilmer (w); 804 W. 15th St. (col).
ATLANTA, GA. 184 Spring St.
AUGUSTA, GA. 1278 Broad (w); 127-7th. (w); 9th. & Gwinnett (col).
BIRMINGHAM, ALA. 19th St. & 4th Av. Police Station.
CHATTANOOGA, TENN. 209 Franklin Bldg.-Main & Market.
COLUMBIA, S. C. 1010 Assembly St. (w & col).
COLUMBUS, GA. 113-10th St. (w); 608-8th St. (col.)
DOTHAN, ALA. 117 N. St. Andrews (w); 508 E. Burdeshaw.
FAYETTEVILLE, N. C. City Hall (w & col); 138½ Gillespie (w & col); 515 Caswell (w & col).
GREENVILLE, S. C. 213 Washington St. (w & col).
JACKSONVILLE, FLA. 615 W. Forsyth (w); Broad-Ashley (col).
MACON, GA. 362 Broadway; 5th near Wall St.
MEMPHIS, TENN. 10 N. Main; Fairgrounds-Bldg. C.
MONTGOMERY, ALA. 113 Washington (w); 101 Lee (w); 21½ N. Court (col); 405 W. Jeff Davis (col).
NASHVILLE, TENN. City Dispensary-Northside Av. (w & col); Hospital-722 Commerce St.
OZARK, ALA. 101 E. Reynolds (w); 151 W. Broad (col).
PENSACOLA, FLA. City Hall-Jefferson & Zarragassa (w).
SAVANNAH, GA. 9 Barnard (w); 452 W. Broad (col).
SPARTANBURG, S. C. 222½ E. Main; 511½ S. Liberty (col).
TALLAHASSEE, FLA. 209½ Call (w & col); 209 E. Call (w).

ASK AN M. P. OR CIVILIAN POLICEMAN FOR LOCATION OF OTHER STATIONS.

FT. BENNING, V.D.C. NO. 8.

VENEREAL DISEASE FACTS

1. Venereal diseases can be prevented.
2. Venereal diseases are caught by sex contact (intercourse) with an infected woman.
3. ALL PROSTITUTES & PICK-UPS ARE probably INFECTED.
4. The only 100% sure way to prevent venereal disease is to avoid sex contact.
5. If you have sex contact play safe:
   WEAR A RUBBER (Condom).
   ALWAYS WASH AT ONCE WITH SOAP & WATER.
   ALWAYS USE ARMY PROPHYLAXIS PROMPTLY.

Don't Take a Chance!

FT. BENNING, GA.

A GOOD SOLDIER WILL NOT GET VENEREAL DISEASE.

VENEREAL DISEASES AID THE AXIS!

IF EXPOSED
USE ARMY PROPHYLAXIS.

Figure 2: An illustration showing a leaflet which was printed on 1st January, 1943, and that was issued to all troops stationed at Ft. Benning GA. (Reference Number: 26386-BENNING, GA., 1-1-43-100,000) at the website: http://med-dept.com/vd.php on 6/1/10

The pamphlet, **SEX HYGIENE AND VENEREAL DISEASE,** was printed on August 1, 1940 by the U.S. Government Printing Office (as per A.G. 726.1 dated 20 Oct 39, the pamphlet was to be furnished to each recruit upon enlistment). The booklet not only offered information to soldiers about avoiding V.D., but also what to do if they became infected. The pamphlet provided sufficient information about various diseases to allow troops to diagnose diseases and infections without visiting the Pro-Station. The following is the Summary which is offered by the pamphlet:

1. Manhood comes from healthy sex organs.
2. It is not necessary to have sexual intercourse in order to keep strong and well.
3. Disease may ruin the sex organs and deprive a man of his health and happiness.
4. You have a fine healthy body now. Keep it that way.
5. Venereal diseases come from sex relations or intimate contact with a diseased person. They are very serious. Gonorrhea and syphilis are two of the worst.
6. Most prostitutes have venereal disease.
7. Guard against venereal disease by staying away from "easy" women. Don't gamble your health away.
8. If you do not have self-control then do not fail to take safety measures.
9. If you get diseased, report at once to your commanding officer. Time is most important.
10. Will power and self-control help to keep a man's body and mind healthy.
11. A healthy body and a healthy mind lead to happiness[247]

At the next step of the soldier's military career and matriculation (the reception center), he is given lectures on sex hygiene and venereal disease by medical officers, a line officer and a chaplain. Films about venereal disease are shown and the soldier is given another pamphlet on the subject. When the soldier's basic military training is completed which occurs at the replacement training center, he is exposed to an additional two hours of venereal disease education utilizing films as well as lectures from officers. After the soldier's basic training and assignment to a unit, venereal disease education is further conducted with talks at regular intervals, additional films, pamphlets and other health educational media.

An in-depth view of what these pamphlets contained for the soldier is demonstrated in the following 12 page brochure published by the military during WWII on venereal disease titled "Three Queens but I'll pass."

However, even with all this education, the numbers of soldiers with venereal disease continued to rise.

[247] WW2 Medical Research Centre, Venereal Disease and Treatments During WW2 at the website: http://med-dept.com/vd.php on 6/3/10

> Since the first of January, 1944, when it became apparent that the trend of venereal disease incidence in the Army was upward, there has been an intensification of all our control measures, particularly venereal disease education.[248]

The above translated into a policy of further inundation of education with the production of more films, a plethora of pamphlets as well as posters. At the local level, additional lectures, bulletins, charts, prophylaxis station lists, match-book folders with reminders, etc. were all utilized and reinforced. Not only was this policy pursued in the United States but as well abroad:

> Besides our venereal disease education program in this country we have distributed in overseas theaters, forty posters, several pamphlets, and other materials particularly aimed at the specific problems of the different theaters. In all, it is expected that the total amount of graphic education material disturbed this year will approach 15,000,000 pieces and that our film audiences will be in the neighborhood of 10,000,000.[249]

Another major step taken by the U.S. Government to heighten awareness about the ideas of practicing safe sex among its recruits was a series of posters which were produced and displayed at various places including Army Barracks, Hospitals and Railway Stations. Such posters and propaganda leaflets were hard-hitting and to the point, similar to the awareness posters of today.

Access to Prophylaxis to deal with the Axis

Mechanical (condoms) and chemical prophylaxis (medications) were major breakthroughs in the war against syphilis and gonorrhea.

> Perhaps one of the most important steps which was taken by the U.S. Army during WW2 to reduce the spread of V.D. amongst its soldiers was the issue of U.S. Army Prophylaxis. This is described as **Item #9118100, Prophylactic, Mechanical, Individual, 144**. The Medical Department issued condoms without charge at a rate of six per man, per month, and individual pro-kits (sometimes called "V-Packettes") at a rate of two per man, per week. Apart from the Medical Department issue Prophylaxis, troops would often purchase condoms privately from PX Stores and other sources. Brands included ***Cello, Golden Pheasant, Texide*** and ***Prophyl-tex.***[250]

[248] Ibid., p 799.
[249] Ibid. pp.799-800.
[250] WW2 Medical Research Centre, Venereal Disease and Treatments During WW2 at the website: http://med-dept.com/vd.php on 6/3/10

Additionally, every G.I. was issued with an **Individual Chemical Prophylactic Packet (Item # 9118000)**, designed to allow him to perform prophylactic treatment if he feared V.D. was present. The individual packet contained:

1. 1 Tube containing 5 Grams of Ointment (30% Calomel + 15% Sulfathiazole)
2. Direction Sheet
3. Soap Impregnated Cloth
4. Cleansing Tissue

In addition to the soldier's individual prophylactic treatment kit, a number of other medical items were in existence to deal with the treatment of V.D. For example **Item #9792500, Venereal Prophylactic Unit** would have been issued, along with other supplies to the "Pro-Station"*which is an abbreviation for Prophylactic Station*. It contained the following, for the treatment of Venereal Disease:

9793000	Chest, Venereal Prophylactic Unit, Empty	1
1282000	Mercurous Chloride, Mild, Ointment, 1 lb.	2
1285400	Mercury Bichloride, 250 Large Poison Tablets	1
3861000	Syringe, Urethral Prophylaxis	4
7178000	Towel, Hand	12
7493000	Soap, White, Floating, 6 oz	2
7711000	Basin, Hand	3
7811000	Graduate, Glass, 125-cc	1
7935400	Tissues, Cellulose, 75	8
9120000	Protein Silver, Strong, 100 Tablets	2

"The only thing we have to fear is fear it'self…"[251]

Although the Army considered intelligence, pride and patriotism as strong motivating factors in the prevention of venereal disease, the fear of syphilis and gonorrhea by recruits was the ultimate goal for the military. Venereal education deliberately sought to create "syphilophobia" among the men, as two medical officers indicated:

> Fear is the dominant theme of many of the appeals that have been successfully used. We realize that much of pedagogical and medical opinion will differ with us on the value of

[251] "The only thing we have to fear is fear it'self - nameless, unreasoning, unjustified, terror which paralyzes needed efforts to convert retreat into advance."---- FDR - First Inaugural Address, March 4, 1933.

> fear as a motivation; yet we have found that it operates in the minds of the soldiers as one of the most potent reasons for the avoidance of venereal disease.[252]
>
> Fear, they admitted, was the dominant theme, not only fear of the disease themselves, but also fear of the consequences for such matters as the future health, home life, fertility, and sexual capacity of the soldier. [253]

However, this philosophy of "syphilophobia" as a tool to dissuade soldiers from illicit sex and other activities of moral turpitude was not uniformly supported. There were many military officers as well as individuals from the Public Health Service who complained that this type of campaign did not work as cited in Brandt's "*No Magic Bullet"*:

- The sex act cannot be made unpopular.
- There is little to indicate that we have been at all successful in converting to continence those individuals who were promiscuous before their entry into the service.
- Sexually stimulating motion pictures, pin-up girls and suggestive advertising all worked as countervailing forces to the military's campaign for sexual continence.
- Namely, that fear of the venereal diseases themselves will be decreasingly effective from now on, as improved techniques of therapy render them less and less serious, and perhaps eventually relegate them to comparatively minor infections.[254]

In regard to the Women's Army Corps, there was no discussion of mechanical or chemical prophylaxis. The only method of protection was abstinence. Neither condoms nor chemical prophylactics were given to enlisted women. It was assumed that the Women's Army Corps attracted a higher class of women. Thus, prophylactic measures provided to male recruits were deemed unnecessary by the military hierarchy for the female recruit.

Race was another issue that confronted the military with respect to venereal disease education. During WWII, segregation was upheld. The Navy initially resisted expansion with black recruits. However, as the war progressed and manpower was an issue, the Navy started to

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[252] Brandt, Allan M., No Magic Bullet: A Social History of Venereal Disease In the United States since 1880, New York, Oxford University Press, 1985, p.163.
[253] Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008, p.103.
[254]. Brandt, Allan M., No Magic Bullet: A Social History of Venereal Disease In the United States since 1880, New York, Oxford University Press, 1985, p.164.

admit more black recruits. Racist attitudes permeated throughout the military during WWII. This was especially true in regard to sexuality and promiscuity. Such perceptions were reinforced by the rate of venereal disease in blacks as compared to whites.

> …the rate of venereal disease for black inductees and soldiers was eight to twelve times that of white. One PHS survey reported that of the first two million draft board examinations among men 21-35 years of age, the rate of syphilis among the black selectees was 25.2 percent as opposed to 1.7 percent for white selectees.[255]

Such health disparities were due to multiple reasons including socioeconomic factors, lack of health care access, inadequate law enforcement in black communities, lack of knowledge regarding venereal disease, etc. The educational program on venereal disease for black recruits in the military was not culturally competent, frequently offensive and often racially demeaning.

One important change during World War II was the policy concerning soldiers who acquired venereal disease in the military. Soldiers no longer faced punishment for acquiring syphilis or gonorrhea while in service as of September 27, 1944. Prior to this date, Army policy since 1912 required the military withhold pay from soldiers with an injury or disease that incurred while they were not in the line of duty as a punitive measure. Such was the case for venereal disease. In 1926, Congress passed a statue requiring loss of pay for soldiers acquiring venereal disease. However, during WWII, many medical officers argued that such a policy was a deterrent towards effective therapy because it encouraged soldiers to conceal their disease and seek underground treatments. As a result of such behavior, the general public was placed at risk since infected soldiers were potential sources of transmission to civilian women. Thus, "on September 27, 1944, Congress repealed the 1926 statute, and soldiers no longer lost pay as a result of acquiring a venereal disease."[256]

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[255] Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008, pp.106-107.
[256] Ibid, p.108.

Finally, how did the military really do in the campaign against venereal disease? The answer lies in the following paragraph:

> Although in 1940 the venereal disease rate in the Army had risen to 42.5 per 1000, by 1943 it had fallen to 25. This, it should be remembered, occurred before the provision of penicillin. In fact, Army data for rates of infection within the military were essentially equivalent to civilian rates. For the entire duration of the war the average incidence of venereal disease was 37 per 1000. Perhaps even more significant from the standpoint of military efficiency, days lost to service because of venereal disease dramatically decreased as treatment regimes were refined. In 1940, for each 1000 men, 1,278 days a year were lost from duty because of venereal infections. By 1943, this level had been reduced to 368 days. [257]

The issues of penicillin and psychological operation campaigns by the military in the war against syphilis will be discussed later in this paper.

The Public Health Service and Syphilis during WWII
(Blame the Second Oldest Profession and Loose Morals)

Syphilis was a gender-biased disease where men including American soldiers were judged by society as well as the military to be innocent victims of beguiling, seductive women practicing the world's second oldest profession—that of prostitution. This stereotype had been in place for centuries and fostered this attitude during that era. Posters aimed at soldiers and civilians warned men of the risks involved with prostitutes and "good-time girls." In fact on such posters, syphilis and gonorrhea were frequently metamorphosized into a woman with the mask of death on her face. Other depictions of women on posters included females dressed as whores, ladies-of-the-night, street walkers, etc.

As discussed earlier, the May Act of 1940 was one of the major mechanisms that the federal government developed to restrict red light districts around military camps. At the end of 1941, a new agency, the Social Protection Division (SPD) was created within the Federal Security

[257] Brandt, Allan M., No Magic Bullet: A Social History of Venereal Disease In the United States since 1880, New York, Oxford University Press, 1985, p.170.

Agency to help enforce the provisions against prostitution around military camps as well as commercialized prostitution. Both the Surgeon General, Thomas Parran and the PHS were in agreement on the control of prostitution. The first head of the SPD was Eliot Ness who had achieved his fame as a Prohibition agent and convicting Al Capone. Eliot Ness' team was dubbed by a Chicago newspaper reporter with the title "the Untouchables" because the members could not be bought.

> Ness labeled venereal disease 'military saboteur number one,' and spent much of his time on the job at military bases, where he lectured and distributed literature.[258]

With time, both the military and SPD focused not only on prostitutes but also on any woman considered promiscuous or loose in society. Such women were also known as "khaki-wackies," "victory girls" and good-time Charlottes." Individuals in charge of the troops and civilians saw any promiscuous and loose women as more of a danger to soldiers than prostitutes. The closing of the "red light districts" did not reduce the level of venereal disease and physicians at that time reported prostitutes as a source of venereal disease in only a minority of soldiers. However, military and public health leaders were convinced that women, whether they be prostitutes or promiscuous were a threat to the troops and were willing to go to any means to stop them—even that of quarantining women with venereal disease and abetting the creation of venereal disease rapid treatment centers.

Quarantine and the Development of Venereal Disease Rapid Treatment Centers (RTCs)

The war on venereal disease took its toll at both medical clinics and hospitals due to the increasing number of individuals found to have venereal disease as well as with the crack down on prostitution via the Social Protection Division. Such promiscuous women were jailed, subject

[258] Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008, pp.118.

to mandatory venereal examinations and then forced to be treated if infected. Public officials were concerned that prostitutes would not comply with treatment regimens if not mandatory. In fact, many public health officials believed that their efforts were instrumental for a further calling in the life of prostitutes:

…that it was necessary to provide more than medical treatment to prostitutes and "loose women." They believed that it was also important to "redirect" these women towards "higher" morals and, in the case of prostitutes, a new occupation.[259]

Such above factors lead to the birth of rapid treatment centers.

Rapid Treatment Centers began in 1942. There were a total of sixty-four such centers by 1945 and these RTCs continued after the war until 1953. The length of treatment for individuals varied from 10 days to 12 weeks depending on the type of venereal disease that they had. In addition to medical treatment, these centers incorporated psychiatric evaluations, counseling from social workers, recreation, job training and job placement into the overall program.

The Rapid Treatment Centers eventually were discontinued in the postwar era with PHS Surgeon General Leonard Scheele closing the last in 1953. There were several reasons for the closure of such centers. With the advancement in treatment for syphilis and gonorrhea, therapy which now included penicillin was simple, rapid, safe and effective. Secondly, physicians were now able to provide such treatment in their office. Finally, due to cutbacks in the funding post war by the federal government, treatment of syphilis and gonorrhea became the responsibility of the state.

As to whether these RTCs were effective in the spread of venereal disease in the United States is questionable. Syphilis and gonorrhea remained a significant problem in both the military and civilian populations during and after World War II.

[259] Parascandola, J. Rapid Treatment Centers in World War II America, *Bulletin of the History of Medicine* Fall 2009, Vol.83;No.5:pp.431.

> Although some objections were raised against these policies, which obviously discriminated against women, on the whole the rapid treatment centers were accepted as a necessary measure in the defense of national security.[260]

Was the price paid for sexual/gender discrimination, loss of personal freedom and mandatory treatment of women with this disease worth the loss of liberty? It was a different time with different set of morals and standards. Additionally, the Public Health Service was also involved in another study of questionable, ethical practice—that of the Tuskegee Syphilis Study since 1932 which will be discussed in a future paper. Since the era of RTCs and syphilis, no further massive quarantining has been instituted for serious infectious illnesses within the United States. Do individual rights supersede that of public need? This answer lies in a difficult balancing act between protecting the rights and civil liberties of the individual and protecting the public health.

> With respect to the RTCs, one woman who worked for the Office of Community War Services during World War II commented to a PHS physician that her work with these centers presented her with a dilemma. On one hand, she believed that personal liberty should not be infringed, but on the other hand, she believed that a more severely regimented system of dealing with the venereal disease problem had distinct advantages. The physician assured her that "all of us who valued our own independence were in a similar situation." [261]

Syphilis, Psychological Operations Campaigns and Black Venereal Disease Campaigns

To win the war, both the Allied as well as the Axis Powers utilized psychological operations campaigns containing information about syphilis to their own advantage.

> Psychological Operations or PSYOP are planned operations to convey selected information and indicators to audiences to influence their emotions, motives, objective reasoning, and ultimately the behavior of organizations, groups, and individuals. Used in all aspects of war, it is a weapon whose effectiveness is limited only by the ingenuity of the commander using it.[262]

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[260] Ibid., p.431.
[261] Ibid.,p.459.
[262] Employment of Psychological Operations at the website: http://www.psywarrior.com/employ.html on 6/1/10.

During that era, psychological operations could be conducted visually via pamphlets, posters, newspapers or audibly via radio, loudspeakers, word-of-mouth, etc. Such projects involving pamphlets on venereal disease such as syphilis were known as "Black Venereal Disease Campaigns." The Japanese and the Germans military hierarchy utilized literature on venereal disease as coming from the U.S. Army for several purposes:

- to incite and/or demoralize native populations against U.S. soldiers
- to influence the opinion of American soldiers about native populations
- to express their own opinions concerning the native populations

The Germans during World War II also participated in such campaigns by dropping pamphlets (as seen on the next page) in Allied held territory to demoralize the U.S. soldiers on the front by implying that their "wives," "girl friends" and other women in the military had V.D.

Not to be outdone, the Allied Powers also utilized this type of propaganda in war against the Axis Powers as seen on the next page. On such leaflets, printed in German, information was disseminated that Germans were infected with the dreaded disease and also that soldier's wives and sweethearts were fooling around while he was risking his life on front. Reading such information and living in the putrid conditions of war, the morale of German soldiers as well as citizens of countries allied to Germany would have been put at risk.

An Ounce of Prevention is Worth a Pound of Cure! Serendipity strikes again with the birth of Penicillin!)

The role of serendipity was paramount in the discovery of penicillin and its development during World War II. Alexander Fleming (1881-1955) discovered by accident, the antibactericidal properties of *Penicillium notatum* in 1928 and thought that this mold might have some therapeutic value against disease-causing bacteria. However, Fleming failed to pursue two critical issues in his investigation:

> Despite the fact that he was a leading physician who was treating hundreds of patients with syphilis, he never tested his mold extract on the syphilis bacterium. Nor did he think to try it on animals with streptococci or any other pathogens.[263]
>
> He may have been misled by the fact that when he added penicillin extract to blood in a test tube, it seemed to be inactivated, suggesting that it would be useless in the human body.[264]
>
> Fleming concluded that penicillin did not seem clinically promising, only that it might be helpful to superficial local infections and that it might be used in the laboratory to isolate certain microbes.[265]

Fleming's discovery would have remained in oblivion if it had not been for the efforts of Howard Florey[266] and Ernst Chain.[267] In 1938, they decided to extend their investigations to natural antibacterial compounds and happened to come across Fleming's original description of penicillin from 1928.

> On May 25, 1940, Florey, Chain, and Heatley[268] carried out a groundbreaking experiment to demonstrate penicillin's effects on eight white mice infected with lethal doses of streptococci. Four were injected with penicillin, while the other four, the controls, were

[263] Meyers, Morton A., *Happy Accidents: Serendipity in Modern Medical Breakthroughs*, New York, Arcade Publishing, 2007, p. 68.
[264] Ibid., p.68
[265] Ibid., p.68
[266] Pathologist and Physiologist who with Ernst Chain isolated the chemical penicillin and found that it could be mass-produced.
[267] Biochemist who with Howard Florey isolated the chemical penicillin and found that it could be mass-produced.
[268] Norman Heatley, a biochemist who worked with Howard Florey and Ernst Chain in 1940s in the development and efficacy of penicillin.

not…By morning, all the controls were dead. Three of the four mice who received penicillin survived.[269]

However, it was not until later in the 1940s when penicillin became available as a therapeutic option. The U.S. Government gave high priority to the development of penicillin on a large-scale during the war, as the drug was the most potent antibacterial substance available to date. At first supplies were limited to military use. However, by 1944, innovations were introduced to increase the yield of penicillin and by March 1945, all restrictions in distribution of this drug were removed. An example of the furtive nature in the development and production of penicillin is exemplified in the following passage:

The Cocoanut Grove Miracle

The American public was largely unaware of the momentous cooperative effort among academia, government and industry regarding penicillin. Little news had leaked out about it. In a disastrous fire on the night of November 28, 1942, at the Cocoanut Gove nightclub in Boston, 492 people perished. Penicillin was successfully used to treat 220 badly burned casualties. But the public remained ignorant of this "miracle," as penicillin was then classified as a military secret.[270]

The use of penicillin in the military is largely due to the efforts of PHS physician John F. Mahoney[271] (1889-1957) who "won the Lasker Award for proving the efficacy of penicillin in treating syphilis."[272] Mahoney justified the move to test humans with penicillin because it was

[269] Meyers, Morton A., *Happy Accidents: Serendipity in Modern Medical Breakthroughs*, New York, Arcade Publishing, 2007, pp.72-73.
[270] Ibid., p. 68.
[271] American physician who developed penicillin treatment of syphilis. He established the Venereal Disease Research Center on Staten Island, N.Y. for the U.S. Public Health Service for laboratory and clinical studies of venereal disease. Studies made with his colleagues clarified the mechanism and rate of penetration into tissues by the spirochete, the microorganism that causes syphilis and also improved diagnostic serologic tests. With an initial supply of penicillin, they confirmed other researchers' work on the efficacy of penicillin in the treatment of sulfonamide-resistant gonorrhea. Mahoney then went further in 1943, to prove that penicillin was highly effective against primary syphilis. He received the Lasker Award (1946) for this work at the website: http://www.google.com/imgres?imgurl=http://www.todayinsci.com/Events/Medical/SyphilisSpirochetesThm.jpg&imgrefurl=http://www.todayinsci.com/2/2_23.htm&usg=__MdTXo9p2cL-CsHTtv2awKdhAAVY=&h=101&w=100&sz=5&hl=en&start=1&um=1&itbs=1&tbnid=1sMvmmKPS3LRpM:&tbnh=83&tbnw=82&prev=/images%3Fq%3Ddr.%2Bjohn%2Bf.%2Bmahoney%2Band%2Bpublic%2Bhealth%2Bservice%2Band%2Bsyphilis%2Band%2B1943%26um%3D1%26hl%3Den%26tbs%3Disch:1 on 5/30/10.
[272] Schmidt, Paul J., Syphilis, a disease of direct transmission, *Transfusion* August 2001, Vol. 41: p. 1069.

generally nontoxic; there were no harmful effects known to patients if the drug did not work; and it was clearly a safer alternative to "magic bullet"—i.e., arsenic therapy.

> The number of diseases and infections which are favorably influenced by penicillin therapy continues to increase as experience in the use of the drug is gained.[273]

> A study of the usefulness of the drug in the management of syphilis was undertaken after limited animal experimentation indicated that penicillin possessed some spirocheticidal activity. [274]

> The prompt resort to the human being was sponsored by the general non-toxic character of the drug and by the knowledge that observations as to early effectiveness could be carried out without placing in jeopardy the patient's chance for ultimate recovery in event it became expedient to resort to conventional arsenic therapy.[275]

Please note that "in 1943, it had not been recognized that penicillin could produce serious allergic side effects in some patients."[276]

Mahoney's initial clinical trial consisted of four patients with primary syphilis, each having a "single penile ulceration. Darkfield examination revealed characteristic *Treponema pallidum* in varying numbers from 2 to 10 per microscopic field. "[277] Treatment consisted of 48 intramuscular injections of 25,000 units of penicillin over 8 days.

> After 16 hours of treatment, the corkscrew-shaped spirochetes no longer showed up under the microscope in serum from the lesion. Dr. Mahoney was "stunned"; this is the first case on record in which penicillin has killed spirochetes, a higher form of life than bacilli. Yet the patients had no bad reaction from the injections.[278]

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[273] Mahoney, John F. et al., Penicillin Treatment of Early Syphilis, *The American Journal of Public Health and the Nation's Health* December 1943, Vol. 33;No. 12; pp. 1387.
[274] Ibid., p. 1387.
[275] Ibid., p. 1387.
[276] Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008, p.129.
[277] Mahoney, John F. et al., Penicillin Treatment of Early Syphilis, *The American Journal of Public Health and the Nation's Health* December 1943, Vol. 33;No. 12; p.1390.
[278] Medicine: New Magic Bullet, *Time Magazine* Monday October 25, 1943 at the website: http://www.time.com/time/magazine/article/0,9171,796181,00.html#ixzz0pXyjwBPq on 5/23/10.

Eradication of the spirochete was also confirmed with several blood tests including that of the Wasserman test[279] as cited in the following passages:

> The results of the blood studies indicate that the therapy was responsible for a more or less rapid and complete disappearance from the blood stream of the reacting substance which is measured by the various tests and which is usually associated with activity in early syphilis.[280]
> During treatment and in the following weeks, the men's blood was repeatedly put through seven different syphilis-finding tests. One by one, beginning about the 20th day, the tests became negative. In one case all six tests became negative in 30 days. The others were completely negative by the 110th day except for one man for whom one delicate test remained doubtful (but Dr. Mahoney says "a clever technician" could easily have read that as negative too). Now, 130 days after treatment began, all the men are apparently well. But as syphilis often returns when doctors think they have it licked, the patients' blood and health are being rechecked every week.[281]

Mahoney also commented that further studies need to be done for treatment of latent, visceral and central nervous system syphilis. Lastly, he indicated that the time for action was 1943.

> Because of the long post treatment period of observation which is a requisite for the evaluation of a syphilis therapy, the progress toward the adoption of a new mode of treatment must, of necessity, be deliberate.[282]

Mahoney's limited clinical trial in Staten Island fostered the organization of a large-scale national clinical trial with penicillin in the treatment of syphilis involving eight-civilian disease clinics along with one from the Army, Navy and Public Health Service with additional facilities added later.[283] This resulted in 1400 cases which were published in 1944 where penicillin treatment led to the disappearance of the spirochete from open lesions as well as with the

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[279] The Wasserman test is used to diagnose the illness known as **syphilis**. The test is named after its developer, the German bacteriologist August Wasserman (1866-1925). The Wasserman test was devised in 1906. Specifically, the test determines the presence or absence of an **antibody** that is produced in response to the presence of a constituent of the membrane of *Treponema palladium*. The particular constituent is the membrane phospholipids-- Wasserman Test at the website: http://www.bookrags.com/research/wasserman-test-wmi/ on 5/20/10.
[280] Mahoney, John F. et al., Penicillin Treatment of Early Syphilis, *The American Journal of Public Health and the Nation's Health* December 1943, Vol. 33;No. 12; pp. 1390.
[281] Medicine: New Magic Bullet, *Time Magazine* Monday October 25, 1943 at the website: http://www.time.com/time/magazine/article/0,9171,796181,00.html#ixzz0pXyjwBPq on 5/23/10.
[282] Mahoney, John F. et al., Penicillin Treatment of Early Syphilis, *The American Journal of Public Health and the Nation's Health* December 1943, Vol. 33;No. 12; pp. 1391.
[283] Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008, pp.129-130.

serological responses in the blood. This eventually led to penicillin being the gold standard in the treatment of syphilis as demonstrated by the U.S. Army on June 26, 1944.

> Antibiotics were available and their importance was very great, but this can be overemphasized except in the treatment of venereal diseases where it was outstandingly effective.[284]

It is of note that penicillin was not only used for gonorrhea and syphilis but had numerous applications elsewhere in the military in the treated of wounds secondary to staphylococcal and streptococcal infections and other various infections such as pneumonia, endocarditis, etc.[285] Out of such usages for penicillin came the concept of "availability of the agent".[286] Priorities of limited resources and the ethics of such practices became relevant as cited by physician and ethicist, Henry Beecher in the following passage:

> Allocation of penicillin within the Military was not without its troubles. When the first sizable shipment arrived at the North African Theatre of Operations, U.S.A., in 1943, a decision had to be made between u sing it for 'sulfa-fast' {sulfa-resistant} gonorrhea or for infected war wounds {its effectiveness against syphilis had not been fully established at the time}. Colonel Edward D. Churchill, Chief Surgical Consultant for the Theatre, made the decision to use the available penicillin for those "wounded" in brothels. Before indignation takes over, one must recall the military manpower shortage of those days. In a week or less, those overcrowding the military hospitals with venereal disease could be restored to health and returned to the battle line. Moreover, no one is going to catch osteomyelitis from an associate; venereal disease was a widely disseminated and serious hazard to the individual and to the war effort.[287]

[284] Noon, Geoffrey, *Oxford Companion to Military Medicine: Military Medicine*, Oxford University Press, 2001, 2004 at the website: http://www.answers.com/topic/medicine-military#ds_copyrights on 9/1/12.
[285]Beecher, Henry K., Scare Resources and Medical Advancement, *Daedalus* Spring 1969, Vol.98; No.2: pp. 280.
[286] Ibid., p.280.
[287] Ibid., pp. 280-281.

Military Policy regarding V.D. at the End of the War

It was the policy of the U.S. Military to test all American troops who were overseas for venereal disease (syphilis and gonorrhea) before going home. This policy served both a public health service as well as a way to reduce the risk for disability claims. No soldier found to have venereal disease would be returned home until a military physician declared him cured at which time he could board a ship for the voyage back the United States. The posters titled "Almost" and "Going Home?" done by the artist Schiffers in 1946 poignantly depict the fate as well as the policy of the U.S. military for those who acquired venereal disease at the end of the war. In the poster labeled "Almost," one sees a lonely soldier at the dock watching a troopship taking his buddies home with him left behind because of V.D. The other poster depicts a soldier in Europe ready to go home but entangled in a rope spelling VD. A final presentation in the series is titled "Delayed! VD" where a soldier is shackled to the ramifications of syphilis or gonorrhea.

In Conclusion:

The war against syphilis involved both the military and public health services. Its control was a combination of measures including education, prevention, prophylaxis either via a mechanical and chemical, treatment with penicillin and surveillance. One of public health's most outstanding champions, Assistant Surgeon-General of the Division of Venereal Diseases, R.A. Vonderlehr was apocalyptic in his predictions regarding the control of syphilis.

> The grave international situation may make it a necessity at present to go on building battleships and to adopt as many other national defense measures as may be required to maintain our democratic principles of government. But let's not forget that the control of the venereal diseases is a very important step in national preparedness. And by all means let us be certain that past lessons are not forgotten. When the 1960's roll around we may find that the military and naval precautions we were impelled to take in the 1940's were unnecessary. But funds spent in the next two decades for the best syphilis control service

> will have eliminated that disease as an important public health problem twenty years hence. Thus may we adapt a preparedness measure to a humanitarian end? [288]

Perhaps Commander Walter H. Schwartz of the U. S. Navy may have said it best in his insightful summation of the lessons learned from syphilis during World War II with the following ingenious yet prophylactic quote: "V-E Day must not become VD Day."

After World War II, a national program for the control of syphilis had less importance to the U.S. Public Health Service due to several reasons. With the advancement in treatment for syphilis and gonorrhea, therapy via the Rapid Treatment Centers was replaced with antibiotics which now included penicillin. This medication was simple to administer, rapid in onset, safe with minimal adverse side effects and most importantly effective. Secondly, physicians were now able to provide such treatment in their office or clinics. Finally, due to cutbacks in the funding post war by the federal government, treatment of syphilis and gonorrhea became the responsibility of the state.

With the end of War World II, the focus of public health service and need for reorganization would ensue because of an epidemiological transition in the nation's disease patterns from that of communicable diseases (tuberculosis, syphilis, pneumonia, diarrheal diseases including enteritis, typhoid and diphtheria) to that of chronic diseases (heart disease, cancer and accidents and their sequelae). Although the importance of chronic disease was recognized in the 1930s, the urgent wartime demands of infectious disease control dominated the public health concerns over the slower killers of middle-aged and geriatric patients.

> Communicable disease control no longer provided a sufficient *raison d'être*[289]; the major infectious disease problems of the early twentieth century, tuberculosis, syphilis, typhoid and diphtheria were now effectively controlled. [290]

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[288] Vonderlehr, R.A., Are We Checking the Great Plague? Survey *Graphic,* April 1, 1940, Vol.29; No.4:p. 217.
[289] Translation from French: justification, grounds; Literally means in French "reason to be."
[290] Porter, Dorothy, *The History of Public Health,* Atlanta, Georgia, Editions Rodopi B.V., 1994, p.250.

Chapter III: Syphilis and the U.S. Public Health Service

Era #4
Public Health Gone Mad!
The Polemics of Ethics in Public Health and the Tuskegee Syphilis Study (1932-1972)

Introduction

The United States Government did something that was wrong, deeply, profoundly, morally wrong. It was an outrage to our commitment to integrity and equality for all our citizens. We can end the silence. We can stop turning our heads away. We can look at you in the eye and finally say on behalf of the American people what the United States Government did was shameful, and I am sorry.[291]

The preceding apology (see Appendix B) was sixty-five years in the making and closed a tragic chapter in history of U.S.Public Health Service (USPHS) regarding research on tertiary syphilis.[292] From 1932 to 1972, the U.S. Public Health Service conducted an experiment involving African-American men with untreated-latent syphilis in Tuskegee, Alabama in order to study the natural progression of this disease. Originally, a study intended for six months, it was continued for forty, deadly years! The Tuskegee Syphilis Study remains one of the most egregious examples of violations against the four major ethical principles: that of autonomy[293], beneficence[294], nonmaleficence[295]and justice[296] in relation to the conduct and policy of the U.S. Public Health Service. Eventually, this study would serve as a catalyst for the development of

[291] Clinton, President William J., An Apology 65 Years Late at the websites: http://www.pbs.org/newshour/bb/health/may97/tuskegee_5-16.html on 1/1/11 and Clinton, President William J., Remarks by the President in Apology for Study Done in Tuskegee at the website: http://www.cdc.gov/tuskegee/clintonp.htm on 2/9/11
[292] "late generalized syphilis, with involvement of many organs and tissues, including skin, bones, joints, and cardiovascular and central nervous systems." Dorland's Medical Dictionary for Health Consumers, Saunders, 2007.
[293]"actions taken should be those that are freely chosen," Brooks, Jacqulyn et al., *Law& Ethics for Clinicians,* Amarillo, Texas, Jackhal Books, 2002, p. 384.
[294] "doing good for other people," Ibid, p.65.
[295] "do no harm,"Ibid, p.131.
[296] "equity,"Ibid,p.19.

national ethical standards when conducting federally-funded clinical trials on human subjects. It is the intent of this author to analyze the polemics of the Tuskegee Syphilis Study in relation to medicine, public and human experimentation. .

In the Beginning:

> So God created man in his own image,
> in the image of God he created him;
> male and female he created them.[297]

In 1932, the U.S. Public Health Service working with the Tuskegee Institute began an investigation on the natural history of syphilis in Macon County, Georgia.

> Macon County, east of Montgomery, was part of the "black belt" of Alabama so-called because of the rich dark soil. It was home to the Tuskegee Institute, the foremost black college in the nation, but had few towns and was primarily populated by poor farmers, 90% of them black.[298]

This study of syphilis was to be unaffected by any process of treatment including an absence therapy with medications for this illness. There were 399 African-American men with reportedly, untreated-latent syphilis and 201 who did not have syphilis included in this study. Originally, these individuals were to be followed for six months but that idea was eventually extended to forty years.

The Tuskegee Syphilis Study (see CDC Timeline in Appendix B) was based on the results from the 1930 venereal disease control project survey.[299]

> In 1930, the Julius Rosenwald Fund[300],[301], in cooperation with the Public Health Services and State and local health authorities, conducted demonstrations of control of venereal diseases in six rural counties in Alabama.[302] (assessment-monitor health status)

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[297] Genesis 1, verse 27, English Standard Version of the Bible at the Website: http://esv.scripturetext.com/genesis/1.htm on 6/6/11

[298]. Faces of Tuskegee at the website: https://www.msu.edu/course/hm/546/tuskegee.htm#The Oslo Study on 5/22/11

[299]Which included the Julius Rosenwald Fund with Public Health and State and Local Authorities

[300] "Julius Rosenwald (1862-1932) utilized his fame and fortune for the benefit of humankind through his practice of philanthropy. His fortune was amassed during his career which culminated in his presidency of Sears, Roebuck and Company. It was used to create programs targeting the inequality and education of Jewish and African-American

Michael Davis was appointed medical director by the Julius Rosenwald Fund. It was Davis who sought the aid of the Public Health Service for his new visions of health programs for the African-Americans in the rural Alabama.

> He (*Davis)* asked the Public Health Service to appoint an advisor who would review proposals for aid that were coming in from state health officials and to recommend policies governing the Fund's health programs. Dr. Taliaferro Clark, a southerner and a PHS medical officer, was assigned to the task.[303]

This survey had identified Macon County, Georgia to have the highest prevalence of syphilis in six southern states examined.

> At the other extreme was Macon County, Alabama, where in spite of the wholesome influence of Tuskegee Institute, very primitive conditions exist. Even in prosperous times, the poverty exceeded anything most of us have seen.[304]

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populations. He is credited with donating more than $65 million to various causes including creating settlements for Jews in Russia, the construction of over 5,000 schools for blacks in the South and for building twenty-five Young Men's Christian Association (YMCA) buildings and three Young Women's Christian Association (YWCA) buildings dedicated to African Americans." Source: Roberts, Alicia S., Julius Rosenwald, Center on Philanthropy at Indiana University at the website http://learningtogive.org/papers/paper121.html on 2/25/11.

[301] Embree, Edwin R., Waxman, J., *Investment in People: The Story of the Julius Rosenwald Fund,* New York, Harper and Brothers Publishing, 1949.

[302] Olanksy, S., Simpson, L. Schuman, S., Environmental Factors in the Tuskegee Study of Untreated Syphilis, *Public Health Reports* July 1954; Vol.69, No. 7:p. 691.

[303] Parascandola,J,, *Sex, Sin, and Science*, Westport, Connecticut and London, Praeger Publishers, 2008,p.83.

[304] Parran, Thomas, *A Shadow on the Land,* New York, Reynal & Hitchcock, 1937, p.169.

Below are the original data that lead to the start of the Tuskegee Syphilis Study by Dr. Olansky et al. of the Public Health Service Venereal Disease Research Laboratory:

Table 1: Results of Blood Test Surveys of Negroes in Macon County, Ala., from which Study Patients were selected[305]

Survey	Group Tested		Total Tested	Results: Serologic Tests for Syphilis	
	Sex	Age(years)		Positive Number/Percent	Negative Number/Percent
Julius Rosenwald Fund, et al.(1930)	M+F	All ages	3,684	1,466/39.8%	2,218/60.2%
USPHS (1932)*(1)	M+F	Over 18	4,400	990/22.5%	3,410/77.5%
	Males	25 and over	1,782*(2)	472/26.5%	1,258/70.6%

***(1)From this last group, the original study patients were selected, including 399 having untreated syphilis with at least two seropositive reactions, and 201 nonsyphilitic subjects with at least two seronegative reactions.**
***(2)52 (2.9 percent) unaccounted for—no data.**

Surgeon General from 1938-1948, Dr. Thomas Parran in his *Shadow on the land* described the above findings as "typifying an area of saturation with syphilis."[306] The rural settings of Tuskegee with high rates of illiteracy, low socioeconomic status and a lack of adequate medical care provided the ideal environment for such a study to be conducted.

> One impetus for the project was the recognition of a crisis of untreated syphilis among black men and women living in impoverished condition in the rural South.[307]

The investigators exploited the situation by telling the indigent sharecroppers that they were being treated for "bad blood disease" which was a colloquial term/euphemism for several

[305] Olanksy, S., Simpson, L. Schuman, S., Environmental Factors in the Tuskegee Study of Untreated Syphilis, *Public Health Reports* July 1954; Vol.69, No. 7:p.692.
[306] Parran, Thomas, *A Shadow on the Land,* New York, Reynal & Hitchcock, 1937.
[307]Crenner, C., The Tuskegee Syphilis Study and the Scientific Concept of Racial Nervous Resistance, *Journal of the History of Medicine and Allied Sciences* 2011, p. 2 at the website: http://jhmas.oxfordjournals.org/content/early/2011/02/11/jhmas.jrr003.full on 5/21/11

ailments including anemia and fatigue and syphilis. These subjects in the study thought that they were getting free health care from the government.

> In the first place, it is true in the South, by and large, the Negro instinctively trusts the white man, except where he has suffered from sharp dealing and has good reason to be suspicious. He trusts the doctor—thanks to the fine character of many of our rural southern physicians. He trusts the Government, because in spite of clumsy dealing and mistakes since the post-civil war period, he has believed that the Government is a friend of his and tries to help him. The "government health doctor" therefore has an entrée. If he deals fairly and is considerate, it is not too difficult to get co-operation.[308]

This study, originally piloted for six months, was continued for forty years with sporadic examinations by Public Health physicians in Tuskegee and without anti-syphilitic therapy given to the participants. Even in 1942, when many of these African-American men were called for duty in the Armed Forces, Assistant Surgeon General Raymond A. Vonderlehr stepped in to preserve the so-called "integrity" of this study. In order to prevent the draftees from receiving anti-syphilitic treatment, the investigators of the Tuskegee Syphilis Study provided the Macon County Selective Service Board with a list of 256 names of men under the age of 45 years who were to be excluded from the list of draftees needing treatment. The Macon County Selective Service Board agreed to exclude these men as requested from the U.S. Public Health Service. Furthermore, when the modern era of anti-syphilitic therapy emerged within the military in 1943 with the introduction of penicillin as an effective drug, the Public Health Service did not use or offer the drug on the Tuskegee participants unless they specifically asked for it.

[308] Parran, Thomas, *A Shadow on the Land,* New York, Reynal & Hitchcock, 1937, pp.164-165.

Why Study the Natural History of Syphilis?

So j'accuse! We clinical educators are failing our learners. We must be emphasizing the wrong things in our clinical teaching. We fail to focus enough on the basics. Nothing in medicine is more basic than knowing the natural history of diseases.[309]

The research into the natural history of the "Great Pox"[310] did not begin with the Tuskegee Syphilis Study. Professor Caesar Peter Boeck[311] (1845-1917) of Venereology and Dermatology in Oslo at the turn of 20th century studied the course of approximately 2,000 hospitalized patients with untreated primary and secondary "radesyken"[312] (syphilis) until their lesions healed without specific treatment from 1891 to 1910. Dr. Boeck's point of view was that the treatment of syphilis was far worse than the natural course of the disease as exemplified in following citations:

> He (*Boeck)* adopted this policy because he was unimpressed by the effects of mercurial therapy and he believed that the patient infected with syphilis ultimately fared better if the body's natural response to infection was not disturbed by incompletely effective remedies.[313]
>
> …he *(Boeck)* rejected mercury treatment for syphilitic patients, considering the treatment to be more dangerous to his patients than the disease itself. According to his view, mercury prevented the "stimulation of antitoxin" in the organism[314].

In 1928, Norway's Oslo Study by E. Bruusgaard (successor to Boeck) reported on the physiological manifestations of untreated syphilis in several hundred white males. The doctors

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[309] Centor, R., Learn the Natural History of Diseases, May 4, 2011 at the website: http://www.medrants.com/archives/6270 on 6/6/11.
[310] *Pox* originated as an alternation of *pocks*, the plural of *pock* (OE). This originally denoted a 'pustule', and later the 'scar left by such a pustule, pock-mark'. *Great Pox* used to be a common term for syphilis at the website: http://www.word-origins.com/definition/pox.html on 5/29/11.
[311] Quétel, Claude, *History of Syphilis,* Baltimore, Johns Hopkins University Press, 1986,p.256.
[312] Syphilis was called "radesyken", an old Nordic name for "the wicked disease" Source: Fyrand, O., Granholt, A., The history of venereology in Norway, *Genitourin Med* 1994; 70:215.
[313] Editorial on T. Gjestland's The Oslo Study of Untreated Syphilis-An Epidemiologic Investigation of the Natural Course of Syphilitic Infection as Based on a Restudy of the Boeck-Bruusgaard Material, *Br J Vener Dis* 1955 31: p.203.
[314] Fyrand, O., The History of Norwegian Dermato-venereology During the Last Two Centuries, *International Journal of Dermatology* 2005; Vol. 22, Issue 10:594.

who conducted the study had not actively treated or withheld treatment from these subjects from case histories of the deceased where cardiovascular damage was common while neurologic complications were rare.

The Oslo Study

(Aus der Dermatologischen Universitätsklinik in Oslo.)

Über das Schicksal der nicht spezifisch behandelten Luetiker.

Von

E. Bruusgaard.

(*Eingegangen am 23. Oktober 1928.*)

Aus den pathologisch-anatomischen Instituten in Eppendorf sowie aus denen der Charité und des Rudolf Virchow-Krankenhauses sind eine Reihe größerer Statistiken über die syphilitischen Arterienaffektionen

Figure 3: The Oslo Study, Source: http://poynter.indiana.edu/sas/lb/facts.html

The Oslo Study was not without its critics as exemplified in the following citation:

> …apart from the great mass of information which the author has gathered so skillfully into this monograph, it is a model which every venereologist should have before him when he is tempted to play with figures relating to results of infection or of treatment, or when he reads some other person's efforts in that direction.[315]

Boeck's successors followed up on this experiment in the years of 1929 and 1949. From their work, they found the following results: 25% of the patients had developed secondary syphilis; 15% tertiary syphilis of the skin and bones; 14% had cardiovascular syphilis and 12% had

[315] Harrison, L.W., The Oslo Study of Untreated Syphilis: Review and Commentary, *Brit. J. Vener. Dis.* (1956);32:p.78.

neurosyphilis.[316] The conclusion of Boeck's successors was that nearly two-thirds of the untreated syphilis patients lived their life with minimal discomfort and without tertiary syphilis.

In 1908, Sir William Osler[317](1849-1919) in his Modern Medicine Lectures at Yale University also noticed a racial difference in tertiary syphilitic aortitis[318] and aneurysms[319] between whites and Negroes at Johns Hopkins Hospital in Baltimore, Maryland.[320]

> Out of a total of 345 aneurysms, 213 occurred in whites and 132 in Negro patients, while the proportion of white and Negro patients was as 5 to 1.[321]

Further support for studying the natural history of syphilis came in 1921 when Dr. Ernest Zimmerman[322] published an article on 1,843 syphilitics focusing on the racial differences between white and "negro" patients with the disease and making the following conclusions:

> In respect to syphilitic infection, there exist inherent biologic differences between white and negro patients. The Negro develops intense reactions on the part of cutaneous and osseous structures, and is relatively free from tabes[323] and paresis[324]. In white patients, syphilis, more frequently runs its course with skin manifestations slight or absent, but there is a greater toward the eventual development of tabes or paresis.[325]

Such studies in racial differences with syphilis provided the U.S. Public Health Service with the scientific ammunition that was needed in their opinion to pursue further studies in this area. Although much was known about the history of syphilis, physicians in the USPHS like Dr.

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[316] Gjestland, T., The Oslo Study of Untreated Syphilis-An Epidemiologic Investigation of the Natural Course of Syphilitic Infection as Based on a Restudy of the Boeck-Bruusgaard Material, *Acta Derm-Venereol. (Stockholm),*38, supplement 34, 1955.
[317]Chief of Medicine at Johns Hopkins Hospital, Author of the "Principles and Practice of Medicine" and considered by many the Father of Internal Medicine.
[318] Inflammation of the aorta, the largest artery coming off the heart
[319] Pathological dilatation of the aorta
[320] Osler, W., Modern Medicine; 4:457,Philadelphia, Lea & Fabiger, 1908.
[321]Hazen, H.H., A Leading Cause of Death Among Negroes, *The Journal of Negro Education* July 1937*;* Vol.6, No.3:318.
[322] Prominent Instructor in Clinical Medicine and Syphilis in the early 20th century at Johns Hopkins University
[323] Referring to tabes dorsalis, a form of tertiary syphilis involving the posterior columns of the spinal cord and resulting in lower extremity weakness, abnormal gait and neuralgia
[324] Paralysis
[325] Zimmerman, Ernest, A Comparative Study in Whites and Negroes, *Archives of Dermatology and Syphilology*, Vol.1, No.4: p.88, 1921.

Taliaferro Clark believed that there was still much to learn, especially if a project were done similar to that of the Oslo Study but with African-Americans rather than Caucasians.

> But the scientific advisors to the Tuskegee Syphilis Study favored the concept of a racial resistance to neurosyphilis and steered the early design of the study to help to elucidate it.[326]

The rationale for no treatment during the Tuskegee Syphilis Study was advocated by Assistant Surgeon General, Raymond A. Vonderlehr of the U.S. Public Health Service. In his paper from 1936 dealing with the subject, he advocated that the Tuskegee Syphilis Study was the ideal as well as the perfect opportunity to study the disease in its natural, untreated course.

> …Such individuals seemed to offer an unusual opportunity to study the untreated syphilitic patients from the beginning of the disease to the death of the infected person. An opportunity was also offered to compare the syphilitic process uninfluenced by modern treatment, with the results attained when treatment had been given…[327]

The "Syphilis-Soaked Race"[328]

> The prophylaxis of syphilis in the negro is especially difficult, for it is impossible to persuade the poor variety of negro that sexual gratification is wrong, even when he is in the actively infectious stage [of syphilis].[329]

> From our knowledge of the negro, we should be inclined to the opinion that a chance for an education or even its acquisition does not materially influence his well known sexual promiscuity.[330]

During the 1930s, many whites including the medical profession viewed African-Americans as the "syphilis-soaked race" stereotyping them as individuals with excessive sex drives and low morals. Lack of access to treatment further complicated the problem. The 1930s was an era that stressed the importance of environmental and social influences in the development of disease.

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[326] Crenner, C., The Tuskegee Syphilis Study and the Scientific Concept of Racial Nervous Resistance, *Journal of the History of Medicine and Allied Sciences* 2011, p.1 at the website: http://jhmas.oxfordjournals.org/content/early/2011/02/11/jhmas.jrr003.full on 5/21/11

[327] Vonderlehr RA, Clark T, Wegner OC et al., Untreated syphilis in the male Negro, *Ven Dis Inform* 17: 260-265, 1936.

[328] Jones, James H., *Bad Blood: The Tuskegee Syphilis Experiment,* London, The Free Press, 1981,p.16.

[329] Hazen, H.H., Syphilis in the American Negro, *Journal of the American Medical Association,* 1914.

[330] Wender, Louis, The Role of Syphilis in the Insane Negro, *New York Medical Journal,* 1916.

Statistics at that time estimated up to 25% of black men had syphilis. It was a time where Public Health felt that providing health care to all was both important and necessary. By assuming an attitude of the "white man's burden[331]" and fearing that syphilis in the black population posed an equal threat to the white community, a mission of saving the African-American became paramount in the mission of USPHS.

> Health officials discounted the prospects for improvement without intervention, agreeing that the white man would have to save the black man. "The negro health problem is one of the white man's burdens," wrote Dr.*(L.C.)* Allen[332], and he went on to characterize the black population as "the most difficult health problem with which the people of the South are confronted." Dr.(*William F.)* Brunner[333] put the matter bluntly: "The negro is here for all time. He depends upon the white man for everything that makes up a civilization. These two statements being true, he is what the white man makes him."[334]

In their words and writings, prominent public health officials frequently demonstrated their racist attitudes concerning African-Americans during this study.

> Wenger, for example, was amused by what he called the childlike reactions of black patients, made reference to "cotton-patch negroes" who rarely took a bath, and slept in their filthy underwear and used the term "darkeys" to describe blacks."[335]

> Clark referred to the African-Americans in the study as being very ignorant and easily influenced by things that would seem to be of minor importance to a more intelligent group, and he questioned the logic of "over-educating" blacks to create "what we might call white-collared Negroes, with nothing to do but get into mischief."[336]

[331] A phrase used to justify European imperialism in the nineteenth and early twentieth centuries; It is the title of a poem by Rudyard Kipling. The phrase implies that imperialism was motivated by a high-minded desire of whites to uplift people of color at the website: http://dictionary.reference.com/browse/white+man's+burden on 4/19/11.

[332] A local health official in Hoschton, Georgia
[333] Chief Health Officer in Savanna, Georgia
[334] Jones, James H., *Bad Blood: The Tuskegee Syphilis Experiment,* London, The Free Press, 1981,p.41.
[335]Parascandola,J,, *Sex, Sin, and Science*, Westport, Connecticut and London, Praeger Publishers, 2008, p.89.
[336] Ibid.

Myths about the Tuskegee Syphilis Study

There were two main myths that arose during the time of the Tuskegee Syphilis Study. The first was that the participants were being injected with the syphilitic organism (*Treponema pallidum*) and that prisoners were used for the study. Neither of these was true.

The Clinicians in the Tuskegee Syphilis Study

The venereal disease division of the US Public Health Service formed a study group in 1932 at its national headquarters where Dr. Taliaferro Clark was credited with its formation. His goal was to follow a group of untreated, syphilitic African-American men for 5 to 9 months, followed by a treatment phase. However when he realized the intention of the other study members with use of deceptive practices, he disagreed with extending the study. He retired in 1933 because of the difference in opinion with the study.

Dr. Taliaferro Clark had solicited the participation the Public Health Service locally with the inclusion of Dr. Eugene Dibble, an African-American physician from the John Andrew Hospital at the Tuskegee Institute. Dr. Oliver C. Wenger, a Causcasian, was recruited from the Public Health Service Venereal Clinic of Hot Springs Arkansas. This physician took a lead in developing the early study protocols. Wenger continued to advise and assist the Tuskegee Study when it turned into a long-term, no-treatment observational study.

Dr. Raymond H. Vonderlehr was appointed on-site director of the research program and developed the policies that shaped the long-term follow-up section of the project. For example, he decided to gain the "consent" of the subjects for spinal taps (to look for signs of neurosyphilis) by depicting the diagnostic test as a "special free treatment." Vonderlehr retired as head of the venereal disease section in 1943, shortly after penicillin had first been shown to be a cure for syphilis.

Other local clinicians involved in the project were Mr. Simpson was a venereal disease field investigator for the Public Health Service in Region VI. Dr. Schuman was with the clinical investigations section of the Venereal Disease Research Laboratory in the Communicable Disease Center, Chamblee, Ga., and Dr., Olansky is director of the laboratory.

Perhaps the most important local health care provider linked to the project from its inception to its end was that of Public Health Nurse Eunice Rivers. She was an African-American nurse who trained at Tuskegee Institute and worked at its affiliated John Andrew Hospital. Nurse Rivers was recruited at the start of the study. Dr. Vonderlehr was a strong advocate for her participation, as she was the direct link to the black community. It was Vonderlehr's plan that during the Great Depression of the 1930s, the Tuskegee Study began by offering lower class African-Americans, who often could not afford health care, the chance to join "Miss Rivers' Lodge". From this "Lodge," patients were to receive free physical examinations at Tuskegee University, free rides to and from the clinic, hot meals on examination days, and free treatment for minor ailments. As the study became long term, Nurse Rivers became the chief person with continuity. Unlike the changing state of national, regional and on-site PHS administrators, doctors, and researchers, Rivers stayed at Tuskegee University. She was the only study staff person to work with participants for the full 40 years. By the 1950s, Nurse Rivers had become pivotal to the study—her personal knowledge of the subjects enabled maintenance of long-term follow up. As she describes her duties in her 1953 publication, it was clear of her loyalty to the patients, study and her professional duties.

> One cannot work with a group of people over a long period of time without becoming attached to them. This has been the experience of the nurse. She has had an opportunity to know them personally. She has come to understand some of their problems and how these account for some of their peculiar reactions. The ties are stronger than simply those of patient and nurse. There is a feeling of complete confidence in what the nurse advises. Some of them bring problems beyond her province, concerning building, insurance, and

> other things about which she can give no specific advice. She directs them always to the best available sources of guidance. Realizing that they do depend upon her and give her their trust, she has to keep an open mind and must be careful always not to criticize, but to help in the most ethical way to see that they get the best care.[337]

In the study's later years, Nurse Rivers remained steadfast to the Tuskegee Syphilis Study and felt that the project advanced scientific education and improved the well-being of black community. Dr. John R. Heller led the national division in the 1950s and beyond.

The Tuskegee Syphilis Study

> Nobody knows the whole story of syphilis in a state or city. Year by year we are piecing together the fabric of understanding it. Month by month we are adding, here a little and there a little, to the machinery for effective action against it.[338]

The study began under the initiative of Drs. Taliaferro Clark, Oliver C. Wenger and Raymond A Vonderlehr in the USPHS Venereal Disease Division.[339] It was intended to monitor the natural course of untreated-latent syphilis in 399 African American men and 201 controls in Tuskegee, Macon County, Alabama in 1932. The participants were recruited with an enticing promise of "special free treatment" but in reality received blood tests, x-rays and lumbar punctures to study the neurological effects of syphilis. The participants were told that the lumbar puncture was a "back shot" for therapeutic purposes. All participants were enrolled without informed consent.

[337] Rivers, Eunice, Schuman, Stanley H., Simpson, Lloyd, Olansky, Sidney, Twenty Years of Follow up Experience In A Long-Range Medical Study, *Public Health Reports* April 1953; Vol. 68, No.4:p.394.
[338] Parran, Thomas, *A Shadow on the Land,* New York, Reynal & Hitchcock, 1937, p.182.
[339] Crenner, C., The Tuskegee Syphilis Study and the Scientific Concept of Racial Nervous Resistance, *Journal of the History of Medicine and Allied Sciences* 2011, pp.2 at the website: http://jhmas.oxfordjournals.org/content/early/2011/02/11/jhmas.jrr003.full on 5/21/11

The researchers of the study used incentives such as free hot lunches on examination days and free medical treatment for minor ailments and culturally-sensitive procedures such as money for burial insurance ($50.00) for all participants. A burial stipend was very important to the African-American community because there was a stigma against those who did not leave money/arrangements for their funeral. Churches and black schools which are culturally-sensitive gathering places for the African-American community were frequently used by the researchers for solicitation and maintenance of the participants. However, this stereotype of the African-American male may have been unfounded.

> Blacks eagerly sought testing and treatment, contrary to the assumptions of many that they were neglectful of their own health and fatalistic about syphilis.[340]

In return for their participation, the USPHS would be able to do spinal taps at various intervals to diagnose neurosyphilis and autopsies when the participants died to verify their results.

All subjects were denied antibiotic therapy in the l940s when it became clear that penicillin was a safe and effective therapy for syphilis. Even when penicillin became widely available in the 1950s, the U.S. Public Health Service actively sought to prevent the subjects from the receiving the appropriate therapy. In 1958, the USPHS distributed a certificate of appreciation and $25.00 to each participant but they were still not told they had not received penicillin.

The first published report of the Tuskegee Syphilis Study appeared in 1936 with twelve subsequent papers every four to six years until the 1970s. The Tuskegee Syphilis Study was not hidden research. Members of both the medical and public health community knew about it. In fact, there were published codes on research dealing with humans subjects during part of the forty years of the Tuskegee Syphilis Study. In 1947, the Nuremberg Code was published. This

[340]Source: Faces of Tuskegee at the website: https://www.msu.edu/course/hm/546/tuskegee.htm#The Oslo Study on 528/11.

code was issued in response to atrocities in medical experimentation and research on humans by the Nazis. In 1964, there was the Declaration of Helsinki (see Appendix E) by the World Health Organization which published recommendations guiding physicians in biomedical research on human subjects.

From 1966 to 1969, Peter Buxton, a Public Health Service venereal disease worker in San Francisco expressed grave concern in repeated letters to the CDC which had taken over the Tuskegee Syphilis Study. In response to the letter, the CDC organized a committee to look into the matter in February 1969. This committee with one dissenting vote approved the continuation of the study because they felt that the USPHS/CDC could never repeat such a study again. The committee also had the support from two of the most influential and largest medical associations: that of American Medical Association (AMA) and National Medical Association[341] (NMA), the latter of which largely supported studies promoting the health of African-Americans.

Peter Buxton persisted and in 1972 told a friend, Edith Lederer, who was an international affairs reporter with the Associated Press of San Francisco. This resulted in front page news on July 25, 1972 in the Washington Star and became the first public revelation on the Tuskegee Syphilis Study. Below is the same article in the front page of the New York Times. In the end, it was Peter Buxton (aided by the press) who stopped the Tuskegee Study.[342] Only when these accounts began to appear in the national press and incite public opinion and government officials, did the Department of Health, Education and Welfare (HEW) halt the experiment in 1972. Up to 1973, 28 individuals in the study had died of syphilis, the remainder of the

[341] The National Medical Association (NMA) has a history of advocating for the health of African Americans and leading the charge against racial antagonism, exclusiveness and stereotypes relating to Americans of African descent in medicine-Source: White, Robert M., Spring, S., Misrepresentations of the Tuskegee Study of Untreated Syphilis, *Journal of the National Medical Association,* April 2005; Vol. 97, No.4: 564.

[342] Jones, James H., *Bad Blood: The Tuskegee Syphilis Experiment,* London, The Free Press, 1981,p.203,.

participants in the study were not given penicillin until March 1973. . An investigatory panel appointment by the HEW in 1974 found the study was "ethically unjustified" and argued that penicillin should have been provided to the subjects. As a result of that decision, the National Research Act was passed in l974 which mandated that all federally-funded research with human subjects be approved by an Institutional Review Board (IRB). By 1992, final payments were paid to the survivors of approximately $40,000 per agreement settling a class action lawsuit and in 1997, President Clinton apologized to the survivors of the study on behalf of the federal government.

The Medical Ramifications of the Tuskegee Syphilis Study

When the study had finally ended on November 16, 1972, 28 men had died of syphilis, 100 others had died of syphilis-related complications, at least 40 wives had been infected with syphilis and 19 children had contracted the disease at birth.

Class Action Suits and Other Litigation involving the Tuskegee Syphilis Study

On July 23, 1972, a $1.8 billion, class action law suit was filed on behalf of the victims against individuals and institutions involved in this study approximately 8 months after it had been discontinued. In "Pollard vs. United States of America," civil rights attorney, Fred Gray argued the following:

> 1) The U.S. government violated the constitutional rights of the participants…
>
> 2) The government knew the participants had syphilis and failed to treat them.
>
> 3) The Public Health Service failed to fully disclose to the participants that they had syphilis, that they were participating in the study, and that treatment was available for syphilis.
>
> 4) The Public Health Service led the participants to believe that they were being properly treated for whatever diseases they had, when in fact, they were not being meaningfully treated.

5) The Public Health Service failed to obtain the participants' written consents to be a part of the study.

6) The Study was racially motivated and discriminated against African Americans in that no whites were selected to participate in the Study…

7) There were no rules and regulations governing the Study[343],[344],[345]

Attorney Gray demanded $3 million dollars per living recipient and heirs deceased. However, this class action suit never came to fruition. Attorney Fred Gray felt it was better to settle because they were all elderly and a lawsuit would be prolonged process for years. In December of 1974, an out-of-court settlement for $10 million was agreed upon by both parties with following financial remunerations: each living member of syphilitic group would receive $37.500; each heir of the deceased syphilitic group, $15,000; each member of the living controls, $16,000; and $5,000 to the heirs of each of the deceased controls.[346] In addition to the cash settlement, the government agreed to provide ongoing medical care, burial programs and to use it best efforts to locate the men and their heirs.[347] Note that in this settlement, the Government did not take any responsibility for the Tuskegee Syphilis Study nor did it apologize to the participants for it.

The Ethical Violations of the Tuskegee Syphilis Study

The salient criticism of the Tuskegee Syphilis Study was that the subjects were not provided adequate information to make an informed decision about whether to participate or not (a

[343] Tuskegee Case: Pollard Case Settled with Award for Alabama Tuskegee, Syphilis Experimentation Victims at the website: http://keepethicallightburning.org/tuskegee-case/ on 3/24/11
[344] Gray, Fred D., *The Tuskegee Syphilis Study***:** *An Insider's Account of the Shocking Medical Experiment Conducted by Government Doctors Against African American Men, Montgomery, Alabama,* New South Books, 1998.
[345] Gray, Fred D., Fred Gray on Tuskegee Syphilis Study at the website: http://www.youtube.com/watch?v=kDqVZKtRDSA on 6/8/11.
[346] Jones, James H., *Bad Blood: The Tuskegee Syphilis Experiment,* London, The Free Press, 1981, p.217.
[347] Ibid.

violation of autonomy). The subjects were not consulted about the study nor were they provided with alternatives to treatment. However, the real summary of violations includes the following:

- Disempowered research population
- Non-disclosure of information
- No informed consent
- Deception
- Undue inducements
- Withholding treatment of a treatable disease, thus causing increased morbidity and mortality

The above ethical violations resulted in exploitation of vulnerable research participants affected not only the participants but their families as well.

The Aftermath of the Tuskegee Syphilis Study

> The damage done by the Tuskegee Syphilis Study is much deeper than the wounds any of us may have suffered.[348]

The Tuskegee Syphilis Study has fostered and confirmed much of the distrust within the black community towards medicine and public health and its goals for better health within the community. Even today, many black distrust their medical community, reluctant to participate in community efforts such as routine vaccinations; blood pressure, cholesterol and diabetes screening; sexually-transmitted disease testing including HIV screening; needle exchange programs, organ donations; etc. It is an unfortunate consequence that those individuals who are in the most need of preventive health care—the poor, the indigent, the uneducated, the

[348] Mr. Herman Shaw, a Tuskegee Syphilis Study survivor on 5/16/97.

undocumented, etc. are least likely to get that essential medical care. It is in these individuals where preventive care can have the greatest benefit in terms of health care dollars spent.

The Influences of the Tuskegee Syphilis Study on Ethics in the 20th Century

Every cloud has a silver lining.[349]

Although the Tuskegee Syphilis Study was one of the most egregious examples of ethics violations, there were some positive ramifications from that research. Such a study provided the government an opportunity to reevaluate its policy and procedures on human research subjects in order to prevent such an atrocity in the future. There were some positive and lasting sequelae as a result of the Tuskegee Syphilis Study: the formation of the National Research Act in 1974 and under Title II, the creation of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. The latter group established basic principles of research and suggested how these principles were to be applied in the Belmont Report (see Appendix F). The National Research Act also called for the creation of Institutional Review Board (IRB) which is mandatory in institutions receiving federal funds via grants, cooperative agreements, contracts, etc. in order to approve, monitor and review biomedical and behavioral research. The oversight functions of the IRB are scientific, ethical and regulatory.

[349] EVERY CLOUD HAS A SILVER LINING - "John Milton's masque (dramatic entertainment) 'Comus' gave rise to the current proverb with the lines, 'Was I deceiv'd, or did a sable cloud/ Turn forth her silver lining on the night?' Charles Dickens, in his novel 'Bleak House' , recalled the lines with 'I turn my silver lining outward like Milton's cloud,' and the American impresario Phineas T. Barnum first recorded the wording of the modern saying in 'Struggles and Triumphs' with 'Every cloud,' says the proverb, 'has a silver lining.'" From "Wise Words and Wives' Tales: The Origins, Meanings and Time-Honored Wisdom of Proverbs and Folk Sayings Olde and New" by Stuart Flexner and Doris Flexner (Avon Books, New York, 1993) at the website: http://www.phrases.org.uk/bulletin_board/18/messages/407.html on 6/6/11.

Conclusion

Some books are to be tasted, others to be swallowed, and some few to be chewed and digested, that is ... some few to be read wholly, and with diligence and attention.
Francis Bacon

The book here is the Tuskegee Syphilis Study which was a crucial period in the evolution and maturity of the U.S. Public Health Service where the ethics of studying human subjects were ignored for the propagation of an ill-conceived and racist project. It is analogous in part to the moral issues of slavery and the division of country in the 1860s during the Civil War.

> The Tuskegee Study symbolizes the medical misconduct and blatant disregard for human rights that takes place in the name of science. The study's principal investigators were not mad scientists, they were government physicians, respected men of science, who published reports on the study in the leading medical journals. The subjects of the study bear witness to the premise that the burden of medical experimentation has historically been borne by those least able to protect themselves.[350]

> The Tuskegee Study had nothing to do with treatment. No new drugs were tested; neither was any effort made to establish the efficacy of old forms of treatment. It was a nontherapeutic experiment, aimed at compiling data on the effects of the spontaneous evolution of syphilis on black males. The magnitude of the risks, taken with the lives of the subjects becomes clearer once a few basic about the disease are known.[351]

All stakeholders in health care including physicians, public health specialists and historians can learn a valuable lesson from the Tuskegee Syphilis Study in regard to violations of ethical standards regarding the research of human subjects. Autonomy, beneficence, non-maleficence and justice are fundamental rights to which all people are entitled. Neither man, nor the public health service nor government has the authority to violate these fundamental ethical principles. Their mandate in the study on human subjects is to uphold these moral laws.

> As a symbol of racism and medical malfeasance, the Tuskegee Study may never move the nation to action, but it can change the way Americans view illness. Hidden within the anger and anguish of those who decry the experiment is a plea for government authorities and medical officials to hear the fears of people whose faith has been damaged, to deal

[350] Tuskegee Case: Pollard Case Settled with Award for Alabama Tuskegee, Syphilis Experimentation Victims at the website: http://keepethicallightburning.org/tuskegee-case/ on 3/24/11
[351] Jones, James H., *Bad Blood: The Tuskegee Syphilis Experiment,* London, The Free Press, 1981, p.2

> with their concerns directly, and to acknowledge the link between public health and community trust. Government Authorities and medical officials must strive to cleanse medicine of social infection by eliminating any type of racial or moral stereotypes of people or their illnesses. They must seek to build a health system that will make adequate health care available to all Americans. Anything less will leave some groups at risk, as it did the subjects of the Tuskegee Study.[352]

Not only did the U.S. Public Health Service violate the four ethical principles but it also ignored the appropriate administration of its three core functions to its stakeholders: i.e., that of assessment[353], policy development[354] and assurance.[355] Nearly forty years later, such actions seem incredulous. However, history often repeats itself. Therefore, eternal vigilance is required. Perhaps one of the survivors of the Tuskegee Syphilis Study sums it up best with the following quote:

> ìÖI donít know what they used us for. I ainít never understood the study.î
> ~ a survivor ~

[352] Ibid., p.241.
[353] Assessment calls for regularly and systematically collecting, analyzing, and making available information on the health of a community, including statistics on health status, community health needs, and epidemiologic and other other studies of health problems. Source: Turnock, Bernard J., *Essentials of Public Health,* Boston, Jones and Barlett Publishers, 2007, p. 249.
[354] Policy development involves serving the public interest by leading in developing comprehensive public health policy and promoting the use of the scientific knowledge base in decision making. Source: Turnock, Bernard J., *Essentials of Public Health,* Boston, Jones and Barlett Publishers, 2007, p.257.
[355] It involves assuring constituents that service is necessary to achieve agreed-upon goals are provided by encouraging actions on the part of others, by requiring action through regulation, or by providing services directly. Source: Turnock, Bernard J., *Essentials of Public Health,* Boston, Jones and Barlett Publishers, 2007, p.250.

Chapter IV: The Conclusion

> The third great plague is syphilis{*the first being tuberculosis and the second being cancer}*, a disease which, in these times of public enlightment, is still shrouded in obscurity, entrenched behind a barrier of silence, and armed, by our own ignorance and false shame, with a thousand times its actual power to destroy…It is one of the ironies, the paradoxes of fate that the disease against which the most tremendous advances have been made, the most brilliant victories won, is the third great plague, syphilis—the disease that still destroys us through our ignorance or our refusal to know the truth. [356]

The control of syphilis as a concept has eluded health professionals for centuries. It was not until the first half of the 20th century that such a goal seemed possible especially for the federal U.S. Public Health Service with its expanding scope of duties and powers. However, before the control of syphilis could be effectively accomplished, changes in the knowledge of the etiology, recognition and treatment of lues[357] would be necessary.

> The control of syphilis in American society could not become a reality until the tools to implement the concept were at hand.[358]

These tools reflected a change in scientific thinking. As scientific (empirically-based) medicine became the new norm of the American medical community, there was a gradual acceptance that disease was the result of microorganisms per the germ theory rather than the former hypothesis of miasma.[359]

In response to the changing scientific thinking concerning disease, the Marine Hospital Service, the forerunner of the United States Public Health Service introduced new scientific tools within their facilities to meet that challenge. One such change was the incorporation of a bacteriological laboratory in 1887 to help diagnose, treat and conduct research on disease. This

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[356] Stokes, John H., *The Third Great Plague,* Philadelphia, W.B.Saunders Company, 1918, p.7.
[357] Alternative term for syphilis
[358] U.S. Department of Health, Education and Welfare, Public Health Service, Bureau of Disease Prevention and Environmental Control, National Communicable Disease Center, Venereal Disease Program, *Syphilis, a Synopsis*. Washington, D.C., U.S. Government Printing Office, 1967, p.13.
[359] The miasma theory was an archaic hypothesis suggesting that poisonous vapors or particulate matter in mist from decomposing matter were the cause of disease.

Marine Hospital Service Hygienic Laboratory in 1887 was to be the forerunner of the National Institutes of Health in 1930 and was to provide a new approach for public health to fight disease.[360]

The tools to implement the control of syphilis for the U.S. Public Health Service arose at the dawn of the twentieth century. The five year period from 1905 to 1910 heralded a trinity of discoveries that ushered in the modern age of syphilis management. The first of these was the discovery of the spirochete *Treponema pallidum,* the microorganism that caused syphilis by Eric Hoffman (1868-1959) and Fritz Schaudinn (1871-1906).[361] The second discovery was the advent of serologic (blood) testing for syphilis via the Wasserman Test in 1906 devised by August von Wasserman (1866-1925). The Wasserman test was the first test that could reveal syphilis at an asymptomatic stage. The final member of this trinity of discoveries was the development of arsphenamine therapy, "Compound 606[362], the Magic Bullet[363]" eventually named Salvarsan in 1909-1910 by Paul Ehrlich (1854-1915) to treat syphilis at its various stages. For the first time in war against syphilis, the U.S. Public Health Service had a scientific tool to identify the organism, a serological tool to pick up asymptomatic carriers and a medical tool to treat the disease. These three discoveries provided a portal of knowledge from which a national control program for the control of syphilis could be devised.

The impetus for a national program for the control of syphilis can be traced to the era around World War I. The outbreak of World War I emphasized the importance of syphilis and other venereal diseases as a major public health problem. The prevalence of syphilis had reached

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[360] Lord, Alexandra M., Condom Nation: The U.S. Government's Sex Education Campaign from World War I to the Internist, Baltimore, The Johns Hopkins University Press, 2010, p.7.
[361] Stedman's Medical Dictionary Illustrated, 23rd Edition, Baltimore: The Williams & Wilkins Company, 1976.
[362] The 606th compound tested in Erlich's series.
[363] The "magic or silver bullet refers to the perfect drug to cure a disease with no danger of side effects. The term magic bullet was first used in this sense by the German scientist Paul Ehrlich to describe antibody and, later, the drug salvarsan that he created to treat syphilis" at the website: http://www.medterms.com/script/main/art.asp?articlekey=23525 on 7/13/12.

epidemic proportions in the United States population (between 5% to 20%)[364]at the beginning of the 20th century.

> Syphilis is one of the most prevalent of all infectious diseases, causes an incalculable amount of suffering and economic loss, and because it has so far eluded sanitary control is a constant menace not only to the licentious but to the clean-living public as well.[365]

Syphilis also constituted a major cause for rejection from the armed services. With the evidence indicating an immense prevalence of syphilis in US population, syphilis would undoubtedly become even more prevalent during the war years demanding a national program to control its spread.

To assist the U.S. Public Health Service in a national program, Congress passed the Chamberlain-Kahn Act in 1918 which created the Venereal Disease Division of the US Public Health Service in response to the rising tide of syphilis. However, the war ended too soon for the Chamberlain-Kahn Act to have a significant impact on the control of syphilis. Within five months of the Chamberlain-Kahn Act, World War I ended with the Treaty of Versailles on November 11, 1918 and soon afterwards, so the funding. Government and public opinion rapidly changed regarding the control of syphilis after the Great War. The struggle against syphilis was considered to have been won. Thus, both the Government and the pubic saw no further need to deal with issue of syphilis. A return to the Progressive Era (1890-1920) ideals for control of syphilis re-emerged: volunteerism, charity and morality. Although the U.S. Public Health Service continued to push for a national program to control syphilis, without sufficient funds, public support and a champion to advocate for such change, the Service's message fell on deaf ears.

[364] Vedder, EB., Syphilis and Public Health, Philadelphia: Lea &Febinger; 1918, pp.77.
[365] Ibid., p.2.

> By the mid 1930s, only a meager and ineffective national program existed {supported by the U.S. Public Health Service}, despite the fact that the number of reported cases of syphilis was significantly higher than the preceding decade. [366]

With the appointment of Thomas Parran as the 6th Surgeon General of the U.S. Public Health Service in 1936, a revitalization of a national program for the control of syphilis and a public re-awakening to the severity of the problem ensued. Having been formerly in charge of the Venereal Disease Division of the U.S. Public Health Service, Dr. Parran was well-suited to deal with this issue. As a champion in the crusade for the control of syphilis, he immediately and passionately supported a broadly-based publicity campaign using all forms of the media, calling attention to the ravages and costs of uncontrolled syphilis. In the 1930s, Surgeon General Thomas Parran calculated the costs of the venereal diseases to American industry and estimated a loss of more than $100 million annually.[367]

> In industries the costs of venereal diseases are tremendous. It has been estimated that from 8 to 10 million workers lost 21 million working days each year at an average of $4 a day as a result of infection with these conditions. The cost may well be more than $100,000,000 annually.[368]

For the first time, the public had access to real facts about syphilis via newspapers, magazines and radio. Previously, topics such as venereal disease were considered inappropriate for these forms of media. Thomas Parran as Surgeon General of the U.S. Public Health Service and a champion for national program challenged as well as changed the norm in American society opinion regarding the topic of syphilis. The issue of syphilis was transformed from a taboo subject to an acceptable topic for the average American to discuss.

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[366] U.S. Department of Health, Education and Welfare, Public Health Service, Bureau of Disease Prevention and Environmental Control, National Communicable Disease Center, Venereal Disease Program, *Syphilis, a Synopsis*. Washington, D.C., U.S. Government Printing Office, 1967, p.13.
[367] Brandt, Allan M., *No Magic Bullet: A Social History of Venereal Disease In the United States since 1880,* New York, Oxford University Press, 1985, p.133.
[368] Ibid., p.133.

A National Venereal Disease Conference was held in Washington, D.C. in December 1936 which included the U.S. Public Health Service This conference was attended by the nation's most prominent leaders in public health, medicine, business and civic affairs. It raised the need for a long range control program concerning venereal disease as well as the importance of community demonstrations to show how effective action, with cooperation of the physician, public health worker, and citizenry, could be carried out. Public interest continued and demonstration projects were started through grants-in-aid to individual states, a pattern that has been followed since that time.

As a result of the national attention focused on syphilis by Surgeon General Parran and the U.S. Public Health Service, Congress in 1938 unanimously passed the National Venereal Disease Control Act. This Act provided a plan with adequate funds for a long-term attack on syphilis for the U.S Public Health Service to carry out.

The Second World War provided the necessary stimulus for the U.S. Public Health Service to pursue its mission to establish a national program in the control of syphilis. In fact, the war demonstrated its absolute necessity for such a program with the deluge of new recruits from the civilian population requiring treatment for syphilis.

> Of the 12 million men called to service over 170,000 required treatment for syphilis before being placed on active duty. [369]

New approaches were required by the U.S. Public Health Service to quickly cure men for the draft as well as those in the civilian population without interfering with the war effort. Rapid Treatment Centers established by the Lanham Act of 1943 served that purpose. These Rapid Treatment Centers provided intensive specialty care for individuals with syphilis and other

[369] U.S. Department of Health, Education and Welfare, Public Health Service, Bureau of Disease Prevention and Environmental Control, National Communicable Disease Center, Venereal Disease Program, *Syphilis, a Synopsis*. Washington, D.C., U.S. Government Printing Office, 1967, p.14.

venereal diseases. These facilities with continuous drip arsenical preparations reduced the treatment time from 70 weeks in an outpatient clinic to 5 to 10 days. Prior to military discharge and entrance into civilian life, soldiers with syphilis were treated in a similar fashion.

> … between November 1944 to October 1946 over 50,000 men were treated before release.[370]

After World War II, a national program for the control of syphilis had less importance to the U.S. Public Health Service due to several reasons. With the advancement in treatment for syphilis and gonorrhea, therapy via the Rapid Treatment Centers was replaced with antibiotics which now included penicillin. This new medication was simple to administer, rapid in onset, safe with minimal adverse side effects and most importantly effective. Secondly, physicians were now able to provide such treatment in their office or clinics. Finally, due to cutbacks in the funding post war by the federal government, treatment of syphilis and gonorrhea became the responsibility of the state rather than that of the U.S. Public Health Service.

With the end of War World II, the focus of U.S. Public Health Service and need for reorganization would be necessary because of an epidemiological transition in the nation's disease patterns from that of communicable diseases (tuberculosis, syphilis, pneumonia, diarrheal diseases and diphtheria) to that of chronic diseases (heart disease, cancer, hypertension and accidents with their sequelae). Although the importance of chronic disease was recognized in the 1930s, the urgent wartime demands of infectious disease control dominated the public health concerns over the slower killers of middle-aged and geriatric patients.

> Communicable disease control no longer provided a sufficient *raison d'être*[371]; the major infectious disease problems of the early twentieth century, tuberculosis, syphilis, typhoid and diphtheria were now effectively controlled. [372]

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[370] U.S. Department of Health, Education and Welfare, Public Health Service, Bureau of Disease Prevention and Environmental Control, National Communicable Disease Center, Venereal Disease Program, *Syphilis, a Synopsis*. Washington, D.C., U.S. Government Printing Office, 1967, p.14.

[371] Translation from French: justification, grounds; Literally means in French "reason to be."

Lastly, there was issue of the Tuskegee Syphilis Study from 1932 to 1972. It remains today as one the most egregious actions by the U.S. Public Health Service. In the pursuit of knowledge and misguided research on syphilis, the agency put its personal interests above that of the ethical rights of the subjects in its study. The message from the Tuskegee Syphilis Study to the U.S. Public Health Service is that this agency must adhere to ethical standards when conducting research on human subjects. All stakeholders in health care including physicians, public health specialists and historians can learn a valuable lesson from the Tuskegee Syphilis Study in regard to violations of ethical standards regarding the research of human subjects. Autonomy, beneficence, non-maleficence and justice are fundamental rights to which all people are entitled. Neither man, nor the public health service nor government has the authority to violate these fundamental ethical principles.

[372] Porter, Dorothy, *The History of Public Health,* Atlanta, Georgia, Editions Rodopi B.V., 1994, p.250.

Chapter VII: Glossary of Terms

- **American Social Hygiene Association (ASHA):** A non-profit organization established in 1914 involved in improving the health of individuals with its core mission dealing with sexually transmitted diseases and their sequelae.
- **Assessment:** One of the three core functions of public health defined as the collection and analysis of data to identify important public health concerns.
- **Assurance:** One of the three core functions of public health defined as making certain that appropriate services are available and accessible to the needs of the population.
- **Baker, Newton D.:** Secretary of War during WWI
- **Black Venereal Disease Campaigns:** During WWII, psychological campaigns against the enemy using pamphlets, posters, newspapers or audibly via radio, loudspeakers, word-of-mouth, etc. using subjects such as syphilis to demoralize the enemy.
- **Chamberlain-Kahn Act:** passed by Congress on July 9,1918 and established the Division of Venereal Disease within the Bureau of the Public Health Service as well as its funding
- **Chemical Prophylaxis:** kits provided to soldiers during World War II with medication to be used if the soldier feared that he was exposed to venereal disease
- **Commission on Training Camp Activities (CTCA):** developed by the Departments of the Army and Navy to keep soldiers morally fit and reducing venereal disease through activities such as athletics, health promotion and other recreations as well as prohibiting alcohol, gambling and prostitution during the WWI era
- **Compound 606:** drug designer compound containing arsenic by Paul Ehrlich and used in the treatment of syphilis
- **Cupid's Disease:** alternative name for syphilis
- **Ehrlich, Paul:** discoverer of Compound 606 used in the treatment of syphilis
- **Fallopius, Gabrielle:** Inventor of the first prophylactic condom in the 1500s
- **Flapper:** A term used in the 1920 for a young woman with a rebellious nature for conventional dress and behavior.
- **Fleming, Alexander:** discoverer of penicillin in 1928
- **Fosdick, Raymond B:** lawyer, writer and member of the Bureau of Social Hygiene who took Chairmanship of the Commission on Training Camp Activities of the Army and Navy Department during World War I
- **Fracastorius, Hieronymus (**also known as **Fracastoro ,Girolamo):** Italian physician, scholar (in mathematics, geography and astronomy), poet and atomist who is credited with naming the disease in his 1530 poem, "Syphilis."
- **General Paresis of the Insane:** tertiary syphilis of the nervous system causing dementia and death
- **Genome for Syphilis:** the genetic map for syphilis
- **Good-Time Charlottes:** woman considered promiscuous or loose in society by the military or Social Protection Division (SPD)
- **Gray, Fred:** civil rights attorney who represented the victims of the Tuskegee Syphilis Study
- **Great Pox:** an alternative name for syphilis

- **Guaiacum:** tree from the West Indies whose bark was used to treat syphilis
- **Hata, Sahachiro**: Ph.D. student of Paul Ehrlich involved I the discovery of Compound 606 used in the treatment of syphilis
- **Hinton Test**: In the 1930s the Hinton test, developed by William Augustus Hinton, and based on flocculation, was shown to have fewer false positive reactions than the Wassermann test.
- **Hoffman, Eric:** discoverer of the spirochaete syphilis in 1905
- **Hunter, John:** Scottish surgeon and venereologist who believed that syphilis and gonorrhea were caused by the same pathogen. Being an authority on these diseases, his opinion obstructed the true nature of these two diseases in the 17th century.
- **Kettering Heat Box:** used in the treatment of syphilis, gonorrhea and gonococcal arthritis
- **Khaki-Wackies:** woman considered promiscuous or loose in society by the military or Social Protection Division (SPD)
- **Living Newspaper:** is a theatrical genre conceived and created by the Federal Theater Project in the 1930s to dramatize current events
- **Lues:** an alternative name for syphilis
- **Mahoney, John F.**: Public Health Physician who is majorly responsible for the use of penicillin in the military
- **Malariotherapy:** also known as fever therapy to treat syphilis
- **Marin Hospital Services:** forerunner of the U.S. Public Health Service, created in 1798
- **May Act of 1940:** was one of the major mechanisms that the federal government developed to restrict red light districts around military camps.
- **Mechanical Prophylaxis:** Condoms provided to soldiers during World War II to prevent acquiring venereal disease
- **Mercury:** first therapy used in the treatment of syphilis via inunction, fumigation or orally
- **Neosalvarsan:** derivative of salvarsan which was used to treat syphilis
- **Noguchi, Hideyo:** Japanese bacteriologist who showed that *T. pallidum* invades the nervous system as the disease progresses.
- **Osler, Sir William:** author, educator, medical historian and considered by many, the Father of Modern Internal Medicine
- **Parran, Thomas:** the 6th Surgeon General of the U.S. Public Health Service who was a major force in war against syphilis in 1930s and l940s
- **Potassium Iodide:** Chemical used by William Wallace in 1836 to treat syphilis
- **Public Policy:** is one of the three core functions of public health in developing priorities and strategies based on the assessment of public health needs.
- **Pusey, William:** Chairman on the Commission on Venereal Disease who provided the military reliable statistics during the WWI era.
- **Rdesyken:** Norweigan term for syphilis
- **Rapid Treatment Centers (RTC):** Centers for treatment of venereal disease from 1942-1953 which incorporated medical component with psychiatric evaluations, counseling from social workers, recreation, job training and job placement into the overall program.
- **Ricord, Phillippe:** French venereologist of the 19th century who define the three stages of syphilis: primary; secondary and tertiary

- **Salvarsan:** arsenical compound discovered by Ehrlich and used to treat syphilis
- **Schaudinn, Fritz:** discoverer of the spirochaete syphilis in 1905
- **Sex Hygiene and Venereal Disease Pamphlets:** Booklets issued by the U.S. Government in the 1940s with information to soldiers about avoiding V.D., but also what to do if they became infected.
- ***Shadow on the Land: Syphilis*:** A book written by Surgeon General, Thomas Parran in 1937 in support of his campaign against syphilis.
- ***"Silver Bullet":*** phrase used by Ehrlich to describe the way that he wished chemicals to destroy pathogens
- **Sleeping Sickness:** also know as African trypanosomiasis caused by a parasite (*Trypanosoma brucei* and transmitted by the tsetse fly) that causes drowsiness during the day, insomnia at night, anxiety, headache and mood changes in humans
- **Social Protection Division (SPD):** created by the Federal Security Agency in l941 to help enforce the provisions against prostitution around military camps as well as commercialized prostitution.
- **Spiritual Therapy and Syphilis:** Invoking protection, intercession or a cure of syphilis from the Virgin Mary or various saints (St. Denis and St. Meén)
- **Spirochaete:** descriptive term for the bacteria causing syphilis meaning corkscrew-like
- **Syphilis:** Name for a venereal disease taken from Hieronymus Fracastorius' (1478-1553) poem of 1530 titled "Syphilis Sive Morbus Gallicus" (Syphilis, or the French Disease), which described the plight of a mythical shepherd named 'Syphilus" afflicted with the French disease (syphilis) as punishment for cursing the gods.
- **Syphilis, Primary Stage:** presents with a small lesion known as a chancre (painless ulcer)
- **Syphilis, Secondary Stage:** The second stage involves generalized symptoms, such as fever, headache, sore throat, skin lesions on the palms and soles, and swollen lymph nodes.
- **Syphilis, Tertiary Stage:** This stage involves gummas which destroy tissue like the bones, skin, nervous tissue, heart, and arteries**.**
- **Syzk, Arthur:** artist who designed many of the WWII posters with caricatures making fun of the Axis Powers.
- **Tagliacozzi, Gaspare:** Father of Plastic Surgery
- **Treaty of Versailles:** With the signing of this treaty on November 11, 1918, World War I came to an end.
- **Trepanning:** ancient surgery dating back to the Neolithic caveman where early man drilled holes through the skull to release the evil spirits that were considered to cause headaches or epilepsy or as a punitive measure for the enemy.
- ***Treponema pallidum*:** genus and species for the spirochaete that causes syphilis: *Treponema pallidum {Gr. trepõ,* to turn + *nẽma*, thread}
- **Vedder, Edward Bright:** U.S. Army physician, medical educator,historian and researcher who provided statistics on syphilis from the military and worldwide
- **Victory Girls:** woman considered promiscuous or loose in society by the military or Social Protection Division (SPD)
- **Villa, Francisco "Pancho":** Mexican folk hero who led the Mexican Campaign of 1916 drawing the U.S. Military to the Texas-Mexican border.

- **Von Hutten, Ulrich:** famous writer of the 16th century who advocated the use of guaiacum in the treatment of syphilis
- **Wagner-Juaregg, Julius:** Psychiatrist who won the Nobel Prize in 1927 for his work in malariotherapy and syphilis
- **Wasserman Test:** blood test used to diagnose syphilis at an asymptomatic stage in l906
- **White Man's Burden:** A phrase used to justify European imperialism in the nineteenth and early twentieth century. It is the title of a poem by Rudyard Kipling. The phrase implies that imperialism was motivated by a high-minded desire of whites to uplift people of color.
- **Woodworth, John Maynard:** 1st Surgeon General of the Marine Hospital Service appointed by Ulysses S. Grant in 1871

Bibliography Section

Bibliography for the Introduction

1. Belmont Jr., Philip J. et al., Epidemiology of Combat Wounds in Operation Iraqui Freedom and Operation Enduring Freedom: Orthopaedic Burden of Disease, *Journal of Surgical Orthopaedic Advance* 2010*,* 19(1):2-7.
2. Connolly, Márie A. et al., Deadly comrades: was and infectious diseases, *The Lancet Supplement* December 2002; Volume 360:s23-s24.
3. Economic Loss from Venereal Diseases to Army, *JAMA* 75 in the Government Services Section, November 13, 1919; p.1353.
4. French, Herbert C., *Syphilis in the Army and its Influence on Military Service: Its Causes, Treatment, and the Means which it is advisable to Adopt for its Prevention,* London, John Bale, Sons &Danielsson, Ltd, 1908.
5. Hays, J.N., *The Burdens of Disease Epidemics and Human Response in Western History*, 2nd Edition, Piscataway, New Jersey, Rutgers University Press, 1998, 2009.
6. Historical geography of war and disease at the website: http:www.geog.cam.ac.uk/research/projects/warepidemics/ on 8/25/12
7. MYETYMOLOGY at the website: http://www.myetymology.com/english/lues.html on 11/15/12.
8. Needleman, J., Sarka, G., Conversation at UCLA School of Public Health regarding Osler, Medicine, Syphilis and Public Health, October 2009.
9. Noon, Geoffrey, *Oxford Companion to Military Medicine: Military Medicine*, Oxford University Press, 2001, 2004 at the website: http://www.answers.com/topic/medicine-military#ds_copyrights on 9/1/12.
10. Olanksy, S., Simpson, L. Schuman, S., Environmental Factors in the Tuskegee Study of Untreated Syphilis, Public Health Reports July 1954; Vol.69, No. 7:691-698.
11. Osler, Sir William, Annual Oration on the Campaign Against Syphilis, *The Lancet*, May 26, 1917, p. 789.
12. Osler, William, The War and Typhoid Fever, *Br Med J* 1914;2:909-913.
13. Parran, Thomas, *Shadow on the Land: Syphilis*, New York, Reynal and Hitchcock, 1937.
14. Smallman-Raynor, M.R., et al, *War Epidemics: An Historical Geography of Infectious Diseases in Military Conflict and Civil Strife,* Oxford, Oxford University Press, 2004.
15. Research Advisory Committee on Gulf War Veterans' Illnesses, *Gulf War Illness and the Health of Gulf War Veterans: Scientific Findings and Recommendations,* Washington, D.C.: U.S. Government Printing Office, November 2008.
16. Stokes, John H., *The Third Great Plague: A Discussion of Syphilis for Everyday People,* Philadelphia, W.B.Saunders Company, 1918
17. Vedder, EB., *Syphilis and Public Health*, Philadelphia: Lea &Febinger; 1918.
18. Vonderlehr, R.A., Are We Checking the Great Plague? *Survey Graphic*, April 1, 1940, Vol.29;No.4:

Bibliography for Chapter I: What is Syphilis?

1. Austin, Stephanie C., Stolley, Paul D., Lasky, T., The History of Malariotherapy for Neurosyphilis: Modern Parallels, *Journal of the American Medical Association,* July 22, 1992;268, 4: pp.516-519.
2. Domantay-Apostol, Genevieve P., Handog, Evangeline B., Ma. Teresita, Gabriel, G., Syphilis: The International Challenge of the Great Imitator, *Dermatol Clin* 26 (2008): p.191.
3. Jones, C., Syphilis and Aids: the Ominous Project at the website: http://www.cbc.ca/ideas/features/Aids/aidsspin.html on 1/30/10
4. Kraus, Karl, Quotation from Morality and Criminal Justice, November, 1906.
5. Osler, Sir William, Annual Oration on the Campaign Against Syphilis, *The Lancet*, May 26, 1917, p. 789.
6. Parran, Thomas, *Shadow on the Land: Syphilis*, New York, Reynal and Hitchcock, 1937.
7. The Silver Bullet in Medicine at the website: http://www.medterms.com/script/main/art.asp?articlekey=23525 on 7/13/12.
8. von Hutten, Ulrich, *De Morbo Gallico (The French Disease)*, 1519.
9. Ziporyn, T., *Disease in the Popular American Press: The Case of Diphtheria, Typhoid Fever and Syphilis*, 1870-1920, New York, Greenwood Press, 1958.

Bibliography for Chapter II: The Origins of the U.S. Public Health Service

1. APHA Timeline and History at the website: http://www.apha.org/about/news/presskit/aphahistory.htm on 11/1/12
2. John Maynard Woodworth at the website: http://www.surgeongeneral.gov/about/previous/biowoodworth.html on 11/5/12
3. Lederer, Susan E., Parascandola, J., Screening Syphilis: Dr.Ehrlich's Magic Bullet Meets the Public Health Service, *The Journal of the History of Medicine*, October 1998, Vol. 53: pp.360.
4. Lord, Alexandra M., *Condom Nation: The U.S. Government's Sex Education Campaign from World War I to the Internist*, Baltimore, The Johns Hopkins University Press, 2010.
5. Mullan, Fitzhugh, *Plagues and Politics: The Story of the United States Public Health Services,* New York, Basic Books Inc., 1989.
6. Oriel, J.D., *The Scars of Venus: A History of Venereology*, London: Springer-Verlag, 1994.
7. Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008.
8. Parran,Thomas, *Shadow on the Land: Syphilis,* New York, Reynal and Hitchcock, 1937.
9. Poirier, Suzanne, *Chicago's War on Syphilis, 1937-40: The Times, the Tribe and the Clap Doctor*, Urbana and Chicago, University of Illinois Press, 1995.
10. Porter, Dorothy, *The History of Public Health,* Atlanta, Georgia, Editions Rodopi B.V., 1994.
11. Rao, Gautham, Marine Hospitals at the website: http://crywolfproject.org/sites/default/files/Marine%20Hospitals-crying%20wolf.pdf on 11/30/12.

12. Rosen, George, A History of Public Health, Baltimore, The Johns Hopkins University Press, 1993.
13. Stedman, Charles H., Report of Cases in the U.S.Marine Hospital, Chelsea, *The Boston Medical and Surgical Journal* 15, no. 16 (November 23, 1036): 245-251.
14. Surgeon Generals of the United States at the website: http://en.wikipedia.org/wiki/Surgeon_General_of_the_United_States on 3/14/10
15. United States Marine Hospital at Boston, *Statements of the Origin, Regulations and Expenses of the United States Marine Hospital at Chelsea for the Relief of Sick and Disabled Seamen in the Port of Boston and Charlestown, Massachusetts*, Boston, Published by Benjamin True, 1834.
16. United States Public Health Service, *Annual Report of the Surgeon General of the Public Health Service of the United States,* 1919, Government Printing Office, Washington, p.234 at the website: http://books.google.com/books?id=ENQgAQAAIAAJ&printsec=frontcover&source=gbs_navlinks_s#v=onepage&q=&f=false on 3/15/10
17. Williams, Ralph Chester, *The United States Public Health Service:1798-1950,* Washington, D.C., Commissioned Officers Association of the United States Public Health Service, 1951.

Chapter III: Syphilis and the U.S. Public Health Service

Era #1

Public Health, Science, Sex, Syphilis and then the "Great War" (1905-1919)

1. Austin, Stephanie C., Stolley, Paul D., Lasky, T., The History of Malariotherapy for Neurosyphilis: Modern Parallels, *Journal of the American Medical Association,* July 22, 1992; 268, 4: pp.516-519.
2. Beardsley, Edward H., Allied Against Sin: American and British Responses to Venereal Disease in World War I*, Medical History* 20 (1976): 189-202
3. Brandt, Allan M., *No Magic Bullet: A Social History of Venereal Disease In the United States since 1880,* New York, Oxford University Press, 1985
4. Chin, James, *Control of Communicable Diseases, 17th Edition,* Washington D.C., American Public Health Association, 2000.
5. Cummings, Joe, Francisco "Pancho" Villa at the website: http://www.mexconnect.com/articles/1305-francisco-pancho-villa on 2/25/10.
6. Domantay-Apostol, Genevieve P., Handog, Evangeline B., Ma. Teresita, Gabriel, G., Syphilis: The International Challenge of the Great Imitator*, Dermatol Clin* 26 (2008): pp.191-202.
7. Ehrlich, Paul, ‚Ueber den jetzigen Stand der Chemotherapie'. Berichte der Deutschen Chemischen Gesellschagt, 1909, 42, 17-47. Translated in B. Holmstedt and G. Liljestrand (eds.), *Readings in Pharmacology (1963), 286.*
8. Ehrlich, Paul and Hata, S, Closing Notes to the Experimental Chemotherapy of Spirilloses, 1910. Reprinted in F. Himmelweit (ed.), The Collected Papers of Paul Ehrlich (1957), Vol. #, 302.

9. Fosdick, Raymond Blaine, *Chronicle of a Generation: An Autobiography,* New York, Harper (1958).
10. Gabbert, Ann R., Prostitution and Moral Reform in the Borderlands, *Journal in the History of Sexuality* (2003), Vol. 12:4, pp.575-604.
11. Hayden, Deborah, *Pox: Genius, Madness, and the Mysteries of Syphilis,* New York: Basic Books, 2003.
12. Huth, Edward J., Murray, T. Jock, *Medicine in Quotations: Views of Health and Disease Through the Ages, Second Edition,* Philadelphia, American College of Physicians, 2006.
13. Jones, C., Syphilis and Aids: the Ominous Project at the website: http://www.cbc.ca/ideas/features/Aids/aidsspin.html on 1/30/10
14. Kraus, Karl, Quotation from *Morality and Criminal Justice*, November, 1906.
15. Lederer, Susan E., Parascandola, J., Screening Syphilis: Dr.Ehrlich's Magic Bullet Meets the Public Health Service, *The Journal of the History of Medicine*, October 1998, Vol. 53: pp.345-370.
16. Miles, Toni P., McBride, D., World War I Origins of the Syphilis Epidemic Among 20th Century Black Americans: A Biohistorical Analysis, *Soc. Sci. Med*. (1997), Vol. 45, No. 1, pp. 61-69.
17. Needleman, J., Sarka, G., Conversation at UCLA School of Public Health regarding Osler, Medicine, Syphilis and Public Health, October 2009.
18. Oriel, J.D., *The Scars of Venus: A History of Venereology,* London: Springer-Verlag, 1994.
19. Osler, Sir William, Annual Oration on the Campaign Against Syphilis, *The Lancet,* May 26, 1917, pp. 787-792
20. Osler, William, *The Principles and Practice of Medicine,* New York, D. Appleton and Company, 1892.
21. Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008.
22. Parascandola, John, The Theoretical Basis of Paul Ehrlich's Chemotherapy, *The Journal of the History of Medicine,* 1981, pp.19-43.
23. Parran, Thomas, *Shadow on the Land: Syphilis,* Renal and Hitchcock, *1937.*
24. Perrott, G. St. J., Findings of Selective Service Examinations, *The Milbank Memorial Fund Quarterly* (October 1944), Vol. 22, No.4: pp.358-366.
25. Pinney, Jean B., the Motion Picture and Social-Hygiene Education, *Journal of Educational Sociology* (Nov. 1936), Vol. 10, No. 3; pp. 158-167.
26. Porter, Dorothy, *The History of Public Health,* Atlanta, Georgia, Editions Rodopi B.V., 1994.
27. Pusey, William A., Venereal Problems in the U.S.Army, *J. Amer. Med. Association,* 1918, 71:1022-1023
28. Pusey, WM. Allen, *The History and Epidemiology of Syphilis,* Springfield, Illinois: Charles C. Thomas, 1933.
29. Quétel, Claude, *History of Syphilis,* Baltimore: The Johns Hopkins University Press, 1990.
30. Sherman, Irwin W., *The Power of Plagues,* Washington, DC: ASM Press, 2006.
31. Silverman, Mark E., Murray, T. Jock, Bryan, Charles S., *the Quotable Osler,* Philadelphia, American College of Physicians—American Society of Internal Medicine, 2003.
32. Stedman's Medical Dictionary Illustrated, 23rd Edition, Baltimore: The Williams & Wilkins Company, 1976.

33. Surgeon Generals of the United States at the website: http://en.wikipedia.org/wiki/Surgeon_General_of_the_United_States on 3/14/10
34. United States Public Health Service, *Annual Report of the Surgeon General of the Public Health Service of the United States,* 1919, Government Printing Office, Washington at the website: http://books.google.com/books?id=ENQgAQAAIAAJ&printsec=frontcover&source=gbs_navlinks_s#v=onepage&q=&f=false on 3/15/10
35. U.S. Department of Health, Education and Welfare, Public Health Service, Bureau of Disease Prevention and Environmental Control, National Communicable Disease Center, Venereal Disease Program, *Syphilis, a Synopsis*, Washington, D.C., U.S. Government Printing Office, 1967
36. United States War Department, *Commission on Training Camp Activities,* 1917, War Department, Washington D.C. at the website: http://ia311225.us.archive.org/3/items/commissionontrai00unitrich/commissionontrai00unitrich.pdf on 3/18/10
37. Vedder, EB., *Syphilis and Public Health,* Philadelphia: Lea & Febinger; 1918.
38. von Hutten, Ulrich, *De Morbo Gallico (The French Disease)*, 1519.
39. Worthington, T., Poems, Paintings and Penile Chancres at the website: http://blackwellpublishing.com/Microbiology/pdfs/venus.pdf on 1/30/10.
40. Ziporyn, T., *Disease in the Popular American Press: The Case of Diphtheria, Typhoid Fever and Syphilis, 1870-1920,* New York, Greenwood Press, 1958.

Bibliography for Chapter III: Syphilis and the U.S. Public Health Service

Era #2:"And the Spirochaete Played On"
Syphilis versus Public Health during the Era of the Roaring Twenties, the Great Depression and the New Deal (1920-1938)

1. American Heritage Dictionary online at the website: http://education.yahoo.com/reference/dictionary/?s=Flapper on 10/10/10.
2. American Social Health Association, 1905-2005 at the website: http://special.lib.umn.edu/findaid/xml/sw0045.xml on 11/6/10.
3. Brandt, Allan M., *No Magic Bullet: A Social History of Venereal Disease In the United States since 1880,* New York, Oxford University Press, 1985.
4. *The Living Newspaper* at the website: http://en.wikipedia.org/wiki/Living_Newspaper#cite_note-40 on 11/30/10.
5. Lord, Alexandra M., Models of Masculinity:Sex Education, the United States Public Health Service and the YMCA, 1919-1924, *Journal of the History of Medicine and Allied Sciences* (2003), Vol. 58; No.2:pp.123-152.
6. Lord, Alexandra M., 'Naturally Clean and Wholesome': Women, Sex, Education, and the United States Public Health Service, 1918-1928, *Social History of Medicine* (2004), Vol. 17; No.3: pp. 423-441.
7. Medicine: Safeguard Baby, *Time,* February 14, 1938 at the website http://www.time.com/time/magazine/article/0,9171,848847,00.html on 11/30/10

8. Parran, Thomas, Eradication of syphilis as a practical public health objective, *Jr. Am. Med. Assoc.,* 1931, xcvii, 73.
9. Parran, Thomas, *Shadow on the Land: Syphilis,* New York, Reynal and Hitchcock*, 1937.*
10. Parran, Thomas, The Next Great Plague To Go, *Survey Graphic,* 1936, xxv, 405.
11. Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008.
12. Poirier, Suzanne, *Chicago's War on Syphilis, 1937-40: The Times, the Trib and the Clap Doctor*, Urbana and Chicago, University of Illinois Press, 1995.
13. Quétel, Claude, *History of Syphilis,* Baltimore, The Johns Hopkins, University Press, 1992.
14. "*Roaring Twenties*" at the website: http://www.u-s-history.com/pages/h1564.html on 10/1/10.
15. The Rockefeller Archive Center, "Bureau of Social Hygiene Archives, 1911-1940," at the website: http://www.rockarch.org/ on 10/15/10.
16. Vonderlehr, R.A., Prevalence, incidence and trend of syphilis, *Conference on Venereal Disease Control Work,* Washington, D. C., December 28-30, 1936. Supplement No. 3 to Venereal Disease Information, United States Treasury Department.
17. *What is a Living Newspaper?* At the website: http://xroads.virginia.edu/~MA04/mccain/audiohist/intro5.htm on 11/30/10.
18. Wouk, Herman, *The Winds of War,* New York, Little Brown and Company, 1971.

Bibliography for Chapter III: Syphilis and the U.S. Public Health Service

Era #3: The War against Hitler, Hirohito and VD but
Remember that Syphilis was the Worst of the Three!
(1939-1945)

1. Beecher, Henry K., Scare Resources and Medical Advancement, *Daedalus* Spring 1969, Vol.98; No.2: pp. 275-313.
2. Brandt, Allan M., *No Magic Bullet: A Social History of Venereal Disease In the United States since 1880,* New York, Oxford University Press, 1985.
3. Burke-Wadsworth Act at the website: http://www.selectiveservice.us/military-draft/7-use.shtml on 4/6/10.
4. Clarke, C. Walter, The American Social Hygiene Association, *Public Health Reports* April 1955*,* Vol. 70;No. 4: pp.421-427.
5. Employment of Psychological Operations at the website: http://www.psywarrior.com/employ.html on 6/1/10.
6. Friedman, SGT Herb, Venereal Disease Propaganda at the website: http://www.psywarrior.com/PSYOPVD.html on 5/29/10.
7. Heaton, Lieutenant General Leonard D., *Medical Department U.S. Army in World War II: Organization and Administration in World War II,* Washington D.C, U.S. Army Medical Department, Office of Medical History, 1963 at the website: http://history.amedd.army.mil/booksdocs/wwii/orgadmin/DEFAULT.htm on 5/1/10.
8. Hegarty, Marilyn E., *Victory Girls, Khaki-Wackies and Patriotutes,* New York, New York University Press, 2008.

9. Larimore, Captain Granville W., Sternberg, Lieutenant Colonel Thomas, H., Does Health Education Prevent Venereal Disease? The Army's Experience With 8,000,000 Men, *American Journal of Public Health* August 1945, Vol.35, pp.799-804.
10. Mahoney, John F. et al., Penicillin Treatment of Early Syphilis, *The American Journal of Public Health and the Nation's Health* December 1943, Vol. 33;No. 12; pp. 1387-1391.
11. Medicine: New Magic Bullet, *Time Magazine* Monday October 25, 1943 at the website: http://www.time.com/time/magazine/article/0,9171,796181,00.html#ixzz0pXyjwBPq on 5/23/10.
12. Meyers, Morton A., *Happy Accidents: Serendipity in Modern Medical Breakthroughs,* New York, Arcade Publishing, 2007.
13. Moore, J. E., An evaluation of public health measures for the control of syphilis, *American Journal of Syphilis, Gonorrhea and Venereal Disease* 1951, 35:101.
14. Noon, Geoffrey, *Oxford Companion to Military Medicine: Military Medicine*, Oxford University Press, 2001, 2004 at the website: http://www.answers.com/topic/medicine-military#ds_copyrights on 9/1/12.
15. Parascandola, J. Rapid Treatment Centers in World War II America, *Bulletin of the History of Medicine* Fall 2009, Vol.83;No.5:pp.431-459.
16. Parascandola, J., *Sex, Sin, and Science,* Westport, Connecticut: Praeger Publishers, 2008.
17. Parran, Thomas, *Shadow on the Land: Syphilis,* New York, Renal and Hitchcock, *1937.*
18. Perrott, G. St. J., Findings of Selective Service Examinations, *The Milbank Memorial Fund Quarterly* (October 1944), Vol. 22, No.4: pp.358-366.
19. Schmidt, Paul J., Syphilis, a disease of direct transmission, *Transfusion* August 2001, Vol. 41: pp. 1069-1071.
20. Siler, J.F., The prevention and control of venereal disease in the Army of the United States of America, *Army Medical Bulletin Special Issue,* May 1943, No. 67:pp.1-238.
21. Stedman's Medical Dictionary 23rd Edition, Baltimore, The Williams & Wilkins Company, 1976.
22. Surgeon Generals of the United States at the website: http://en.wikipedia.org/wiki/Surgeon_General_of_the_United_States on 5/31/10
23. *Three Queens but I'll pass: The story of a couple of gals who would love to meet you* at the website: http://contexts.org/socimages/2008/05/25/personifying-danger/ on 4/15/10.
24. U.S. Department of Health & Human Resources, Office of the Surgeon General: Thomas Parran, Jr. (1936-1948) at the website: http://www.surgeongeneral.gov/about/previous/bioparran.htm on 5/25/10.
25. Vonderlehr, R.A., Are We Checking the Great Plague? *Survey Graphic,* April 1, 1940, Vol.29;No.4:p. 217.
26. Vonderlehr, R.A., Progress in Venereal Disease Control in the United States During Fiscal Year 1939, *British Journal of Venereal Disease* 1940, 16: pp.80-84.
27. Wasserman Test at the website: http://www.bookrags.com/research/wasserman-test-wmi/ on 5/20/10.
28. World Health Organization, *Venereal-Disease Control in the USA with Special Reference to Penicillin in Early, Prenatal, and Infantile Syphilis,* Technical Report Series, No.15 , Geneva, World Health Organization, May 1950.
29. Wouk, Herman, *The Winds of War,* New York, Little Brown and Company, 1971.
30. WW2 Medical Research Centre, Venereal Disease and Treatments During WW2 at the website: http://med-dept.com/vd.php on 6/3/10

Bibliography for Chapter III: Syphilis and the U.S. Public Health Service

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The Polemics of Ethics in Public Health and the Tuskegee Syphilis Study (1932-1972)

1. 93rd Congress. (1973). Hearings of the U. S. Senate, Subcommittee on Health of the Committee on Labor and Public Welfare, Quality of health care—Human experimentation
2. Ahronheim, Judith C. et al., *Ethics in Clinical Practice, Second Edition,* Boston, Jones and Bartlett Publishers, 2005.
3. Brandt, Allan M., *No Magic Bullet: A Social History of Venereal Disease in the United States since 1980,* New York and Oxford, Oxford University Press, 1985.
4. Brooks, Jacqulyn et al., *Law& Ethics for Clinicians,* Amarillo, Texas, Jackhal Books, 2002.
5. Centers for Disease Control and Prevention, U.S. Public Health Service Syphilis Study at Tuskegee at the website: http://www.cdc.gov/tuskegee/timeline.htm on 5/1/11.
6. Clinton, President William J., An Apology 65 Years Late at the website: http://www.pbs.org/newshour/bb/health/may97/tuskegee_5-16.html on 1/1/11.
7. Clinton, President William J., Remarks by the President in Apology for Study Done in Tuskegee at the website: http://www.cdc.gov/tuskegee/clintonp.htm on 2/9/11.
8. Crenner, C., The Tuskegee Syphilis Study and the Scientific Concept of Racial Nervous Resistance, *Journal of the History of Medicine and Allied Sciences* 2011, pp.1-37 at the website: http://jhmas.oxfordjournals.org/content/early/2011/02/11/jhmas.jrr003.full on 5/21/11
9. Dorland's Medical Dictionary for Health Consumers, Saunders, 2007.
10. Editorial on T. Gjestland's The Oslo Study of Untreated Syphilis-An Epidemiologic Investigation of the Natural Course of Syphilitic Infection as Based on a Restudy of the Boeck-Bruusgaard Material, *Br J Vener Dis* 1955, 31: 203
11. Embree, Edwin R., Waxman, J., *Investment in People: The Story of the Julius Rosenwald Fund,* New York, Harper and Brothers Publishing, 1949.
12. Faces of Tuskegee at the website: https://www.msu.edu/course/hm/546/tuskegee.htm#The Oslo Study on 5/22/11.
13. Fyrand, O., The History of Norwegian Dermato-venereology During the Last Two Centuries, *International Journal of Dermatology* 2005; Vol. 22, Issue 10: 593-597.
14. Fyrand, O., Granholt, A., The history of venereology in Norway, *Genitourin Med* 1994; 70:215-217.
15. Gamble, Vanessa N., LeNoir: The Tuskegee Syphilis Study at the website: http://www.youtube.com/watch?v=CJa4Qd-FB70 on 5/20/11
16. Gjestland, T., The Oslo Study of Untreated Syphilis-An Epidemiologic Investigation of the Natural Course of Syphilitic Infection as Based on a Restudy of the Boeck-Bruusgaard Material, *Acta Derm-Venereol. (Stockholm)* 1955;38, supplement 34.
17. Gray, Fred D., Fred Gray on Tuskegee Syphilis Study at the website: http://www.youtube.com/watch?v=kDqVZKtRDSA on 6/8/11.
18. Gray, Fred D., *The Tuskegee Syphilis Study***:** *An Insider's Account of the Shocking Medical Experiment Conducted by Government Doctors Against African American Men,* Montgomery, Alabama, New South Books, 1998.

19. Harrison, L.W., The Oslo Study of Untreated Syphilis: Review and Commentary, *Brit. J. Vener. Dis.* (1956);32:70-78.
20. Hazen, H.H., A Leading Cause of Death Among Negroes, *The Journal of Negro Education* July 1937*;* Vol.6, No.3:310-321.
21. Hazen, H.H., Syphilis in the American Negro, *Journal of the American Medical Association,* 1914.
22. Jones, James H., *Bad Blood: The Tuskegee Syphilis Experiment,* London, The Free Press, 1981.
23. McDonald, Charles J., The Contribution of the Tuskegee Study to Medical Knowledge, *Journal of the National Medical Association* January 1974; Vol. 66, No. 1:1-7.
24. The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research**,** The Belmont Report: Ethical Principles and Guideline for the protection of human subjects of research, April 18, 1979 at the website: http://ohsr.od.nih.gov/guidelines/belmont.html on 6/1/11.
25. Olanksy, S., Simpson, L. Schuman, S., Environmental Factors in the Tuskegee Study of Untreated Syphilis, *Public Health Reports* July 1954; Vol.69, No. 7:691-698.
26. Osler, W., Modern Medicine; 4:457, Philadelphia, Lea & Fabiger, 1908.
27. Parascandola,J., *Sex, Sin, and Science*, Westport, Connecticut and London, Praeger Publishers, 2008.
28. Parran, Thomas, *A Shadow on the Land,* New York, Reynal & Hitchcock, 1937.
29. Roberts, Alicia S., Julius Rosenwald, Center on Philanthropy at Indiana University at the website http://learningtogive.org/papers/paper121.html on 2/25/11.
30. Quétel, Claude, *History of Syphilis,* Baltimore, Johns Hopkins University Press, 1986.
31. Reverby, Susan M. (ed.), *Tuskegee's Truths: Rethinking the Tuskegee Syphilis Study,* Chapel Hill, NC: U. of North Carolina Press, 2000.
32. Rivers, Eunice, Schuman, Stanley H., Simpson, Lloyd, Olansky, Sidney, Twenty Years of Follow up Experience In A Long-Range Medical Study, *Public Health Reports* April 1953; Vol. 68, No.4:391-395.
33. *Trials of War Criminals before the Nuremberg Tribunals under Control Council Law No. 10,* Vol.2, pp.181-182, Washington, D.C.: US Government Printing Office, 1949.
34. Turnock, Bernard J., *Essentials of Public Health,* Boston, Jones and Barlett Publishers, 2007.
35. Tuskegee Case: Pollard Case Settled with Award for Alabama Tuskegee, Syphilis Experimentation Victims at the website: http://keepethicallightburning.org/tuskegee-case/ on 3/24/11
36. Vonderlehr RA, Clark T, Wegner OC et al., Untreated syphilis in the male Negro, *Ven Dis Inform*1936; 17: 260-265.
37. Wender, Louis, The Role of Syphilis in the Insane Negro, *New York Medical Journal,* 1916.
38. White, Robert M., Spring, S., Misrepresentations of the Tuskegee Study of Untreated Syphilis, *Journal of the National Medical Association,* April 2005; Vol. 97, No.4: 564-581.
39. World Medical Organization. Declaration of Helsinki. *British Medical Journal* (7 December) 1996;313(7070):1448-1449.
40. Zimmerman, Ernest L., A Comparative Study in Whites and Negroes, *Archives of Dermatology and Syphilology* 1921;Vol.1, No.4: 75-88.

41. Zimmerman, Ernest L., Syphilitic Iritis. Its racial incidence and its association with secondary syphilis and with neurosyphilis, *Journal of the American Medical Association* 1921; LXXVI:1818.

Bibliography of Chapter IV: Conclusion

1. Brandt, Allan M., *No Magic Bullet: A Social History of Venereal Disease In the United States since 1880,* New York, Oxford University Press, 1985.
2. Lord, Alexandra M., Condom Nation: The U.S. Government's Sex Education Campaign from World War I to the Internest, Baltimore, The Johns Hopkins University Press, 2010.
3. Stedman's Medical Dictionary Illustrated, 23rd Edition, Baltimore: The Williams & Wilkins Company, 1976.
4. Stokes, John H., *The Third Great Plague,* Philadelphia, W.B.Saunders Company, 1918.
5. U.S. Department of Health, Education and Welfare, Public Health Service, Bureau of Disease Prevention and Environmental Control, National Communicable Disease Center, Venereal Disease Program, *Syphilis, a Synopsis*. Washington, D.C., U.S. Government Printing Office, 1967.
6. Vedder, EB., Syphilis and Public Health, Philadelphia: Lea &Febinger; 1918.

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