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Venus in the Trenches: The Treatment of Venereal Disease in the Canadian Expeditionary Force, 1914-1919

Lyndsay Rosenthal
rose1538@mylaurier.ca

VENUS IN THE TRENCHES: THE TREATMENT OF VENEREAL DISEASE IN THE CANADIAN EXPEDITIONARY FORCE, 1914-1919

By

Lyndsay Rosenthal
MA, Memorial University of Newfoundland, 2012

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Abstract

This dissertation examines the treatment of venereal disease (VD) in the Canadian Expeditionary Force (CEF). The Canadians had one of the highest rates of infection during the war with 15.8 per cent of servicemen being diagnosed with VD. These figures generated concern among Canadian officials about the negative impact this could have on both public health and opinion. Overseas officials needed to develop policies and procedures to control the spread of the disease. When strict disciplinary measures did little to address the issue, the military experimented with more lenient ones rooted in science and medicine. Even with these measures in place there were still thousands of men who needed medical treatment, which required the creation of a VD management system. The development of this system is the main focus of this study. As the Canadian Army Medical Corps (CAMC) was part of the Royal Army Medical Corps (RAMC) they operated under the guidelines and procedures established by the British War Office.

With two theatres of operation, VD required the creation of two systems. In France, VD cases needed to be treated and returned to the line as quickly as possible, which was complicated when mobility returned to the battlefield in late 1918. There was little agreement between the RAMC and CAMC about treating VD at the front. But the RAMC had authority and was unwilling to discuss changes to procedures at a critical point of operations. In England, the CAMC had more influence over the development of the VD management system. Special VD hospitals were established by the CAMC to treat the large number of cases that developed locally. Staffed primarily by civilian-trained CAMC doctors, these hospitals became important sites for VD research and development. Treatments utilized new developments such as the use of salvarsan, which was a highly toxic compound. Drug therapy was complicated by problems in the system that were uncovered in a 1918 investigation. VD research being conducted by the CAMC was seen as a crucial component of screening soldiers returning to Canada. Authorities in Canada insisted that strict measures be put in place to prevent the return of infected servicemen. Despite their known limitations, the Wassermann and Schwartz tests were used to detect cases of VD. While these procedures were in place for much of the war, they had to be abandoned when the war ended and Canada was tasked with demobilizing its overseas contingent at a rapid pace. Exploring the CAMC through the lens of VD allows for a long overdue examination of the medical war of the CEF.

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List of Abbreviations

ADMS	Assistant Director Medical Services
APM	Assistant Prevost Marshall
AIF	Australian Imperial Force
AWM	Australian War Memorial
BEF	British Expeditionary Force
CAMC	Canadian Army Medical Corps
CEF	Canadian Expeditionary Force
CMP	Canadian Military Police
CCS	casualty clearing station
DORA	Defence of the Realm Act
DADMS	Deputy Assistant Director Medical Services
DDGMS	Deputy Director General Medical Services
DDMS	Deputy Director Medical Services
DGMS	Director General Medical Services
DSCR	Department of Soldiers' Civil Re-establishment
FA	field ambulance
GOC	Government of Canada
LAC	Library and Archives Canada
MRC	Medical Research Council
OC	Officer Commanding
OMFC	Overseas Military Forces of Canada
PCO	Privy Council Order

RG	Record Group
RAMC	Royal Army Medical Corps
STI	sexually transmitted infections
TNA	The National Archives
TID	three times a day
VD	venereal disease
VDG	venereal disease gonorrhea
VDS	venereal disease syphilis
WHO	World Health Organization

Introduction

On 4 October 1917 Lieutenant-Colonel William Thomas MacKinnon informed his superiors, "A number of patients in this Hospital have reported 6 girls as below, employed at 'The Canadian Palace of Fun,' as a source of infection. This firm has two places of amusement, one at Folkstone and the other at Cheriton…Some action might be taken to protect the troops from the above mentioned girls."[1] MacKinnon was the Officer Commanding (OC) at Etchinghill Hospital in Folkstone, a special hospital established to treat Canadian soldiers with Venereal Disease (VD). The VD problem began almost as soon as Canadian troops arrived on Salisbury Plain in October 1914. Many of them, despite having been medically inspected in Canada, had contracted VD before going overseas. The magnitude of this problem increased as men began to interact with the local population and this relationship between soldiers, prostitutes and local women has been well documented.[2] The Canadians are given the unique distinction of having had the highest rate of VD in the war. Of the 418,052 soldiers who served overseas 66,083

[1] LAC, RG9-III-B-1 Vol. 1826, W.T.M MacKinnon, Source of Infection, 4 October 1917.

[2] Margaret H. Darrow, *French Women and the First World War: War Stories of the Home Front* (Oxford: Berg, 2000), Craig, K. Gibson, "Sex and Soldiering in France and Flanders: The British Expeditionary Force along the Western Front, 1914-1919," *International History Review* 23, 3 (2001): 535-79, Karen Hagemann and Stefanie Schuler-Springorum, *Home/Front: The Military, War and Gender in Twentieth Century Germany,* (New York: Berg, 2002), Phillipa Levine, *Prostitution, Race and Politics: Policing Venereal Disease in the British Empire*, (New York: Routledge, 2003) and Clare Makepeace,"Punters and their Prostitutes: British Soldiers, Masculinity, and Maisons Tolérées in the First World War," In John Arnold. *What is Masculinity?: Historical Dynamics from Antiquity to the Contemporary World*, (New York: Palgrave Macmillian, 2011).

soldiers – or 15.8 per cent - were diagnosed with VD.[3] This dissertation argues that throughout the war, Canadian officials struggled to cope with the high number of infections. To combat the problem they focused on prevention – first through disciplinary measures to reduce sexual activity but later adopted a more liberal approach to reduce infection from sexual activity through the use of prophylaxis and early treatment centres. This shift at the policy level affected the development of medical services tasked with treating VD. Above all else, the Canadian medical services took a special interest in VD research and development that stemmed from their desire to protect public health and the legacy of the war.

Even with the adoption of these types of measures there were still thousands of cases that required treatment. Separate medical services were created to treat soldiers in France and England and medically inspect them before they returned to Canada. This medical system played a significant role in managing the so-called VD problem but how it operated and evolved over the course of the war has received little attention from historians. Most of the current literature focuses on the changes to VD management at the policy level or the construction of sexual norms. While VD management was affected by shifts in attitudes surrounding sex and VD – especially at the policy level – it is important to examine how this impacted the clinical level. In doing so, we can see how British policy (after all the Canadian Expeditionary Force was part of the British Army

[3] Jay Cassel, *The Secret Plague: Venereal Disease in Canada, 1838-1939*. (Toronto: University of Toronto Press, 1987), 126. It is not clear whether the high rate is evidence of higher incidences of VD or if this number reflects a more thorough screening process and effective diagnosis.

and never autonomous), negative stigmas, and wartime conditions impacted the evolution of the Canadian medical system and the effect it had on Canadian soldiers.

This does not mean, though, that the topic of wartime VD has been completely neglected. In their examination of wartime epidemics, medical geographers Matthew Smallman-Raynor and A.D. Cliff studied the rates of VD amongst armies from 1875 to 1989, arguing that the rates of VD among armies have historically been contingent on several internal and external factors. As an organization, an army typically has near complete command over its soldiers, staff and policies. They could exercise a degree of control over VD through education of its medical staff, accessibility of treatments and prophylaxis, disciplinary measures initiated by the commanding officer and availability of alternative forms of entertainment for the troops. However, the effectiveness of these internal forms of control was largely dependent on external factors such as local control over prostitution, which was not always consistent. At an individual level, Smallman-Raynor and Cliff found that servicemen were more likely to seek out prostitutes and thereby increase the chance they develop VD, if they suffered from excessive loneliness or boredom that was compounded by geographic isolation, accessibility to brothels or women, lack of military controls, deployment type or demographics. Some men even used VD as a self-inflicted wound to escape service.[4] These findings reflect pre-war VD rates in the British Army where incidence levels remained higher in forces stationed

[4] Matthew Smallman-Raynor and A.D. Cliff, *War Epidemics: An historical Geography of Infectious Disease in Military Conflict and Civil Strife, 1850-2000* (New York: Oxford University Press, 2004), 349-413 and 527-565.

abroad than at home.[5] During the Great War, as we will see, high VD rates among Dominion soldiers was also blamed on the fact that soldiers were far from home and their higher rate of pay made them more attractive to local women. Smallman-Raynor and Cliff show some of the unique factors that shaped wartime sexual relationships.

The literature for the First World War focuses on both the construction of pre-war masculine ideals as well as how these were transferred to (or were challenged in) the interwar period.[6] Historians working on wartime sexuality have focused on the social problem of venereal diseases among First World War soldiers to analyze how the state

[5] William Grant Macpherson, *Medical Services Diseases of the War, Volume II*, (London: His Majesty's Stationary Office, 1923), 119.

[6] Michael C. Adams, *The Great Adventure: Male Desire and the Coming of World War* (Indianapolis: Indiana University Press, 1990); Mark Osborne Humphries, "War's Long Shadow Masculinity, Medicine, and the Gendered Politics of Trauma, 1914–1939," *The Canadian Historical Review* 91, 3 (September 2010): 503-531; Jeff Keshen, *Propaganda and Censorship During Canada's Great War* (Edmonton: University of Alberta Press, 1996); Jeff Keshen, "The Great War Soldier as Nation Builder in Canada and Australia," in Briton Cooper Busch, ed., *Canada and the Great War* (Montreal: McGill-Queen's University Press, 2003); Jessica Meyer, *Men of War: Masculinity and the First World War in Britain* (New York: Palgrave Macmillan, 2009); Desmond Morton and Glenn Wright, *Winning the Second Battle: Canadian Veterans and the Return to Civilian Life, 1915-1930* (Toronto: University of Toronto Press, 1987); Desmond Morton, *Fight or Pay: Soldier's Families in the Great War* (Vancouver: UBC Press, 2005); Desmond Morton, *When Your Number's Up: The Canadian Soldier in the First World War* (Toronto: Random House, 1993); Mark Moss, *Manliness and Militarism: Educating Young Boys in Ontario for War*, (Toronto: Oxford University Press, 2001); George L. Mosse, *Nationalism and Sexuality: Respectability and Abnormal Sexuality in Modern Europe* (London: Howard Fertig, 1985); Mike O'Brien, "Manhood and the Militia Myth: Masculinity, Class and Militarism in Ontario, 1902–1914," *Labour / Le Travail* 42 (Fall 1998): 115-141; Christopher Pugsely, *The ANZAC Experience: New Zealand, Australia and Empire in the First World War* (Auckland: Reed Publishing, 2004); Jonathan Vance, *Death So Noble: Memory, Meaning and the First World War* (Vancouver: University of British Columbia Press, 1997).

organized to combat this 'moral problem.'[7] In recent years, researchers have begun to use sexuality to explore the cultural and social factors that characterized life on the Western Front. According to British historian Mark Harrison, the "ways in which the Army responded to the problem of venereal disease in these countries reveals much about the place of medicine within British warfare. It also illuminates military concepts of masculine virtue, as well as prevalent attitudes towards women, 'race' and class."[8] An examination of life in the trenches through the lens of prostitution and VD expands our knowledge of how war challenged contemporary conceptions of gender, class and race because VD was viewed as both a medical and moral issue.

Military medical services had to evolve to meet the challenges of modern warfare, one of which was controlling the outbreak of VD among soldiers. Harrison contends that, much like shell shock, the problems associated with prostitution and VD challenged traditional assumptions regarding gender, race and class. While other army medical services may have developed to meet the needs of modern warfare, the British

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[7] Allan M. Brandt, *No Magic Bullet: A Social History of Venereal Disease in the United States Since 1880* (New York: Oxford University Press, 1987); S. Buckley, "The Failure [of the British Government] to Resolve the Problem of Venereal Disease among the Troops," in B.Bond and I.Roy, eds. *War and Society: A Yearbook of Military History, Volume II,* (New York: Holmes & Meier Publishing, 1977); Cassel, *The Secret Plague*; H.C. Fischer and Dr. E.X. Dubois, *Sexual Life During the World War* (London: Francis Aldor, 1937); Gibson, 'Sex and Soldiering in France and Flanders," 535-79; Mark Harrison, "The British Army and the Problem of Venereal Disease in France and Egypt During the First World War," *Medical History Journal* 39, 2 (1995): 133-158; Antje Kampf, "Controlling male sexuality: combating venereal disease in the New Zealand military during two world wars," *Journal of the History of Sexuality* 17, 2 (May 2008): 235-258; Levine, *Prostitution, Race and Politics* and Angela Woollacott, "'Khaki Fever' and its Control: Gender, Class, Age and Sexual Morality on the British Homefront in the First World War," *Journal of Contemporary History* 29, 2 (April 1994): 325-347.

[8] Harrison, "The British Army," 134.

Expeditionary Force (BEF) struggled with the problems that arose from prostitution and VD throughout the war. VD had been a concern before the war as both a public health and moral issue, but during wartime there were concerns it would affect the ability of the army to keep men fighting. Combating VD, Harrison suggests, presented a unique problem for medical officials since it encompassed both a moral and medical issue that challenged traditional assumptions about sexual and gender norms.[9] It did so because contracting VD meant that men (and women) had engaged in pre-marital or extra marital sexual relationships that contradicted preferred Victorian morals. Despite clear moral objections to 'deviant' sexual behaviour, military authorities were also conflicted when it came to regulation and enforcement in ways that civilian social reformers and lawmakers were not: prostitution and sexual recreation were also perceived as necessary evils which helped sustain morale. In his examination of American and British responses during the war, historian Edward Beardsley contends that the British were reluctant to address the problem of VD and organize effectively until the later stages of the war as they "regarded prostitution as something between a necessary evil and a vital auxiliary service."[10] This dilemma is often repeated within the existing literature. A few histories have begun to examine what these sexual encounters meant to the soldiers themselves and the officers tasked with maintaining the social and moral integrity of the British Army.[11]

[9] Harrison, "The British Army," 134.

[10] E. H Beardsley, "Allied against Sin: American and British Responses to Venereal Disease in World War I," Medical History, xx (1976): 190.

[11] See Joanna Bourke, *Dismembering the Male: Men's Bodies, Britain and the Great War* (London: Reaktion Books, 1996). Bourke provide insight into male intimacy in the trenches but focuses on male bonding and does not detail sexual encounters with women. Makepeace, "Punters and their Prostitutes."

Understanding this moral conflict is important as these social and political factors shaped the construction of VD policies.

Another important layer in these studies is the dynamic between the British and Dominion armies. While the British viewed VD "as regrettable but unavoidable" the Governments of Australia, Canada and New Zealand were less ambivalent about the problem.[12] A few histories have explored the experiences and attitudes regarding VD in the Dominion armies during wartime.[13] Dominion soldiers had the highest VD rates among the Allied nations. These high rates were attributed to the fact that Dominion soldiers were far away from home and their higher rates of pay made them more attractive to local women. A number of historians have argued that Canada, Australia and New Zealand were the first to take serious action because of the effect that VD was having on their soldiers and the negative impact it could have at home following the war. Preserving the legacy of the war was seen as an important cultural component that was necessary to foster the growing independence of the Dominions.[14] In response, Australia demanded better treatment and facilities to help combat the disease, while Canada's Prime Minister Robert Borden vowed that Canada would not send troops if another war broke out unless this matter was effectively dealt with.[15] This exchange is significant, as

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[12] Cassel, *The Secret Plague,* 123.

[13] Beardsley, "Allied against Sin"; Buckley, "The Failure [of the British Government]," Gibson, 'Sex and Soldiering in France"; J. Greenhut, "Race, Sex, and War: The Impact of Race and Sex on Morale and Health Services for the Indian Corps on the Western Front, 1914," Military Affairs, xlv (1981): 71-74 and Harrison, "The British Army."

[14] Jeff Keshen, "The Great War Soldier as Nation Builder." See also Keshen, *Propaganda and Censorship* and Vance, *Death So Noble*.

[15] Beardsley, "Allied against Sin," 192.

without the pressure of its Dominions, Britain might not have changed its policies on prostitution and VD. Historian Edward Beardsley argues, "by March 1918, the British government was in serious difficulty for it stood to lose a large amount of citizen support in Britain and the Dominions over prostitution and venereal disease."[16] The dilemma stemmed from the fear that providing preventive measures would encourage behaviour that was considered immoral. This predicament, along with pressure from the Dominions, shaped the construction of wartime VD policies.

Much of the literature has focused on the evolution of the response to the VD problem at the policy level.[17] Initially, the favoured solution to the VD problem focused on reinforcing sexual continence through lectures and punishment. As the rate of VD continued to rise, this tactic was supplemented by more permissive attitudes that saw the development of early treatment centres, the use of prophylaxis and the construction of special VD hospitals. Harrison explores the three main views that shaped the policies surrounding the contraction and treatment of VD in the BEF: sexual continence, medically regulated prostitution and a more liberal approach using technology.[18] While these views all influenced the creation of VD policies to some degree over the course of the war, Harrison argues that BEF policy regarding VD was largely successful because

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[16] Beardsley, "Allied against Sin," 198.

[17] Beardsley, "Allied against Sin"; Bourke, *Dismembering the Male*; Brandt, *No Magic Bullet;* Cassel *The Secret Plague*; Darrow, *French Women and the First World War;* Gibson, "Sex and Soldiering in France and Flanders"; Hagemann and Schuler-Springorum, *Home/Front: The Military, War and Gender;* Levine, *Prostitution, Race and Politics* and Makepeace, "Punters and their Prostitutes."

[18] Mark Harrison, *The Medical War: British Military Medicine in the First World War,* (New York: Oxford University Press, 2010), 155.

the efficient work of medical personnel was supported by the individual responsibility the soldiers bore over their own sexual health.[19] Historian Allan Brandt describes the evolution of VD policy in the American Expeditionary Force as a battle between moral order and scientific efficiency, "the two most powerful social currents of Progressivism."[20] Missing from these works, however, is a study of how VD was actually managed and treated on the battlefield. While the varying scientific and moralistic views may have informed methods and procedures, such as the implementation of prophylaxis, early treatment centres or medically regulated prostitution, little is known about how VD was treated when a soldier in the trenches or in England was found to be suffering from VD.

The historiography on wartime VD in the Dominion countries draws a deeper connection between battlefield and the home front. Historians in Australia explore similar themes to their British and American counterparts but in the context of a Dominion located far from the battlefields. In her examination of sexuality in Australia, historian Lisa Featherstone explores the effects of VD at home and overseas during the war. She looks at the problem as a class and gender issue since the VD problem incited concern over the physical and moral health of soldiers who increasingly came to define masculinity and nationhood.[21] She argues officials were not concerned with individual suffering but the potential negative effect on the image of the Australian Imperial Force

[19] Harrison, *The Medical War,* 170.

[20] Brandt, *No Magic Bullet,* 96.

[21] Lisa Featherstone, *Let's Talk About Sex: Histories of Sexuality in Australia from Federation to the Pill*, (Newcastle: Cambridge Scholars Publishing, 2011), 94.

(AIF), which prompted officials to review policies and treatments.[22] Author Raden Dunbar takes a similar approach, examining the evolution of the campaign to control the outbreak of VD among Australian soldiers through the lens of army officials, medical doctors and the soldier.[23] He finds that commanders were initially moralistic, ordering strict punishments or sending home those who contracted VD. However, the medical community eventually forced them to confront the problem through an alternative approach. As the AIF arrived in Europe in 1916, they were issued prophylactics and given sex education. While both of these works show the shifts in treatment and understanding of VD, Marina Larsson looks at the effect these campaigns had on Australian soldiers as they returned home. In *Shattered Anzacs,* Larsson briefly explores the impact that VD had on marital relationships after the war. Wives often unknowingly contracted VD, while some servicemen suffered from insanity caused by untreated syphilis.[24] Although her analysis is brief and limited to two Australian couples, Larsson's work reveals the human aspect of a topic that is primarily written about from a medical and moral perspective.

The Canadian historiography has followed a similar trajectory as Australia although it has yet to explore the connections between VD and medical problems in the interwar period. Historian Jay Cassel devotes a chapter in his book, *The Secret Plague Venereal Disease in Canada, 1838-1939* to the response of Canadian officials to the

[22] Featherstone, *Let's Talk About Sex*, 98.

[23] Raden Dunbar, *The Secrets of the Anzacs: The Untold Story of Venereal Disease in the Australian Army, 1914–1919,* (London: Scribe Publication, 2014).

[24] Marina Larsson, *Shattered Anzacs: Living with the Scars of War,* (Sydney: University of New South Wales, 2009), 136-38 and 165-66.

outbreak of VD amongst the troops of the First World War contingent. Cassel's work draws important attention to how Canada's dominion status affected the response to the problem of VD in contrast to approaches in the British, French and German armies. He argues that the biggest problem the Canadian Expeditionary Force (CEF) faced was the fact that prevention and treatment fell under the purview of the medical arm of the BEF, which saw VD as regrettable but largely unavoidable. This reality, according to Cassel, was especially true among Dominion soldiers who had no family to visit on leave and were targeted by prostitutes since they made more money. He argues these circumstances resulted in a large number of Canadian soldiers contracting VD while overseas.[25] Desmond Morton deals briefly with the problem of VD from the perspectives of medical services and discipline. He focuses on the preventive measures employed by the CEF rather than cures and causes. Sex education and 'blue light depots' became more widely available to the men, but women remained the focus in the formation of policies to combat VD. Within the BEF, Morton argues, "These luckless women were arrested, medically examined and, if infected, jailed without treatment. Canada imitated the British regulations, with much the same cruel consequences for women."[26] When Cassel and Morton, and most other histories on the topic, examine the issue it is primarily from the perspective of policy formation – the push and pull of morality, science and necessity.

This is what is missing from the historiography – a detailed examination of how these competing interests affected medical services tasked with treating VD. Sir Andrew Macphail wrote the official history of the Canadian medical services seven years after the

[25] Cassel, *The Secret Plague*, 124

[26] Morton, *When Your Number's Up*, 202.

war but what is missing is a contemporary analysis of Canada's medical war. Books like Mark Harrison's *The Medical War* are a good starting point for Canadian studies but it only tells half the story. Canada, like Australia and New Zealand, found themselves in a unique position as they became increasingly responsible for the health of their troops even though their medical services fell under the direction of Great Britain. Battlefield medicine played a significant role in soldiers' lives and we need to write these histories to provide a framework for their experiences. Transnational comparisons can help us understand the complexities, similarities and variations of the British and Dominion systems especially when sources are sometimes scarce.

Historian Mark Humphries takes this approach in his recent examination of the treatment of shell shock at the front. Humphries situates the experiences of Canadian soldiers and doctors within the larger structure of the Royal Army Medical Corps (RAMC). He explores the interplay between British and Canadian policy, where their respective practices diverged and converged. In doing so, he uncovers the differences between the procedures that were created to manage shell shock and how it was treated on the battlefield.[27] His use of admission and discharge books along with official reports and contemporary writings taken from Canadian, British and Australian sources provided the framework for how I approach VD in the CEF.

VD provides an interesting lens to study the Canadian Army Medical Corps (CAMC). Shifts at the policy level had a significant impact on the delivery of medical services and the experiences of soldiers while policy and practice often diverged or were

[27] Mark Osborne Humphries, *A Weary Road: Shell Shock in the Canadian Expeditionary Force, 1914-1918*, (Toronto: University of Toronto Press, 2018).

inconsistently applied. The progression from strictly punitive tactics rooted in morality to more liberal measures shaped by medicine and science fundamentally changed the VD management system. Over the course of the war, men were increasingly given access to more prophylaxis measures including calomel tubes, early treatment centres and sometimes condoms. At the clinical level, the treatment of soldiers also changed over the war. Men sent to a VD clinic early in the war received few comforts and experienced little compassion while hospitalized. This harsh view was gradually replaced by the notion that treating these men as ill rather than social deviants would produce better results. This close examination also allows us to see how successful the military was at implementing the newer medical techniques and technologies that were available. From here we can begin to understand how policy changes and medical services actually impacted soldier care in the CEF.

To accomplish this task, I have primarily relied on the files of the Canadian Assistant Director Medical Services (ADMS) in England along with the war diaries of the British and Canadian medical services (LAC, RG9, Militia and Defence and TNA, WO95, War Diaries). Admission and discharge books and contemporary writing from medical journals like the *Canadian Association Medical Journal* have provided additional information on many of the reports in these records. Files from the AIF have been used to supplement these materials (AWM), as the Australian war experience was remarkably similar to the Canadian one. These sources allow us to see how the military responded to the problem of venereal disease. We can begin to understand how the CAMC functioned and the factors that shaped their responses and policies such as the theatre of operations, cost, curative rates, and manpower. The majority of these records

were generated from mid-1916 onward as it became clear that the VD problem required a more systematic response.

These administrative records allow for a comprehensive examination of the issue but it is important to note that officials higher up the medical chain of command crafted the letters and reports in these files. While their experiences and concerns no doubt sometimes deviated from those who worked below them, they played a significant role in facilitating medical services. The case study of Etchinghill allows us to fully appreciate how these plans affected outcomes at the clinical level.[28] As the largest VD hospital in the CEF, Etchinghill had a significant role as both a passive recipient and active participant in the creation of this system. Here we get a better understanding of the experiences and roles of the hospital's staff although this narrow focus does not capture everyone involved in the process. Missing from these sources are the reports of the battalion medical officers who were the first ones to diagnosis and treat these cases. Even if these were available, they still only tell us one side of the story – the doctors. Patient experiences are mediated through medical and military authorities as soldiers' voices appear infrequently throughout the available records. Even more difficult to reconstruct are the stories of the women who were the main targets of many policies and procedures that were created. Nevertheless, these records can help us understand the structures that shaped one's work or medical care even if we do not always know how they felt about these experiences.

[28] For a comprehensive discussion on the value of case studies see Franca Iacovetta and Wendy Mitchinson, "Social History and Case Files Research," in Franca Iacovetta and Wendy Mitchinson eds., *On the Case: Explorations in Social History*, (Toronto: University of Toronto Press, 1998), 4-6.

The first chapter explores the impact VD has had on the military since the first major outbreak that occurred in Naples in 1495 and how it has evolved over time. Without comprehensive and cohesive policies, the military response to VD among their ranks has varied since Charles and his men fled Naples all the way up to the First World War. It examines some of the dominant themes such as experiments with legalized prostitution, the use of punitive measures, available treatments and the implementation of prophylaxis. The solutions employed by military officials have been largely reactive and shaped by local commanders and concerns. The lack of a formal strategy left the British unable to effectively deal with the high rates of VD they experienced early in the First World War.

The second chapter examines the development of a VD management system in France during the Great War. Given that the majority of VD was acquired while men were on short leave or stationed in England, the treatment of VD in France has received less attention. The availability of medically-regulated brothels along the Western Front may give one the false impression that VD was not as serious an issue in France. While VD infections contracted in France were generally lower than in the United Kingdom, it was still a problem as it occurred at a critical point of operations. They needed men in the trenches, not in a hospital being treated for a sexual infection. Commanders and medical services in the field had to develop policies and procedures to deal with cases at the front, as these did not exist prior to the war in the British Army. Both the British and Canadians established early treatment centres after punitive measures failed to curb rates of infection. An evacuation system was created to move cases to VD hospitals located in the rear, increasing tensions between the British authorities and Canadian physicians who

thought soldiers with VD should be kept closer to the battlefield. The conflict was a moot point after both armies had to adapt to the renewed mobility of the battlefield in the fall of 1918. Increased access to large city centres in Belgium and during the occupation of the Rhine crossings in Germany, coupled with a lack of early treatment centres, led to a dramatic increase in the number of VD cases reported within Canadian divisions. Even so, operational effectiveness was never seriously compromised by VD, so in this sense, the policies accomplished their purpose of keeping most men at the front.

The third chapter looks at the treatment of VD in England by examining the evolution of Etchinghill, a special Canadian hospital established to deal with local cases. The hospital played two important roles in the development of VD management: how it managed cases inside the hospital and how it shaped VD management outside its doors. Etchinghill operated under the guidelines determined by the War Office but an examination of its records shows that the doctors had a high degree of autonomy not only in the day-to-day administration of the hospital but also in regards to research and experimentation at the hospital. The hospital's operations were closely scrutinized after the deaths of eleven Canadian soldiers from suspected arsenic poisonings from 606 injections at several different clinics. The deaths sparked an inquiry into the whole Canadian VD medical system, which uncovered multiple problems with the management of syphilis in particular – many of which were found at Etchinghill. The fourth chapter explores the findings of these investigations. Procedures were ignored, records were unreliable and there were multiple problems coordinating care among the different medical structures.

Examining the VD management system at the hospital level also reveals some of the limitations of the available treatments and technology, which impacted procedures for returning these cases to Canada. The final chapter looks at the process of demobilization – sending soldiers with a history of VD back to Canada – both during and after the war. Despite the fact that an estimated of 25 per cent of VD cases treated overseas originated in Canada, domestic officials there were very concerned about the negative effect the return of these soldiers could have on both public health and ultimately the legacy of the war itself. As a result strict inspections were put in place to protect the public from the return of a "plague of diseased soldiers."[29] The Wassermann and Schwartz tests were used to detect syphilis and gonorrhea but it was well known that these tests were not reliable. The lab at Etchinghill played an important role in trying to improve techniques for VD testing to better facilitate existing procedures. However, the preferred policy of thorough testing and holding cases overseas until they were 'cured' had to be abandoned when the CEF had to coordinate demobilization on a massive scale. Given the realities of returning tens of thousands of men back to Canada within a relatively short period of time, overseas officials said the policies that had been in place since the beginning of the war would have to be significantly altered. Canadian officials would have to assume responsibility for the care of cases although they were reluctant to do so.

As this dissertation will show, the Canadian response to the VD problem was complicated by the fact that their medical services were shaped by its place within the RAMC. The CAMC had a long history with the RAMC and was indeed an imperial

[29] Tim Cook, *Shock Troops: Canadians Fighting in the Great War 1917-1918,* (Toronto: Viking Canada, 2008), 596.

branch of that parent organization.[30] Surgeon General J.T. Fotheringham described the relationship between the RAMC and CAMC during the war as one of "absolute mutual co-operation and goodwill."[31] The two services worked intimately with one another and the result was "the Canadian laboratory man has been given his chance and has made good in both British and Canadian laboratories in the field, and the friendly rivalry and hearty good comradeship has gone far to make permanent for all time the good relations which are and can be based only upon mutual respect."[32] Fotheringham paints a sunny picture. In reality the relationship between the two was more difficult to navigate. In his telling of the Canadian war story, Lieutenant-Colonel John Adami stated "there could be no question of running the medical, or any other section of the First Contingent as a body independent of British authorities; the terms of Canada's offer to Britain precluded that."[33] Managing the organization of the two services was challenging as the CAMC provided its own supplies and personnel, though technically this fell under the purview of the divisional authorities under the guise of the ADMS. Herein lay the problem: the CAMC was technically a separate organization that worked alongside the RAMC and was headquartered in Ottawa and England with personnel attached to units at the front. Those frontline infantry, artillery, and cavalry units, though, were part of a separate command structure that did not include Canadian officials, running instead through

[30] J. George Adami, *War Story of the Canadian Army Medical Corps*, (Canada: Published for the Canadian War Records Office by Colour LTD, 1918).

[31] J.T. Fotheringham, "The Canadian Army Medical Service," *British Medical Journal* 2, 2963 (13 Oct 1917): 471.

[32] Ibid, 471.

[33] Adami, *War Story of the Canadian Army Medical Corps*, 81.

Canadian Corps headquarters and then to British Armies and the War Office. To make matters even more complex, Canadian stationary and general hospitals and, until 1916, Canadian casualty clearing stations operated independent of the Canadian Corps under the direction of British Directors of Medical Services along the lines of communications or within each army area. How these various authorities and jurisdictions were to be navigated was constantly up for debate. The different lines of communication and authority created no end of administrative complications especially in the different theatres of operation. Eventually, they reached a compromise that the DMS for the Canadians would be stationed in London but allowed to cross the Channel when necessary to deal with matters affecting Canadian personnel. [34] The CAMC gained some further control over their communications but continued to operate under the structure and policies of the RAMC. All the while, the frontline medical system, including evacuations, hospitals and treatment in France and Belgium, followed the orders issued by the War Office.

In this way, the study of VD also offers an opportunity to examine how the CAMC actually functioned across the various zones of authority during the war. This raises important issues about the nature of the Imperial war effort, or rather the ways in which the various Dominions worked with, alongside, and against Great Britain. In a very real way, the war provided an opportunity for the Dominions to become better acquainted with one another and, in some cases, to work together on similar issues, which had lasting

[34] Adami, *War Story of the Canadian Army Medical Corps*, 81 – 83 and Bill Rawling, *Death Their Enemy: Canadian Medical Practitioners and War*, (Quebec: AGMV Marquis, 2001).

effects back home. On 27 June 1916, for example, it was decided that separate units would be established for the treatment of regular soldiers with VD from Australia, Canada and New Zealand. Officers, both British and Colonial, would continue to be treated at No. 9 Stationary in Le Havre.[35] To treat their rank and file soldiers, Australia and New Zealand established a VD centre at Étaples in France. They also set up the 1st Australian Dermatological Hospital in Bulford, England, which had been moved from Abbassia when the ANZACs were sent to the Western Front.[36] At home, the Australians set up Langwarrin outside Melbourne to treat diseased soldiers.[37] In France, the Canadians set-up their VD centre outside Le Havre by the Canadian Base Depot. They also established special hospitals Etchinghill, Witley and Hastings (for officers) in England. While their treatments followed the schedules set out by the War Officer the "Canadian laboratory man" touted by Fotheringham experimented with techniques and therapies to build on the resurgence of VD research just before the war. The creation of separate spaces offered the Canadians some autonomy in the treatment of VD – at least in England.

[35] The National Archives (TNA), WO95/45, War Dairy, GHQ, DGMS, Proposal re the treatment of Colonial Troops suffering from venereal diseases – separate units to be established, 27 June 1916 and TNA, WO95/45, War Dairy, GHQ, DGMS, Proposal re the treatment of Colonial Troops suffering from venereal diseases – separate units to be established, 30 June 1916.

[36] Dunbar, *The Secrets of the Anzacs,* 50-51.

[37] At the beginning of the war, the Australians sent many cases of VD back to Australia for treatment. See: AWM, AWM 32 105, Major J. Tait, Control of Invalids: Administrative Measures for Special Cases, May 1915-June 1919 and Dunbar, *The Secrets of the Anzacs*, 76-77.

This dissertation also reveals that there were clear differences between British and Canadian policy at the front. In France, there was little agreement over where to treat VD cases. The Canadians established a system that held gonorrhea cases near the front. This organization was in stark contrast to the British system in which cases were sent to a base hospital for the duration of their treatments. Under this system, it could take weeks even months for a man to return to his unit. The Canadians felt their preferred system would allow men to remain in lines which would simultaneously permit them to be more thoroughly treated. The discrepancy likely stemmed from the fact that the majority of CAMC physicians had been born in Canada and came to the front armed only with their experiences in civilian medicine. In contrast, most doctors in the RAMC had been trained within the military system. Historian Mark Humphries argues, "Although the surgical and medical tasks were the same as those in the civilian world, the priorities and mindset of military doctors was necessarily different."[38] These differences, like those at the policy level, saw Canadian medical practitioners sometimes favour a different approach than the British. But this was not always possible as Canadian medical services were ultimately shaped by their place within the RAMC.

Their position within the RAMC coupled with high rates of VD and contemporary views on sexuality presented a unique challenge to Canadian medical services. An examination of the available administrative records allows us to the see how all of these factors shaped the development of a VD management system within the CEF. Both Canadian soldiers and the medical facilities that treated them were greatly affected by major shifts at the policy level – something that has received little attention in the study

[38] Humphries, *A Weary Road,* 48.

of wartime VD. The adoption of more progressive tactics involving a medical and scientific approach replaced measures focused solely on concerns over morality that did little to address the problem. These changes affected the VD management in both France and England. Commanders in France benefited from more permissive views towards medically-regulated prostitution but they still had to contend with high rates of infection among their troops. Although in France they faced the additional problem of controlling wastage at a critical junction while also having to closely follow British policy. In England, they had slightly more autonomy and were able to exert more influence over the VD management system but even here they faced problems. The deaths of eleven Canadians from arsenic poisoning in early 1918 showed that after four years of war, Canada still did not have effective procedures in place to deal with the VD problem. Procedures were not followed or enforced, records were unreliable, medical staffs were not properly trained and clinics had more cases than they were designed to handle. Concerns over the VD management extended to procedures over sending Canadian soldiers home. Officials at home were gravely concerned that the return of these men would generate negative press and public health problems. They were adamant that overseas officials employ the latest medical technologies to screen and treat these cases in England. These measures had to be abandoned when the signing of the armistice marked the return of Canadian soldiers could return home en masse. The realities of demobilization trumped the fears of the officials at home. An examination of the VD management system offers an important look at the medical side of the First World War in the CEF.

Chapter 1

Defeated by Venus: A History of VD in the Army

Since the first major outbreak of venereal disease in Europe in the fifteenth century, its spread has been linked to the social disruptions caused by warfare. This chapter examines British and American military responses to VD within their ranks. Wartime conditions created an environment where military and civil populations came in frequent contact with each other, which created ideal conditions for the spread of sexually transmitted infections. Camp followers and brothels followed the large concentrations of soldiers while the migration of these soldiers in the aftermath of a conflict carried the diseases further throughout Europe. To combat the VD problem, military officials experimented with a variety of approaches including punitive measures aimed at soldiers, legislation targeting women or medical intervention. Disciplinary methods such as court martial, restricted leave or a pay stoppage focused on controlling sexual behaviour among soldiers. This tactic rested on the idea that sexual diseases were a moral issue that could be mitigated through punishment. Soldiers were not the only ones who faced punishment. From the eighteenth century onwards, women were seen as the main carriers of disease, which led to the implementation of restrictive legislation aimed at local women.

When these methods failed to eliminate VD, military officials would embrace a more permissive attitude that utilized contemporary medical and scientific knowledge to stop the spread of infections. At various times armies have experimented with medically-regulated brothels, prophylaxis kits and early treatment centres to address the issue. Despite the prevalence of VD, armies failed to implement widespread regulations to

effectively manage the problem. This problem was compounded by the dismantling of military medical structures at the end of every conflict.[39] This meant their approach was always reactive and shaped by local commanders and concerns. Part of this inconsistency also stemmed from the fact that VD posed two separate issues. In wartime, VD created short-term problems in manpower and cost but the returning soldier created long-term public health concerns. These two distinct issues required different solutions, as the field commanders were generally more concerned with the immediate consequences. With no clear policy in place on the eve of war, the management of VD in the British Expeditionary Force, and subsequently the Canadian Expeditionary Force, followed these same patterns over the course of the First World War.[40]

Origins of VD at War

The World Health Organization (WHO) recognizes four different types of sexually transmitted infections (STI): chlamydia, gonorrhoea, syphilis and trichomoniasis.[41] During the First World War these infections were categorized as venereal diseases (VD), of which there were two main sub-classifications: venereal disease syphilis (VDS) and venereal disease gonorrhea (VDG). VDG was typically the

[39] Richard A. Gabriel, *Between Flesh and Steel: A History of Military Medicine from the Middle Ages to the War in Afghanistan*, (Virginia: Potomac Books, 2013), 184-85.

[40] The Australians noted they were prepared to treat fever and dysentery but not venereal disease. AWM, AWM27 376/197 & 198, Report: VD Amongst Members of the A.I.F. in Egypt, ND.

[41] Sexually Transmitted Infections, World Health Organization, 2018, http://www.who.int/news-room/fact-sheets/detail/sexually-transmitted-infections-(stis)

most prevalent.[42] Gonorrhea, also called gleet, is a bacterial infection that is spread primarily through sexual contact but can pass from mother to child during birth. Symptoms generally appear two to six days after the initial infection and include unusual discharge, swollen testicles, urethritis and pain during urination.[43] Almost half of women do not experience symptoms but when they do they can suffer from abdominal pain and a swollen cervix. If left untreated it can cause damage to fallopian tubes or testicles and lead to both male and female infertility.[44]

Syphilis, also known as the pox, is also a bacterial infection transmitted primarily through sexual activity. The infection can also be acquired in utero so it can be passed on to any child that is conceived if one, or both, parents are infected and it was not properly treated, even if they are not symptomatic at the time of conception. Children born with syphilis are often born blind or suffer from severe physical deformities. In an infected person syphilis would appear in four stages with new symptoms appearing and disappearing at each stage. The first sign of VDS are genital sores that occur during the primary stage. In the secondary stage, a person develops rashes that generally appear on their feet and hands. Without medical intervention, the infection usually enters a period of latency during which time they do not have any symptoms. During the final or tertiary stage, the bacterial spirochetes can cause severe disfigurement or long-term, and potentially fatal damage, to the multiple organs including the brain, spine and heart. If

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[42] Cassel, *The Secret Plague,* 118.

[43] Anne R. Hanely, *Medicine, Knowledge and Venereal Diseases in England, 1886 – 1916,* (London: Palgrave MacMillian, 2017), 5-6.

[44] Centers for Disease Control and Prevention, "Gonorrhea," (2018), https://www.cdc.gov/std/gonorrhea/stdfact-gonorrhea.htm

left untreated in this stage, infected persons can suffer severe and permanent neurological damage, which often results in institutionalization with syphilitic insanity.[45]

There are several theories as to the origin of the first wave of VD that spread across Europe in the fifteenth century. One long standing theory is that VD was a product of the 'Columbian Exchange' which posits that Christopher Columbus and his crew brought the disease back to Europe with them after their first voyage to the Caribbean in 1492.[46] Other scholars contend that VD had always been in Europe as evidenced by unearthed skeletal remains that have bone markings consistent with tertiary stage syphilis. Since it shares similar characteristics with other historically common diseases such as leprosy, earlier cases of VD may have been misdiagnosed. Its 'appearance' in the late fifteenth century could also represent changes in diagnostic cultures. This could explain why there has been little mention of VD in earlier historical records. The symptoms and severity of these earlier strains likely evolved over time but had always existed in Europe in one form or another.[47] The impetus for this evolution, according to the third theory of its origins, returns to the Columbian Exchange. If VD had always existed in both Europe and North America, the American strain likely merged with the European strain during contact. Medical historian Roy Porter contends "it is feasible that some American *treponemal* infection merged with a similar European one to become

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[45] Centers for Disease Control and Prevention, "Syphilis," (2018), https://www.cdc.gov/std/syphilis/stdfact-syphilis.htm

[46] Roy Porter, *The Greatest Benefit of Mankind: A Medical History of Humanity*, (New York: Harpers Collins, 1998), 166. See also: Thomas Lowry, *Venereal Disease in the Lewis and Clark Expedition,* (Lincoln: University of Nebraska, 2004), 20.

[47] Porter, *The Greatest Benefit of Mankind,* 166-167 and Tampa, M et al "Brief History of Syphilis," *Journal of Medicine and Life* 7,1 (2014): 4–10.

syphilis, with both initial infections disappearing."[48] Once these organisms came in contact with each other, they developed into the disease that we would recognize today.

While there is no consensus on the origins of venereal disease, the first major outbreak in Europe at the end of the fifteenth century is generally attributed to the military ambitions of Charles the VII of France. In 1495, Charles and his army of 50,000, as well as a number of camp followers, made their way towards Italy to invade Naples. The battle was short-lived and Naples fell quickly to French forces.[49] While Charles commemorated his victory by parading through the city dressed as a Byzantine emperor, his men celebrated by raping, pillaging and engaging in orgies with the camp followers.[50] The festive mood, however, did not last long. Just two weeks later Charles and his men fled Naples after many men experienced an explosion of boils and running sores. Charles and his men were defeated by the first major outbreak of syphilis recorded in Europe and in English circles the disease quickly became known as the "French pox."[51] Ever since the French were driven out of Naples by a syphilitic outbreak, VD has continued to create numerous operational problems for armies. Outbreaks of VD in Sweden can be traced to the Seven Years War and the Russo-Sweden wars. The Balkans experienced similar

[48] Porter, *The Greatest Benefit of Mankind*, 166-167 and Tampa, et al, "Brief History of Syphilis," 4–10.

[49] Porter, *The Greatest Benefit of Mankind*, 166 and Smallman-Raynor and Cliff, *War Epidemics,* 84-85.

[50] George C. Kohn, *Encyclopedia of Plague and Pestilence: From Ancient Times to the Present*, (New York: Facts on File, 2007), 130-131.

[51] Smallman-Raynor and Cliff, *War Epidemics*, 82 and Porter, *The Greatest Benefit of* Mankind, 166.

outbreaks after the Russo-Turkish War.[52] These incidences point to a relationship between wartime conditions and high rates of VD that continued into the First World War.

"Carnal encounters" and subsequent military responses were also shaped by contemporary sexual culture. VD had significant social ramifications. By the sixteenth century it had become clear to contemporary doctors that VD was spread through sexual contact. In response, in England at least, King Henry VIII tried to control the spread of the disease by shutting down brothels and communal bathhouses.[53] But not all historians agree there was a negative association between VD and prostitution at that time. In her analysis of venereal disease in the seventeenth century, historian Kathryn Norberg argues that early on VD was characterized as a medical problem endured by all classes so the main focus was on finding a cure. By the close of the eighteenth century, however, VD had become the identifying characteristic of prostitutes.[54] This shift in perception can been linked to both increased concerns over public health and changes in contemporary understandings of disease. Initially, Humorists – those who ascribed to the belief an excess or deficiency of one of the four humors was responsible for health and temperament - believed that 'pox' produced an excess of phlegm that could be cured by

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[52] Smallman-Raynor and Cliff, *War Epidemics*, 528 and Wellcome Library, Royal Army Medical Corps (RAMC)/562, Colonel H.A.L. Howell**,** *An Essay on Venereal Diseases in the British and Indian Armies – Their Prevalence and Prevention*, (1900), 128.

[53] John Firth, "Syphilis – Its early history and Treatment until Penicillin and the Debate on its Origins," *Journal of Military and Veterans' Health,* Volume 20 No. 4 (November 2012): 51-52.

[54] Kathryn Norberg, "From Courtesan to Prostitute: Mercenary Sex and Venereal Disease, 1730-1802," in Linda Merians, ed., *The Secret Malady: Venereal Disease in Eighteenth-Century Britain and France,* (Lexington: University of Kentucky Press, 1996), 33-34.

provoking drooling through the use of mercury.[55] But by the end of the eighteenth century they began move away from humorism and the miasma theory and more towards an understanding that diseases were contagious and could be transmitted by multiple vectors.[56]

Changing perceptions of disease and health generated fears over depopulation that grew during the late eighteenth century. These anxieties coupled with growing concerns over the health of soldiers paved the way for increased regulations against women suspected of prostitution. Norberg argues this shift can be traced back to concerns that high rates of VD were having an adverse effect on the French army. She points to a 1790 French publication in which a Dr. Lecointe argued that French nationalism, like other nations, was tied to the strength of its army. Soldiers contracting VD negatively affected France's fighting strength and could also have negative repercussions on its national health. Lecointe believed prostitution was the root cause of the army's problem, referencing a purported case in which a single prostitute infected fifty-eight soldiers with syphilis. This alleged incident was problematic as soldiers were expected to fulfill their duty not only on the battlefield but also by producing children so "the male children could serve in the military thereby strengthening the army and the nation."[57] The British Army shared this sentiment. In 1792 Army Surgeon Robert Jackson wrote, "The preservation of the health of the soldier is indispensable to the preservation of the

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[55] Porter, *The Greatest Benefit of* Mankind, 175.

[56] Ibid, 229-303.

[57] Norberg, "From Courtesan to Prostitute," in Merians, ed., *The Secret Malady*, 33-34 and 41.

conquest which fortune or courage achieves. The health of the Army ought, therefore, to be a primary consideration of the State."[58] As the scale of wars increased, military and civilian officials became increasingly worried about the impact VD could have on future generations when soldiers returned home.

As sex became increasingly regulated in Western cultures during the nineteenth and twentieth centuries the public reaction to any 'transgressions' changed as well. As historian Dagmar Herzog argues, "For a long time, prostitution had been the 'open secret' supplement to marriage. It had been quietly tolerated as a necessary evil or a basic good."[59] But fears over VD prompted a shift in contemporary views. Abolitionists, moral purity groups and feminists became increasingly concerned that illicit sexual encounters threatened both public health and families.[60] This association led to a change in perceptions about sexual practices and the disease itself, most notably the perceived connections between prostitutes and VD. During the rise of nationalism in nineteenth century Britain, preferred gender roles and sexuality were redefined to reflect "proper" and "decent" attitudes.[61] Men and women were expected to adhere to gender norms – men ruled the public sphere while women remained in the private sphere. Both were to engage in 'normal' heterosexual activities showing self-control in the face of excessive sexual desire although there was some leeway for male transgressions. But due to their

[58] Robert Jackson quoted in Howell**,** *An Essay on Venereal Diseases*, 1.

[59] Dagmar Herzog, *Sexuality in Europe: A Twentieth Century History*, (London: Cambridge University Press, 2011): 7.

[60] Ibid, 10-15.

[61] Mosse*, Nationalism and Sexuality*, 1-4.

frequent interaction with prostitutes and high rates of VD, the military and soldier health became a focus among reformers.[62] The image of the soldier increasingly became a symbol of national health and strength as he exemplified masculine virtues such as courage and bravery, so preserving their health became paramount.[63] As a result, women, mainly prostitutes, became the focal point of efforts by military officials to combat the rise of VD. They were cast as the primary risk group and the main source of infection, which marked a departure from earlier views. The complex relationship between VD, society and the Army affected the way that contemporaries viewed sexuality and disease.

VD During the Civil War

By the middle of the nineteenth century, VD was understood to be both a social and medical problem. From a socio-cultural perspective, reformers and moralists argued that the disease was the product of "bad living" and lack of adherence to acceptable moral standards and it was therefore stigmatized. From a medical point of view, in the pre-bacteriological era the disease was understood to be contagious and associated with a variety of social "evils" including prostitution, poverty and overcrowding. While the actual mechanism of transmission was not understood, neither was the chronic nature of syphilis known, that is, that patients could exhibit symptoms and then enter a period of

[62] See Brandt, *No Magic Bullets,* Cassel, *The Secret* Plague, Levine, *Prostitution, Race & Politics.*

[63] See Adams, *The Great Adventure;* Bourke, *Dismembering the Male*; Gabriel, *Between Flesh and Steel;* Levine, *Prostitution, Race & Politics*; Moss, *Manliness and Militarism;* Mosse*, Nationalism and Sexuality* and O'Brien*,* "Manhood and the Militia Myth."

latency with the disease progressing through a series of stages over time.[64] Instead there was a general association between VD, long-term health problems and mortality as one could suffer from debilitating neurological complications.[65] But this tended to support the social stigma associated with the disease and arguments against "immoral living" in general. Treatments for the disease were diverse and included a combination of chemotherapy (including mercury) and symptomatic treatments as well as general moral regimens. The fact that symptoms tended to disappear over time reinforced the view that treatments were effective.[66] 'Cures' tended to be achieved through a combination of medical treatment and moral transformation.

When the United States erupted into civil war in 1861, millions of young men were mobilized. The Civil War was the first large scale conflict prior to the First World War that generated a coordinated – and well-documented – response from military commanders to the problems disease posed to marching armies. Military service thrust soldiers into a different world that introduced them to new freedoms, alcohol and opportunities for sexual activity, both consensual and not, in an anonymous environment free from normal social constraint. Over the course of the war, almost 9 per cent of Union soldiers would develop some form of venereal disease.[67] Rates in the Union forces in the

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[64] Molly Kathleen Zuckerman, "Sex, Society, and Syphilis: A Social, Ecological, and Evolutionary History of Syphilis in Late Medieval and Early Modern England (c. 1494-1865)," Unpublished PhD Dissertation, Emory University (2010): 167-168.

[65] Porter, *The Greatest Benefit of Mankind*, 510.

[66] Zuckerman, "Sex, Society, and Syphilis," 167-168. See also: Lowry, *The Story the Soldiers Wouldn't Tell*, 104-107.

[67] Lawrence R. Murphy, "The Enemy Among US: Venereal Disease Among Union Soldiers In the Far West, 1861-1865," *Civil War History*, Vol. XXXI, No. 3 (1985): 260-

West were almost five times as high at their Northern Front counterparts. This discrepancy is attributed to three factors: armies were situated in areas in the West known for prostitution; measures implemented were generally less effective because they lacked strong leadership; and the disease was concentrated and able to spread rapidly.[68] These findings highlight some of the problems Union officials encountered in developing effective methods to mitigate the impact of VD on operations.

VD in Union armies in the East, while troubling for army commanders, did not reach epidemic levels. Nonetheless, military officials were aware VD was on the rise and that policies were needed to curb its spread. The lack of a comprehensive or cohesive plan to enforce abstinence led to varying approaches that produced variable results.[69] They believed the easiest and most effective way to prevent infection was to limit the contact between soldiers and prostitutes. Prostitution naturally increased in any place that had a large concentration of soldiers, which generally led to higher rates of VD. As important logistical centres for the Union Army with large citizen populations, both Nashville and Memphis encountered high rates of prostitution and disease. To combat the problem they tried to eliminate prostitution before finally experimenting with legalized prostitution and establishing special VD hospitals.[70]

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264. Rates among Confederate soldiers were not at high. This could be attributed to the fact that they were stationed outside urban centres. But it is difficult develop an accurate account as most Confederate medical records were destroyed. See: Lowry, *The Story the Soldiers Wouldn't Tell*.

[68] Murphy, "The Enemy Among US," 260-264.

[69] Murphy, "The Enemy Among US," 261.

[70] Catherine Clinton, "'Public Women' and Sexual Politics During the Civil War," in Catherine Clinton and Nina Silber, eds., *Battle scars: Gender and Sexuality in the*

In Nashville, women would have to apply for a license, report for regular medical inspections and had to pay taxes to fund a special hospital for prostitutes who contracted VD. Any woman who violated any of these regulations was arrested and incarcerated in a workhouse for up to thirty days. Legalization drew more prostitutes to Nashville since they could be afforded some degree of protection from VD. But even with the increase in the number of prostitutes, local authorities reported that while VD had not been eliminated, it had been effectively controlled. The success in Nashville led neighbouring Memphis to implemented similar measures with similar success. [71]

After Memphis was captured from the Confederates, it became a logistical hub for the Union Army. To deal with the increased problem of prostitution and disease, officials looked to Nashville's positive experiences with legalized prostitution. Officials in Memphis believed as "Offensive as 'consorting' might be morally, the army was even more concerned with the practical problems of having hundreds of soldiers off duty, sick with gonorrhea or syphilis."[72] While there were a number of officials who abhorred the

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American Civil War, (New York: Oxford University Press, 2006) and James Boyd Jones Jr., "A Tale of Two Cities: The Hidden Battle Against Venereal Disease in Civil War Nashville and Memphis," *Civil War History,* Vol. XXXI, No. 3 (1985): 270-276. This also created problems as it increased the number of non-consensual relationships: E. Susan Barber and Charles F. Ritter, "Dangerous Liaisons: Working Women and Sexual Justice in the American Civil War", *European Journal of American studies*[Online], 10-1 (2015).

[71] Lowry, *The Story the Soldiers Wouldn't* Tell, 82. See also: Boyd Jones Jr., "A Tale of Two Cities" and Travis L Bullock and Steven B Brandes,
"The Venereal Disease Epidemic of the Union Army: The Syphilitic Hospitals and Prostitution Legalization in Civil War Nashville and Memphis*," The Journal of Urology* 173, 4 (04/2005): 244

[72] Lowry, *The Story the Soldiers Wouldn't* Tell, 84. Also see Bullock and Brandes, "The Venereal Disease Epidemic," 244.

idea of legalized prostitution they could not deny that it ultimately worked.[73] Although the experiment had proven to be effective, the program was disbanded once the city was returned to civilian control. This was the first and only time the US Army would experiment with legalized prostitution even though "under the systems at Nashville and Memphis, public order was improved, disease was reduced, and both prostitutes and their clients appear to have benefitted, at little cost."[74] Despite the success of this arrangement, the perceived moral cost was too high. The US military would never again experiment with legalized prostitution even when faced with high rates of VD during the First World War.

The experiences of the Americans during the Civil War prompted the Army to order an investigation into the overall health of soldiers after war's end. Their findings were consistent with Smallman-Raynor and Cliff's. After the war, the Surgeon General wanted to improve the overall health of the army by compiling a comprehensive list of disease statistics including VD. The statistics revealed that rates of infection were affected by soldiers' age and ethnicity, as well as both their type and length of service. By 1890, the overall rate of VD in the army was 79.63 per thousand. But among new recruits with less than one year service the rates climbed to 191.93.[75] American born soldiers contracted VD at a higher rate, a rate that peaked if they were between the ages of twenty

[73] Lowry, *The Story the Soldiers Wouldn't Tell*, 86. Also see Bullock and Brandes, "The Venereal Disease Epidemic*,"* 244.

[74] Lowry, *The Story the Soldiers Wouldn't Tell*, 87.

[75] Murphy, "The Enemy Among US," 261.

to twenty-four and were in a non-combat role.[76] These comprehensive statistics are important as they show the circumstances that led to high rates of VD such as age and location. However, identifying the contributing social or geographical factors was only one part of the problem.

Contemporary medical procedures and knowledge did little to contain the spread of VD among soldiers. While Civil War doctors understood that sex was the primary mode of transmission for syphilis and gonorrhea, they lacked the scientific understanding to effectively control these diseases. Civil war doctors knew VD debilitated men but they also believed they could be cured.[77] Unaware that venereal infection spread through the blood, doctors relied on mercury, silver nitrate or potassium iodine to treat or cauterize any visible sores. Some doctors used irrigation techniques to flush out a patient's urethra or even their digestive tracks, as they believed it would rid a person of the disease. Injections of chlorate of potash, chloride of zinc or saline cathartic could sometimes offer temporary relief from the inflammation and urethral discharge caused by gonorrhea. Plant-based remedies such as balsam from the copaiba tree, magnesia or powered cubebs could be used topically or ingested to treat symptoms but did little to the bacteria that was causing them.[78] We know today that many of the treatments used by doctors during this time were ineffective; and there was little consistency among the types of treatments that were used in military medicine. While mercury remained the most widely used treatment

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[76] Ibid, 261.

[77] Clinton, "Public Women,"62.

[78] Lowry, *The Story the Soldiers Wouldn't Tell*, 104-105. Also see Clinton, "'Public Women,'" 62.

for syphilis, at least one doctor believed the smallpox vaccination to be effective. Surgeon E.A. Tomkins described one stubborn case of syphilis that was treated with every known cure available such as "Potassium iodine, sarsaparilla, corrosive sublimate, lunar caustic, calomel, black draught, emetics, blistering, iron, quinine, and external chloroform but over the course of four months it did little to help the soldier who was barely able to walk after undergoing treatment."[79] Historian Thomas Lowry argues, "It is a medical truism that when there are many remedies for the same disease, it is likely none of the remedies are much good. Such seems to have been the case in the then-prevailing treatment of venereal disease."[80]

The treatments used by Confederate doctors were equally ineffective. Natural remedies such as pokeroots, elder, sarsaparilla, Jessamine, prickly ash, silkweed root, whiskey, resin and blue vitriol could provide some temporary relief from certain symptoms but they did little to combat the source of the sores and symptoms re-appeared.[81] If left untreated, VD acquired during the war could have long-term health consequences once soldiers returned home. At the end of hostilities in 1865, most of the men who had been treated for VD were likely still contagious and took these diseases home with them. Researchers have estimated that as many as one-third of former Civil War soldiers who died in veterans homes passed away from complications related to late stages of VD, so it is likely the wives and children of these soldiers were also directly

[79] Lowry, *The Story the Soldiers Wouldn't Tell*, 105-106.

[80] Ibid, 105-106.

[81] Murphy, "The Enemy Among US," 265.

affected by these diseases.[82] While officials were seemingly aware of the potential problems, it appears there was little done to mitigate the spread of VD amongst returned soldiers.

The Civil War was one of the first large scale conflicts that required a coordinated response to the spread of VD. Lowry argues that VD did not impact the fighting strength of the Union Army though it certainly caused discomfort among soldiers.[83] While VD was a concern for military officials during the Civil War, it still did not generate the same level of alarm that it would during the First World War. These same concerns would generate a flurry of policies and discussions surrounding the health and eventual return of soldiers with VD.

VD and the British Army before the Great War

The Americans were not the only army dealing with VD in the late nineteenth century. These diseases plagued the British Army regardless of attempts to control soldiers' sexuality through awareness and temperance campaigns. Florence Nightingale was reportedly appalled by the rate of VD in the Crimea as it was the fourth major cause – after malnutrition, tuberculosis and dysentery – of illness and hospitalization.[84] The initial responses to high incidence rates, military historian Harold Raugh argues, reflected the commonly-held view of VD as a social problem, albeit one that was largely ignored

[82] Lowry, *The Story the Soldiers Wouldn't Tell,* 108.

[83] Lowry, *The Story the Soldiers Wouldn't Tell,* 108.

[84] Harold E. Raugh, *The Victorians at War, 1815-1914: An Encyclopedia of British Military History*, (Oxford: ABC Clio, 2004), 235-236.

by most of society. However, the ever-increasing frequency of VD in the military eventually forced officials to make some effort to control VD. Raugh states that in 1859 "there were 422 admissions for every 1,000 soldiers and the following year there were 369 cases per 1,000 men. There was a very bad outbreak of venereal disease in 1862 in Great Britain among troops recently returned from India, where the disease was rife."[85] The outbreak put pressure on the government to implement reforms that would address the issue. In response, the government passed the Contagious Diseases Act in 1864 to limit the outbreak of VD amongst servicemen. Although soldiers were to remain celibate – in fact they required permission to marry, which was rarely granted – the rate of VD was alarming. Historian David Pivar argues, "Since one in every three Army sick cases involved venereal disease, the 1864 and 1866 acts passed with virtually no opposition. The Acts established districts, dock and garrison towns, in which military and local authorities cooperated to regulate prostitution for military forces."[86]

The Contagious Diseases Act unfairly targeted women who were characterized as the purveyors of disease, which meant they were subjected to legal and medical surveillance. Women who were arrested under the Act could be held in Lock Hospitals for up to a year, while being forced to undergo invasive and painful treatments.[87] The passing of the Act generated enough public backlash that several changes were made in

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[85] Raugh, *The Victorians at War,* 236.

[86] David J. Pivar, "The Military, Prostitution, and Colonial Peoples: India and the Philippines, 1885-1917," *The Journal of Sex Research*, 17, 3 (August 1981): 256-257.

[87] Lesley A. Hall, "Venereal Diseases and Society in Britain, From the Contagious Diseases Acts to the National Health Service," in Roger Davidson and Lesley A. Hall, eds., *Sex, Sin and Suffering: Venereal Disease and European Society Since 1870,* (New York: Routledge, 2001), 120-121.

1866 and 1869 before it was formally repealed in 1888. Middle-class feminists were the most vocal opponents of the Act. They strongly opposed the double standard that placed the sole burden of the transmission of infections on women. Some members of the medical profession disagreed with the bill on the basis that it "represented an already dated concept of public health as cleaning up nuisances, rather than the more nuanced model of prevention which was emerging, and demonstrated a lag between popular ideas and medical developments."[88]

Contemporary critics also argued that there was little evidence to suggest that the Act had positive results. Statistics compiled for VD rates by Colonel H.A.L. Howell in 1901 show that between 1860 and 1898 there was a brief spike when the Act was suspended – up to 75 per 1,000 in 1885 – but rates actually fell after the Act was abolished down to 20 per 1,000 in 1888.[89] Based on these statistics, Howell argued, "It is obvious that the results of enforcement of the CD acts were not very marked and it is not very evident that they had much effect at all in diminishing the prevalence of venereal disease in the army."[90] He suggested that the Act was largely ineffective because it did not apply to all military districts, so troop movements could still spread VD when soldiers went on furlough to unprotected areas. Initially established to deal with the problem of VD in Britain's armed forces, the passing of the Acts opened up wider discussions on public health and gender as well as discussions over the state's role in regulating sexuality and morality. Although the Act was bitterly contested and ultimately

[88] Hall, "Venereal Diseases and Society," 121.

[89] Howell**,** *An Essay on Venereal Diseases*, 28.

[90] Ibid, 28.

repealed in 1886, it served as the framework for the creation the medical portions of the Defence of the Realm Act (DORA), which was passed in an effort to curb prostitution and VD during the First World War.

While the British government sought to control VD through legislation and social reformers argued about its efficacy, army doctors continued to quietly explore the multiple facets of the problem within the army. During wartime, VD clearly had an immediate and negative impact as it "jeopardized defense strategies, undermined army discipline, and reduced troop strength."[91] But VD was still problematic during times of relative peace because of its potentially long-term impact on public health and its connection to nationalistic concerns. With the rise of militarism in the late eighteenth century, maintaining a healthy army was deemed essential. Howell wrote, "We therefore feel justified in saying that one of the most practical ways to increase the fighting strength of our forces would be to take steps to protect our soldiers from the ranges of venereal disease and the necessity for enquiry into and consideration of the subject."[92]

In his essay, Howell explored the factors that he believed led to an increase in VD around 1860, which was followed by an overall decline in the home army by the close of the century. Howell believed one of the main factors that influenced the initial rise in VD was the introduction of the Short Service System in 1870. New volunteers now only had to serve in the colours for a period of seven years with an additional five years in reserve. This change, Howell asserted, increased the number of young recruits who joined the Army, which had the double effect of increasing VD rates. According to Howell's

[91] Levine, *Prostitution, Race & Politics,* 44.

[92] Howell**,** *An Essay on Venereal Diseases,* 3.

statistics, men between the ages of twenty and thirty were far more likely to get syphilis or gonorrhea than the next age group (49.14 per 1,000 compared to 27.17 per 1,000). To combat the increase in VD, the military initially tried to introduce measures that heavily penalized soldiers who became ill. Beginning in 1873, soldiers who caught VD were subjected to docked pay or fines. This punitive approach was short-lived because, as Raugh explains, "In 1873, the army decided to dock the wages of soldiers found to have venereal diseases, and this resulted in a large decrease in reported cases in 1873-1874. In 1875, however, it was discovered that soldiers were failing to report their disease and trying to treat it themselves."[93] By 1879, the army cancelled the order as they found these punitive measures did little to deter soldiers from risking disease by consorting with prostitutes.

As VD rates in the home army decreased, rates in the British Army in India remained high. Similar to his findings for the Home Army, Howell attributed the increase to a major shift in demographics among troops stationed in India. He argued the Indian Rebellion in 1857 changed the composition of the Army in several ways as the Rebellions prompted the British to bring in more troops, which generated an influx of younger, unmarried soldiers. The need for more troops also led the British to reduce the length of service required for troops stationed in India, which again created an increase in younger servicemen who were more likely to consort with prostitutes. Instances of VD among British forces stationed in India remained high even with the presence of medically-regulated brothels. But when moralists at home forced the temporary closure of military brothels, VD rates spiked. While the rest of the British Army reported rates of

[93] Raugh, *The Victorians at War,* 236.

203.1 per 1,000, in just one year British military officials in India saw hospital admissions climb to 438.1 per 1,000 up from 361 per 1,000 in the previous year with these numbers peaking at 536 per 1,000 in 1895. When military-run brothels were reopened in 1899 with stricter control, rates would eventually fall to 67 per 1,000 by 1909. British experience in India shows the effects of a more permissive approach towards sex and prostitution.[94] But as the image of the soldier became increasingly important to nationalistic images, these permissive attitudes were placed by a more punitive and moralistic approach that characterized the British response in the early stages of the First World War.[95]

Growing nationalistic and militaristic sentiments in Europe increasingly linked the image of the soldier to national identity. In her analysis of prostitution in the British Empire, historian Philippa Levine argues, "The image of the wholesome and brave defender as a recruiting tool was valuable in encouraging nationalism and as a recruiting tool...It was only privately that officials acknowledged a less sunny reality."[96] VD challenged the idealized image of the soldier and generated fears that it would create public health concerns once these soldiers returned home. This was especially problematic for officials from Canada and Australia who wanted to use their wartime experiences to foster a growing sense of nationalism and independence from Britain.[97] Levine argues, "Since soldiers were an imperial necessity, and since the assumption was

[94] Raugh, *The Victorians at War,* 235-236.

[95] Ibid, 235-236.

[96] Levine, *Prostitution, Race & Politics,* 268.

[97] Keshen, *Propaganda and Censorship*, xi-xvii.

they would return to heterosexual family life in Britain, propagating the race, their freedom from constitutional disease became a deeply gendered metaphor for the health and race of the nation."[98] The soldier would continue to play an important role in ideas surrounding family and nation building during the First World War especially given the existing pre-war anxieties over public health.[99] These concerns prompted military officials to implement policies to curb the high incidents of VD amongst its soldiers while also promoting proper behavior and attitudes towards sexual matters.

Concerns about the negative effects that sex and VD had on morality and public health remained a major issue in the years leading up to the war in both Europe and North America. A 1902 conference of the International Congress for Prophylaxis of Syphilis and Venereal Disease in Brussels determined these diseases were a medical problem, and that they should be subjected to the same regulations as other contagious diseases. In the interest of public health they argued treatment should be free, confidential, performed by licensed practitioners and anyone knowingly spreading VD be subjected to strict penalties. This attitude stemmed from the belief that VD should be treated as a medical disease rather than a moral one. Many in the medical community promoted this approach as "doctors were not willing to rely simply in individual responsibility to control the spread of disease – they were too well aware that individuals of every social station were inclined to be 'wayward,' and if nothing were done VD would plague the whole of society."[100]

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[98] Levine, *Prostitution, Race & Politics,* 44.

[99] Cassel, *The Secret Plague*, 116-121 and Brandt, *No Magic Bullet*, 96-121.

[100] Cassel, *The Secret* Plague, 110 -112.

Doctors in North America were in agreement with their European counterparts. They too believed VD required medical action but were reluctant to enact any meaningful measures. Prevention through self-discipline and abstinence was cheaper and adhered to preferred notions of respectability especially given the limitations of medical technologies at the time. The major discoveries of the period, such as salvarsan and the Wassermann, were still a few years away. Condoms and douching were available but many doctors were reluctant to discuss the use of any prophylaxis or contraceptive devices because of their association with immoral sexual practices. So morality remained the key component of VD campaign in Canada and the US.[101]

VD and Pre-war Public Health

Fears over moral degeneration created an increase in public concerns regarding prostitution in pre-war Canada. Reformers in Canada turned their attentions to the 'white slave traffic' in the hope of saving the young, white women they believed were being forced into prostitution by the "evil elements of society."[102] Prostitution's greatest threat was not the role it played in the spread of VD but rather the negative effect it had on the idealized concept of domesticity and the family.[103] The same was true in Canada where reformers increasingly wanted to implement measures to deal with the "urban associated

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[101] McLaren and Tigar McLaren, *The Bedroom and the State*, 21-22 and 110-112.

[102] Ibid, 113.

[103] Brandt, *No Magic Bullet*, 8.

ills such as disease and morality."[104] Captain Gordon Bates, a doctor who championed sexual health before the war and would eventually head up the VD section at the Base Hospital in No. 2 District in Toronto during the war, fought to make the issue of prostitution a public one. "The Tragedy of the women of the street," he argued, "is fraught not only with pathos but with danger, potential or actually, to every home in the country."[105] The perceived double threat posed by prostitutes made them vulnerable to legislation and military policies designed to curb VD among soldiers during war. But even with a renewed focus on prostitution, venereal disease remained another matter.

The federal government had largely been unwilling to undertake any meaningful legislation towards VD, as this was believed to fall under provincial jurisdiction. But a wave of immigration in the early twentieth century in the West sparked new concerns. The first campaigns against VD centered on concerns about 'racial purity' and 'race suicide.'[106] Contemporaries were concerned about sexually transmitted infections, as they knew it threatened fertility and offspring. Even more concerning was that VD affected everyone including the "better sort," which generated fears that the "the race' would lose many of its 'best specimens.'"[107] In an effort to curb infections, public sex education became a cornerstone of the reformers' agenda. While they had open discussions about

[104] Suzann Buckley and Janice Dickin McGinnis, "Venereal Disease and Public Health Reform in Canada," *The Canadian Historical Review* 63, 3 (September 1982): 337.

[105] Gordon Bates, D.T. Fraser and Maurice McPherdan, "Social Aspects of the Venereal Disease Problem," *The Public Health Journal*, Vol. 8 No. 11 (November 1917): 291.

[106] Heather MacDougall, "Sexually Transmitted Diseases in Canada, 1800-1992," *Genitourin Medicine*, 70 (1994): 57.

[107] Cassel, *The Secret Plague*, 106.

sex and sexual conduct they promoted a moral agenda that emphasized self-restraint and control as sex was only for reproduction. Ultimately, this approach stigmatized VD, which made it more difficult for people to get information about it.[108] The conversation changed when the war gave reformers the chance to "remove the shroud" of sexually transmitted infections.[109] Rising rate of VD among servicemen in the First World War renewed discussions about the disease and forced officials to take action. The centralization of power that occurred during the war also provided the federal government with an increased opportunity to tackle the problem.[110]

In Britain, these same concerns, along with increased pressure from medical practitioners and the social hygiene movement, led to the creation of a Royal Commission on Venereal Disease in 1913.[111] Released on 2 March 1916, the Commission concluded, "that better results are likely to be obtained through the diffusion of knowledge and the provision for effective treatment for both sexes under conditions to which no stigma is attached."[112] However, just two years later when under pressure from the Dominions to do something about the high rates of VD among their soldiers, the

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[108] Ibid*,* 115-116.

[109] Buckley and McGinnis, "Venereal Disease and Public Health," 338. See also Cassel, *The Secret Plague,* 121.

[110] MacDougall, "Sexually Transmitted Diseases," 57-58 and Cassel, *Secret Plague*, 145-146.

[111] David Evans, "Tackling the 'Hideous Scourge': The Creation of the Venereal Disease Treatment Centres in Early Twentieth-Century Britain," *Social History of Medicine* 5,3 (December 1992): 414.

[112] "Royal Commission on Venereal Disease," *Canadian Medical Association Journal* 6, 4 (April 1916): 350.

British enacted DORA Regulation 40D.[113] The decree created a double standard for sexual infections and practices as it unfairly targeted women as the main source of disease. Regulation 40D gave the justice system the power to control women's bodies and sexual behaviours. This legislation reflected a view that the civilian population, especially women, was responsible for infections rather than the soldiers. The Commission had reported that VD had risen in the civilian population, which carried a high economic cost. Fixing the problem required the creation of public treatment centres, education and increased attention from the medical and scientific communities to find effective methods of diagnosis.[114] While rates had increased among civilians, the report found that rates in the Army had fallen from 224.5 per 1000 in 1888 to 56.5 in 1912 largely due to screening and the availability of medical care. According to the report, this downward trend was consistent across all European armies but the scale of the First World War would create new challenges for these armies.[115]

Pre-War Medical Knowledge

Many of these discussions about VD had been re-invigorated by the development of several new medical technologies in the first decade of the twentieth century.[116] New mercury ointments, the discovery of *Treponema pallidum*, the development of the

[113] Laura Lammasniemi, "Regulation 40D: punishing promiscuity on the home front during the First World War," *Women's History Review* 26, 4 (2017): 584-585.

[114] "Royal Commission," 353 and Evans, "Tackling the 'Hideous Scourge'," 418-420.

[115] "Royal Commission," 351.

[116] Cassel, *The Secret* Plague, 112 and Evans, "Tackling the 'Hideous Scourge'," 451.

Wassermann test and breakthroughs with salvarsan generated enthusiasm among those in the medical community who now believed VD could be effectively controlled through science and medicine.[117] Even if doctors in Canada remained cautiously optimistic over the discoveries, these new techniques offered another potential solution to the military's VD problem. Instead of approaching the matter with only moralistic and punitive measures, the military was increasingly willing to pursue scientific and medical options. This shift was important as it was understood that punitive approaches by themselves would not solve the problem. An Army report in 1906 concluded "the isolation of a particular section of infected persons, namely, of diseased prostitutes, cannot be considered to be an ideal method of arresting the disease while large numbers of infected persons of both sexes remain free to spread the contagion."[118] Decreasing the rate of VD among soldiers would require increased medical intervention.

Incorporating civilian medicine into the military was no easy task. The recent advances in modern medicine were not necessarily compatible with the needs and capabilities of an army. The report outlined the types of treatments that were available and the ones that were best suited to military medicine where time and cost were significant factors. VD in the military constituted an economic problem since soldiers who contracted VD required medical intervention that often meant lengthy and costly hospital stays. It also meant that these men were unable to fight. With the discovery of salvarsan still several years away, mercury was still the "only known drug which has a

[117] Cassel, *The Secret* Plague, 113.

[118] Advisory Board for Army Medical Services, *The Treatment of Venereal Disease and Scabies on the Army: Final Report*, (London: HMSO, 1906), 1.

distinct effecting curing the disease."[119] There were two schools of thought surrounding the use of mercury, intermittent or continuous. With the intermittent approach, which was heavily favoured by the French and Germans, doctors gave patients doses of mercury at regular intervals and only when symptoms appeared. The continuous method, preferred by American and British physicians, involved giving the patient doses of mercury for a definite period with short interruptions. Doctors could either give a patient as much mercury as they could handle for a period of time or they could reduce the dosage as symptoms improved. The most common method of administering mercury in both civilian and military medicine was orally over the course of eighteen to twenty-four months. Mercury could also be given by injection or inunction in which a mercury-based ointment was rubbed into the skin. The report stated that inunction or injection was the best way to administer mercury to soldiers mainly because this method required supervision, which ensured men would finish their treatment. Regular ulcers were to be treated with silver nitrate or salt, while fungating ulcers were cauterized after being treated with cocaine. Non-mercurial options were also available and included iodine, Zittman's treatment or surgical intervention, although mercury remained the most widely used option because it was believed to be the most effective.[120]

Irrigation or injections into the urethra were seen as the most effective way to treat gonorrhea. Both methods reduced inflammation and cleared away the pus and discharge that accompanied the infection. The report outlined the available treatment options with the caveat that "the procedure about to be detailed fulfills the requirement

[119] Ibid, 20.

[120] Army Medical Services, *The Treatment of Venereal Disease*, 3 and 13-14.

our present knowledge of the treatment of gonorrhea. The appliances and staff provided in the venereal division of our military hospitals at present are not sufficient to carry treatment on the lines indicated, but arrangements should be made to permit of this being."[121] Neisser's method involved injecting silver nitrate into the urethra. Patients would have to hold the solution in their urethra by plugging the meatus for two minutes on the first day and increasing it by increments of one minute each day until they reached fifteen minutes. If the subsequent urine examination was free of any signs of gonococci 'threads,' the patient could be considered cured.[122]

The alternative treatment was to irrigate the urinary tract with potassium permanganate. This method was designed to fill the ureteral quickly but instead of holding it in, the solution was quickly dispelled. However, these techniques were not ideal for military use as "experience is necessary to use this method correctly, for if insufficiently filled the urethra is not distended and the result is disappointing, while if used too frequently or over-distended the solution may be forced into the bladder."[123] Special equipment and training were needed to ensure treatments were being administered correctly.

The creation of special hospitals, like those built during the Civil War, could ensure VD patients received proper medical attention. Instead of establishing special VD hospitals, the committee believed, "Much importance attaches to the strongly-expressed opinion that special hospitals for venereal disease are not desirable. It is stated that a

[121] Army Medical Services, *The Treatment of Venereal Disease*, 14.

[122] Ibid.

[123] Ibid, 16.

certain amount of disgrace would attach to those sent to these hospitals, and that soldiers would frequently conceal their disease rather than seek treatment in order to avoid being immured in a venereal hospital."[124] Rather than build a separate hospital, the committee proposed altering existing structures to accommodate a venereal ward when it was structurally, economically and geographically feasible. This tactic might have worked during times of relative peace but would not be effective during a large-scale conflict. The medical advances in the treatment of syphilis just before the start of the war would also require the creation of a more organized and thorough management system for VDS.

In an infected person, syphilis would appear in stages with new symptoms appearing and disappearing at each stage. Without the visible, physical symptoms, syphilis was difficult to detect until the identification of the bacterial spirochete that caused syphilis, *Treponema pallidum* was discovered by Fritz Schaudinn and Erich Hoffmann in 1905.[125] This breakthrough led to the development of early diagnosing and screening tests. In 1906, three German bacteriologists August Paul Wassermann, Julius Citron, and Albert Neisser, developed a serological exam that could detect the specific antigens associated with syphilis in the blood even if the patient was asymptomatic.[126] While this test could sometimes accurately identify the presence of the bacterial spirochetes, its results were not always conclusive. Sometimes the exam failed to detect the syphilitic spirochetes. In other cases the presence of other illnesses and diseases could

[124] Army Medical Services, *The Treatment of Venereal Disease*, 20.

[125] Porter, *The Greatest Benefit to Mankind*, 452.

[126] Ibid, 452.

generate a false positive.[127] Despite its limitations the Wassermann test would remain a vital part of diagnosing syphilis in soldiers for the duration of the First World War.

The treatment of syphilis was revolutionized by the development of a potentially new treatment. In 1910, German Paul Erlich developed arsphenamine – an arsenic based compound more commonly called salvarsan or 606.[128] Upon its initial discovery, salvarsan was hailed the 'magic bullet' that would replace mercury in the treatment of syphilis. Compared to mercury-based cures, salvarsan was a fast and effective treatment as patients were seemingly cured of symptoms and deemed non-infectious after just one dose. Salvarsan was considered a better treatment because early tests showed the compound would only attach itself to the bacterial spirochete, *Treponema pallidum,* which caused syphilis. If caught early, doctors believed salvarsan could alleviate symptoms in the primary and secondary stages and keep the disease from entering the tertiary stage.[129] The initial enthusiasm over the new miracle drug was fleeting as it soon became clear that patients could not be cured with one dose. Although it did target the specific bacterial spirochetes, the effect salvarsan had on them was short-lived, so patients required multiple injections. This change increased the possibility patients would suffer from the potentially debilitating side effects of arsenic poisoning from salvarsan, which included nausea and vomiting to problems with their blood and skin, and liver

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[127] Hanley, *Medicine, Knowledge and Venereal Disease*, 129 -132.

[128] Jay Cassel, "Making Canada Safe for Sex: Government and the Problem of Sexually Transmitted Disease in the Twentieth Century," in C. David Naylor, ed, *Canadian Healthcare and the State: A Century of Evolution,* (Montreal: McGill-Queen's University Press, 1992), 155.

[129] Hanley, *Medicine, Knowledge and Venereal Disease*, 117 – 125 and Porter, *The Greatest Benefit to Mankind,* 451-452 & 510.

disorders. Some patients would succumb to arsenic poisoning if doctors failed to see the early warning signs that a patient was having an adverse reaction to the treatment.[130] Despite these problems, salvarsan became the preferred anti-syphilitic cure over mercury because physicians believed salvarsan was more effective and shortened the treatment schedule. These two factors would make it ideal for military use. But the potential issues from exposure to arsenic coupled with the lack of a well-developed VD management system would create problems when salvarsan became the favoured treatment during the First World War. Treatments were complicated by the fact the Allies had to develop arsenic substitutes once they could no longer access German produced salvarsan.[131]

Conclusion

Ever since Charles and his men were driven out of Naples, VD has remained a problem within the military. Over the course of the First World War, the British and their allies would encounter many of the same problems that British and American armies faced in the late nineteenth century. Wartime conditions led to an influx of young men who frequently came in contact with local populations, which often resulted in high rates of infection. These increases created two distinct problems. In the short term, VD caused logistical issues from manpower and economic costs to the delivery of an effective medical response. Armies also had to contend with the long-term problems. Sexual diseases caused by illicit sexual encounters challenged the idealized image of the soldier

[130] Hanley, *Medicine, Knowledge and Venereal Disease*, 119 – 121.

[131] "The Manufacture of Salvarsan in Canada," *Canadian Medical Association* 5, 2 (Feb 1915): 124.

and created public health concerns once these soldiers returned home to their families. The problems created by VD were often met with reactive and provisional policies shaped by local factors. To curb the spread of VD, military officials experimented with ways to limit or discourage sexual relationships between soldiers and civilians. This approach generally included strict measures that unfairly targeted women but did little to stop the spread of VD. When disciplinary measures such as harsh punishments or docked pay were not effective, officials experimented with more permissive attitudes towards sex, prostitution and the use of prophylaxis and medical intervention. Even though the British had embraced some of the new techniques and treatments they were not prepared to use them in a large-scale conflict. The British Army went to war without a coordinated military medical system to effectively manage VD.

Chapter 2

A Trip to Blighty with Venus: Treating VD at the Front

In his history of the Canadian medical services, Sir Andrew Macphail wrote, "in the Canadian Corps in France the troops came into little contact with the civilian population, and any man infected was obliged to disclose the source… as a result the Canadian Corps was practically free from venereal disease contracted in the field."[1] The low rates of infection in France were attributed to the fact that the French permitted brothels that were medically inspected on a regular basis.[2] It is true that the majority of the cases reported in France occurred while men were on leave in the UK or brought up from base as reinforcements, however, there were still a number of cases that developed locally or while men were on leave in Paris even with the presence of medically regulated brothels.[3] Prevention at the front developed along the same lines that it did in the United Kingdom On one side there was the moral issue, which involved the use of punitive measures to discourage sexual activity. On the other side, there was the medical issue that led officials to adopt more liberal measures to reduce rates of infection from sexual activity. But even with these measures in place, there were still a number of cases

[1] Sir Andrew Macphail, *Official History of the Canadian Forces in the Great War: The Medical Services,* (Minister of National Defence: Ottawa, 1925), 288. The Australians also reported lower rates of disease in France. See: Arthur Graham Butler, *Official History of the Australian Medical Services 1914-1918*, *Volume III: Special Problems and Services, 1st Edition*. (Canberra: Australian War Memorial, 1943), 156.

[2] See: AWM, AWM27 376/174, Ettie Rout, Report: Prevention of Venereal Inspection in England, 13 April 1919; Butler, *Official History: Volume III,* 166-167; Cassel, *The Secret Plague,* 123 and Harrison, *The Medical War,* 161-162.

[3] TNA, WO32 5597, Field-Marshall Haig, Memorandum to War Office, 4 June 1918.

requiring treatment in France. This chapter explores the multiple factors that influenced the creation of a VD management system in the CEF on the Western Front.

There was also a different military dimension to the problem at the front: the army was anxious to keep men at the front and to prevent VD from providing an escape from combat. Early on in the war, men who contracted VD while at the front were evacuated to England.[4] Macphail argued that this practice was stopped after men "deliberately infected themselves with the milder forms from a favoured comrade."[5] In many ways, the VD management system at the front mirrored the system that was established in England although conditions at the front created unique problems. The British created a system in which cases were sent back to a base hospital for treatment. These hospitals functioned differently than the special VD hospitals that had been established in England. Across the Channel the length of hospitalization was not as great a concern because a soldier's absence from his unit did not require an immediate replacement, as he was not on active service. Whereas in France removing a man from his unit kept him out of the trenches for weeks if not months. To address this issue the Canadians wanted to treat cases at field ambulances (FA) or casualty clearing stations (CCS) to reduce wastage by keeping men near the front. The VD situation on the front became even more complicated when the Allies pushed into Belgium and Germany in 1918.

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[4] Macphail, *Official History*, 288. Australian soldiers were also held in France for treatment until December 1918. Arthur Graham Butler, *Official History of the Australian Medical Services 1914-1918*, *Volume II: The Western Front, 1st Edition*. (Canberra: Australian War Memorial, 1940), 13.

[5] Macphail, *Official History*, 289.

The new mobility of the battlefield coupled with increased opportunities for infection created new challenges for the VD management system at the front. The problems that sexual disease created for commanders and medical services have been overlooked in studies of VD, as the general consensus is that it did not pose as big of a concern as in England. Cassel argues that the problem was not as acute as in England while Macphail argued that the Canadian Corps was virtually free from disease at the front.[6] An examination of the Canadian records shows that incidences of VD at the front required the development of separate medical services and remained a concern throughout the war.

The creation of this system was complicated by the fact that the CAMC operated under the rules and regulations created by the RAMC. Stationary hospitals, general hospitals and CCSs, until 1916, operated under the British chain of command. Field ambulances were one of the few spaces over which the CAMC had complete authority in the system. In the treatment of VD, the CAMC used these spaces to hold cases nearer the front as physicians argued this system allowed men to return to their units faster. Under this system, many specialists believed men could be treated more thoroughly, which would limit the potential public health consequences once these men returned home. The British were concerned that this arrangement could create problems: from the lack of consistency in care to the fear the Germans could overrun these frontline medical centres. The tensions between the CAMC and RAMC likely stemmed from the different composition of the two organizations. The RAMC was staffed by military trained personnel whose experiences and positions within the military gave them a different set

[6] Cassel, *The Secret* Plague, 131 and Macphail, *Official History*, 288.

of priorities than their CAMC counterparts who had little, if any, military training. Instead, CAMC personnel, seeing the situation through the lens of a civilian practitioner, saw an opportunity to improve efficiency and efficacy with the VD system. The tensions between the RAMC and CAMC along with the unique challenges of providing medical care on the Western Front shaped the development of the frontline VD management system in the CEF.

Preventive Measures

For the first few years of the war, the majority of the cases reported in the Canadian Corps in France occurred while men were on leave or brought up from base as reinforcements. Officials blamed the conditions on cities in Great Britain being "so different from those in Canada, that Canadian soldiers fall an easy prey to the disease."[7] Compounding this problem was a belief that most Canadians had few friends or relatives in the "Old Country" while on leave and were thus more inclined to develop "promiscuous friendships" than British soldiers.[8] Although the bulk of the cases were being contracted in England, there were still a number of cases that developed locally or while men were on leave in Paris, which increased over the course of the war. To combat the problem, a number of preventive measures were put in place to reduce infection rates. As in England, local women, both professional prostitutes and the so-called amateurs, were seen as the main problem. Troops received lectures about the dangers of VD among local women on arrival, every six weeks in the line and every week in convalescent

[7] LAC, RG9-III-D-3 Vol. 5024, War Diary, DDMS, Canadian Corps, 13 January 1917.

[8] Ibid.

depots by an MO. If a soldier failed to heed these warnings and contracted VD, he was subjected to punishment. Before a man was transferred to the rear for treatment, he was taken to identify the woman with who he had had relations.

British policy on the Western Front during most of the war, like DORA Regulation 40D in the United Kingdom, targeted women as the carriers of disease.[9] In January 1916 in the Flanders area, Dr. Rulot was called in from the Service de Santé et Hygiene, a local civilian organization, to help control VD. Rulot made arrangements "for inspection of women suffering from the disease to be made by lady doctors, he also arranged for the reception and treatment of any women found to be infected into a special hospital set apart at La Panne."[10] Infected soldiers were asked where they had caught the disease. If he was able to identify the woman, he was escorted by a policeman and gendarme in an ambulance car to her house. If the encounter took place in the area of another army, the soldier was transferred to a hospital or medical unit in the area in order to obtain identification. After locating the woman and signing a statement, the man was evacuated while the accused was taken to a French military doctor for an examination. If she was infected, she was sent to the hospital or evacuated by the gendarmerie.[11] But this

[9] LAC, RG9-III-A-1 Vol. 41, Defence of Realm Regulation 13B, January 1916; TNA, HO45/10802/307990, Letter Regarding in Custody, 9 February 1916; TNA, HO45/10802/307990, HM Prison Canterbury, List of Women in Custody, 8 February 1916 and LAC, RG9-III-B-1 Vol. 3395, Circular: Defence of the Realm Regulation 40D, 8 April 1918 For public response and debate over the regulations put in place see: HO45/10893/359932, VD Administration of Defence of the Realm Regulations.

[10] TNA, WO95-285, War Diary 2nd Army, 15 January 1916.

[11] LAC, RG9-III-B-1 Vol. 1830, Circular: Venereal Cases: Disposal of Women, 1917. See also AWM, AWM27 376/202 Part 2, Colonel Butler, Memorandum, 25 January 1917 and AWM, AWM27 376: 196 Part 1, Memorandum: from DMS Second Army, 7 March 1917.

protocol was not popular as it often delayed treatment and was thought to have little effect on controlling VD in the area. In March 1917 there were complaints that "compliance with this order entails consumption of petrol, wear and tear of Ambulance cars, the time of Military police, and Interpreters, which the results obtained hardly seem to justify."[12] Despite opposition to the practice, it continued for the duration of the war.

While operating on foreign soil, British officials were determined to respect local laws, customs and civilians. While the Dominions complained about the existence of French brothels, the British were not willing to risk offending the French by asking them to close them down.[13] Division personnel were told they were to issue instructions to the *prevote* – the local police – attached to them to collect a list of local prostitutes from the local mayor. The mayor would then be asked to arrange medical examinations with civilian doctors for these women. If a woman had VD, a *proces verbaux* – verbal order – from the gendarmerie was dispatched and sent to the French Mission and Canadian Corps along with a request for evacuation. Any women who were found practicing prostitution but who were not registered could "be obliged to register."[14] But there were reports that women who worked as prostitutes had re-located outside town boundaries so that they could circumvent compulsory examinations and regulations.[15] Plus this process was time-

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[12] LAC, RG9-III-B-1 Vol. 1830, Memorandum, 10 March 1917.

[13] TNA, WO32 5597, Prevention of Venereal Disease in the Army, 18 March 1918 and Harrison, *The Medical War,* 163.

[14] LAC, RG9-III-B-1 Vol. 1830, Circular: Prevention of Venereal Disease, 24 October 1918.

[15] TNA, WO95-286, War Diary 2nd Army, October 1918.

consuming. It required a report from the Assistant Prevost Marshall (APM) proving prostitution that had to be forwarded to the French Mission for further instructions. The divisions were explicitly told "No steps must be taken with a view to the medical examination of any woman other than a registered prostitute until reference has been made to the French Mission and Canadian Corps."[16] In the meantime, any house believed to be involved in prostitution could be placed out of bounds. These procedures were carefully designed to "prevent any misunderstandings which could give rise to ill-feeling" among the local population.[17]

Even though women received the majority of the blame, infected men were still punished for contracting VD. To root out unreported cases, companies and battalions were subjected to frequent unannounced inspections.[18] When VD cases were admitted, the hospital or admitting station was to notify the paymaster regarding temporarily stopping a soldier's pay, what the army referred to as a hospital stoppage.[19] NCOs and rank and file soldiers undergoing treatment lost 50 cents of their pay plus their field allowance while officers were docked a dollar plus their field allowance.[20] In an effort to

[16] LAC, RG9-III-B-1 Vol. 1830, Circular: Prevention of Venereal Disease, 24 October 1918.

[17] Ibid.

[18] LAC, RG9-III-B-1 Vol. 3617, The Venereal Situation, 12 June 1918.

[19] TNA, WO95-553, War Diary – 5th Army - Major-General S. Guise Moores, Medical Routine Orders, 7 April 1918

[20] TNA, WO95-45, War Diary – GHQ, Venereal Disease – Stoppage of Pay of Canadian Officers Whilst Undergoing Treatment, 9 July 1916. See also TNA, WO95-45, War Diary - GHQ, Hospital Stoppages etc. – Officers Suffering from Venereal Disease, 7 July 1916.

further discourage sexual encounters a new order was issued on 27 January 1917, which stated that any officer or soldier who contracted the disease was denied leave for a period of twelve months.[21] This practice was designed to deter sexual encounters while also preventing the spread of the disease to their family back in England. But this policy was not widely implemented, as a soldier was likely to be evacuated to England for other illnesses or injuries before the 12-month period had expired.[22]

Likewise, as the war dragged on the policy regarding hospital stoppages was also somewhat relaxed as resources near the front became strained. To economize manpower and improve patient health, the British began moving chronic VD cases from venereal hospitals to a CCS sometime in late 1917. While at the CCS, these men were given employment as stretcher-bearers and trained to unload the sick and wounded from ambulances when they arrived. Adjutant General G.H. Fowkes, who was in charge of discipline, reported this experiment had successfully promoted recovery among VD cases. Under this system hospital stoppages were remitted as men were considered on active service even if they were not in line but they would not be eligible for proficiency pay, Corps pay or the minimum rate of pay.[23]

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[21] The Australians said men would not be permitted leave for six months but a memorandum from Lieutenant-Genera Fowkes stated it was one year. AWM, AWM27 376/202 Part 2, Brigadier-General J.G. McConaghy, memorandum: 1st Anzac Corps, 12 January 1917 and AWM, AWM27 376/202 Part 2, Lieutenant-General Fowkes, Circular: Venereal Disease, 27 January 1917.

[22] Macpherson, *Diseases of the War,* 123.

[23] LAC, RG9-III-B-1 Vol. 1400, Letter From Adjutant-General G.H. Fowkes, 4 January 1918; LAC, RG9-III-B-1 Vol. 1400, Letter From B.B. Cubitt, 26 February 1918 and LAC, RG9-III-B-1 Vol. 1400, Pay and Hospital Stoppages of Venereal Patients, 26 February 1918.

In January 1917, William Macpherson, then Deputy Director General Medical Services (DDGMS) at General Headquarters, wrote to the Canadian Corps to report that the experiment had been a great success as the men employed as stretcher bearers at CCSs recovered more quickly than those without employment treated at base hospitals. He asked the Canadians to reconsider the restrictions on the transfer of venereal convalescents from base hospitals to CCSs. He argued, "Owing to the congestion of the venereal hospitals at the Base, it is very desirable that authority should be given for the Canadian convalescents to be used in the same way as convalescents of the Imperial forces, and steps will be taken as far as possible to allot them to Canadian Casualty Clearing Stations only, if you consider it desirable to place this restriction upon their employment."[24] Although the British championed this system the Canadians seemed somewhat reluctant to embrace it.[25]

Part of the problem was that while working as stretcher-bearers these men would have to be re-assigned to British units. Major J.F. Lash asked for feedback stating, "The question would seem to be one of the kind of treatment to be given for this particular disease rather than one of employment of Canadian Soldiers away from Canadians as a patient would still be under medical supervision and not discharged from the hospital."[26] Colonel A.E. Ross, Deputy Director Medical Services (DDMS) of the Canadian Corps replied, "The Canadian Cas. Clg. Stations do not wish to have Venereals. If ours can be

[24] LAC, RG9-III-B-1 Vol. 1830, Correspondence from W.E. Macpherson, 4 January 1918.

[25] The Australians also reported this system was "troublesome" but gave no details. Butler, *Official History: Volume III,* 169.

[26] LAC, RG9-III-B-1 Vol. 1830, Correspondence from Major J.F. Lash, 11 January 1918.

employed under proper treatment, I see no objection."[27] Even if men still remained near the front working as stretcher-bearers took them out of harm's way, which was one of the 'benefits' of contracting the disease they had wanted to eliminate. This practice also allowed men to circumvent some of the disciplinary measures designed to deter illicit sexual encounters.

The BEF consistently found that punitive measures were only partially effective and found that it had to manage VD as an unavoidable problem requiring medical intervention. Early in 1916, the British implemented a system for soldiers to disinfect themselves by irrigating their urethra with potassium permanganate and applying calomel ointment. Calomel ointment was routinely issued to men with instructions to apply it both before and after sexual intercourse. The belief was that applying the mercury-based ointment prior to exposure would create a barrier that would prevent direct contact with the diseases thus minimizing the risk of transmission.[28] The case sheets and medical information collected at Etchinghill hospital kept track of the success of early treatments and prophylaxis. Based on the information collected, the medical staff concluded that the use of antiseptics prior to exposure was largely ineffective. In 2728 cases 2132 men had used this method and still contracted venereal disease. The more effective treatments were those that were used after exposure. Men were instructed that after intercourse they should urinate, thoroughly wash their penis with soap or potassium permanganate, reapply the calomel ointment and then report to an early treatment centre. Here, they

[27] LAC, RG9-III-B-1 Vol. 1830, Correspondence from Colonel A.E. Ross, 17 January 1918.

[28] LAC, RG9-III-B-1 Vol. 863, Preventative Measures Against Venereal Disease, 29 May 1918.

would have their penis swabbed with a mercury-based solution followed by irrigation of the urethra with an argyrol solution. The man would then be instructed not to urinate for several hours and be given more calomel ointment to apply to his genitals.[29] The prevailing belief was the earlier the better as the chances of contracting VD increased every hour after exposure. The early British system, as a whole, was not very successful as it was not widely promoted by many commanders and the stations were generally located in urinals so men were reluctant to use them. Without clear instructions and incentives, many soldiers did not understand the need to irrigate as soon as possible so too much time elapsed between exposure and early treatment, which was thought to render the procedure ineffective.[30]

The Dominions were quicker to adopt a more comprehensive approach to prevention while the British would not implement new measures until late 1918.[31] This development is not surprising given that the VD problem was a more pressing concern among the Dominions than their British counterparts. The Dominions viewed the war as an important nation building experience.[32] Officials were concerned high rates of VD among their soldiers would have a negative impact on the war effort and national

[29] LAC, RG9 III-B-1 Vol. 1826, Treatment for Prevention of Venereal Disease, ND.

[30] Macpherson, *Diseases of the War,* 125.

[31] "Venereal Prophylaxis Among Troops," *Canadian Medical Journal Association*, 5, 3 (March 1915): 216- 219. See also F.S. Patch, "The Military Aspect of the Venereal Disease Problem in Canada," *The Public Health Journal*, 8, 11 (November 1917): 301-303.

[32] Keshen, "The Great War Soldier as Nation Builder," in Busch, *Canada and the Great War*.

health.[33] When the British did not respond to repeated requests to solve the issue, the Dominions came together to form a committee tasked with addressing their shared interests. The Canadians and Australians used lectures in conjunction with a prophylaxis kit containing calomel tubes, potassium permanganate tablets and directions. Soldiers were also told that they could access more supplies at 'blue light depots.'[34] The Australian Army also made condoms – known as French Letters – available to their troops at the cost of three pence each.[35] Despite their availability, it does not appear condoms were widely promoted among Canadian medical services. The only mention of this appears in an appendix in the Assistant Director Medical Services (ADMS) War Diary for 1st Canadian Division in February 1918, which warned men to "ALWAYS wear a French Letter."[36] Cassel argues Canadians were reluctant to issue condoms as most MOs considered the ointment to be more effective. Furthermore, since condoms were a contraceptive, issuing them might look as though the army condoned illicit sex

[33] In a meeting with British officials, Sir Robert Borden stated that recruitment had been retarded by the knowledge of conditions overseas and expressed concerns it would also have negative effects on the 'race.' See TNA, WO32 11401, Temptations of Overseas Soldiers in London, 27 April 1917. There were similar concerns about the Army corrupting young Canadian men with alcohol. See Tim Cook, "More a Medicine than a Beverage": "Demon Rum" and the Canadian Trench Soldier of the First World War," *Canadian Military History* 9,1 (2009): 9.

[34] Macpherson, *Diseases of the War,* 127.

[35] AWM, AWM27 376: 196 Part 1, Memorandum From Second Australian Division Engineers, 15 January 1918.

[36] LAC, RG9-III-D-3, War Diary, ADMS 1st Canadian Division, February 1918.

whereas the ointment could be considered disease control. Some officers also hoped preventive kits would remind men of the risk and help curb desire.[37]

The Canadians reported these measures had had a positive impact on rates of infection. In the summer of 1916, the number of VD cases at the Canadian Base Depot had prompted a visit from a sanitary specialist with the RAMC Since the majority of the cases developed in Le Havre, the specialist there suggested instituting preventive measures at the base. Beginning on 1 November 1916, the NCO on duty would talk to each man returning from leave and direct him towards the medical hut for preventative treatment if he had "exposed" himself. He would wash with a solution of *hydrarg perchlor*, irrigate his urethra using a solution of permanganate of potassium and finally apply *ungt hydrarg sub-chlor* to his genitals. Over the next six months, 5153 preventive treatments were used and they claimed not one man who used them had developed VD. They reported that from November 1916 to April 1917 only 49 cases came from Le Havre and those cases only developed when the man had not sought preventive treatment at least 3 to 5 hours after exposure. The other 70 per cent of the cases were reported as having developed among new drafts from England. [38]

The Canadians also opened a main early treatment centre at the La Pepiniere Barracks in Paris. The facility opened in November 1917 and they reported that 22,000 men had been given leave in Paris over the next five months. During this period anywhere from 100 to 150 men reported for early treatment daily with some 28,000

[37] Cassel, *The Secret Plague*, 129-131.

[38] LAC, RG9-III-B-2 Vol. 3617, On the results of preventative treatment at the Canadian Base Depot, Havre in the year 1917, 3 March 1919.

treatments performed.[39] Canadian troops arriving in Paris were met and taken to La Pepiniere where they were lectured on the preventative measures they should take in the event they exposed themselves to VD. They were supplied with prophylaxis and told how to use them as well as being advised to report for examination and early treatment.[40] Major-General Gilbert L. Foster, then Director General Medical Services (DGMS) of the Canadian Contingent, argued the implementation of this centre had drastically reduced the amount of men contracting VD while on leave there.[41]

Medical Treatment at the Front

Even with preventive measures in place, there were still a number of cases at the front requiring treatment. In the early part of the war, VD cases that developed in France were evacuated to England as soon as possible. But it was soon found that this policy created two military problems: it overcrowded hospitals and could be used as a means to escape service. There were reports that men were intentionally exposing themselves to the disease while on leave so they could remain in England or at least avoid returning to the trenches.[42] In the latter half of the war, this created considerable debate over whether

[39] LAC, RG9-III-B-2 Vol. 3617, Major-General G.L. Foster, The Venereal Situation, 12 June 1918.

[40] AWM, AWM27 376: 196 Part 1, Memorandum from Third Australian Division, 16 January 1918.

[41] LAC, RG9-III-B-1 Vol. 3617, The Venereal Situation, 12 June 1918.

[42] LAC, RG9-III-B-1 Vol. 863, W.T.M. MacKinnon, Prevention of Venereal Disease, 28 December 1917 and LAC, RG9-III-B-1 Vol. 1826, W.T.M MacKinnon, Reporting the Work Carried Out at Canadian Hospital Etchinghill During Year Ending 1 November 1918.

to admit cases to hospital in England or return them to France for treatment. Given the length of a course of treatment – which last about forty-two to fifty-five days – if these cases were retained in England they would have to be struck off strength overseas so most were returned to France.[43] This practice returned men to their units sooner and also eliminated some of the 'benefits' of contracting the disease, but it required the development of separate medical services for VD treatment in France. Four large VD hospitals with a 9,000-bed capacity were opened by the BEF in order to keep these cases in France.[44] Medical treatments followed those that had been established in England but sometimes had to be adapted to meet the unique needs of medical services on the Western Front. Weather, supplies and location all impacted the delivery of medical care. Men at the front were also on active service so any medical evacuations reduced manpower at a critical point. Throughout the war, Canadian medical personnel argued that establishing treatment locations closer to the front would reduce wastage and actually improve curative rates. Although they developed a system that held the majority of cases in field ambulances at the front, they eventually had to return to the British system of transferring cases to the rear. Even with the development of special hospitals in France, the VD management system was continually shaped by the realties of conditions at the front.

[43] LAC, RG9-III-B-2 Vol. 3617, Correspondence from A.E. Ross, 13 December 1918; LAC, RG9-III-B-2 Vol. 3617, Cases of Venereal Disease, 12 January 1918 and AWM, AWM41 527, Venereal Treatment in France, January 1919.

[44] Macpherson, *Diseases of the War,* 130.

The first VD centre created in France was at No. 9 Stationary Hospital in Le Havre in 1915.[45] This hospital eventually became the model of all other VD hospitals in the BEF although early on arrangements were chaotic. Patients were housed in a special camp, away from the other patients and the staff was explicitly told "things were not to be made too pleasant for them."[46] Circumstances at the hospital were not ideal given the majority of doctors and staff had little experience with treating sexual diseases. The hospital site itself was surrounded by mud, which created less than ideal conditions as many treatments required intravenous injections. To improve care, the hospital instituted a number of changes by the end of 1915. A laboratory was setup and two wards created, one for the treatment of gonorrhea and the other for syphilis and soft chancre.[47] The gonorrhea ward generally housed about 1,600 to 1,900 patients across several special sub-wards each comprised of 200 - 250 patients under the care of two MOs. As in England, potassium permanganate was the primary treatment and used for routine irrigations. Unless there were extenuating circumstances, no uncomplicated cases were to be given bed rest. Physical activity was supposed to be the main component of treatment with patients made available for physical training and fatigues.[48] While most treatments followed established medical practices, the development of a hospital lab also allowed

[45] See TNA, WO95-44, War Diary, Director General of Medical Services, 26 February 1915 and TNA, WO95-44, War Diary, Director General of Medical Services, 12 March 1915.

[46] TNA, WO95-45, War Diary, Director General of Medical Services, 3 August 1915.

[47] Macpherson, *Diseases of the War,* 131 - 133.

[48] LAC, RG9-III-B-1 Vol. 1826, Captain Henry Paul, Treatment of Gonorrhea at No. 9 Stationary Hospital Le Havre, 18 June 1916.

staff to experiment with new procedures and techniques. In 1916, the hospital reported that the average stay had fallen to thirty-six days with the introduction of injections of succinimide of mercury and phthalamine. Vaccines they manufactured for gonorrhea from virulent strains of *cocci* reportedly had a positive impact on curative rates.[49] In reality, the success rates of these measures were mixed and the treatment of gonorrhea continued along well-established lines.[50]

Time was a crucial component of treatment, as doctors believed that in most cases gonorrhea could be completely cured if it were caught in the early stages. When a case of VDG was admitted to a field ambulance, the patient was instructed to pass water and thoroughly clean the glans and meatus with soap and water. The next step was Ballenger's method in which 1 cc of a solution of 10 per cent argyrol was injected into the urethra and while the solution was still inside, the meatus was sealed using collodium flexile and cotton for three to four hours. With the fluid still in the urethra, the patient was to be transferred to a CCS. Once at the CCS, doctors there would typically continue to use the Ballenger method for three days in a row, twice a day. It was followed up with a daily irrigation using potassium permanganate for five days. Medical staff could also use the massage pack method for treatment. This process used a strip of cotton gauze soaked in a solution of 5 per cent argyrol that was then packed into the anterior urethra. Once the gauze was in place, the penis was massaged for 5 minutes after which the pack was taken out. A second pack was inserted and left in place for at least four hours. This action was repeated three times a day for three days followed by several days of irrigation

[49] LAC, RG9-III-B-1 Vol. 1826, Captain Henry Paul, Treatment of Gonorrhea at No. 9 Stationary Hospital Le Havre, 18 June 1916.

[50] Macpherson, *Diseases of the War,* 150-156.

using a potassium permanganate solution. The third technique sometimes used was the Hoffman's (Bonn) Method, which involved an injection of 2 per cent algargin held in the glans for two and a half minutes. After a brief interval, the procedure was repeated. On the third day the patient was given daily irrigation using potassium permanganate. With no clear consensus on which method was most effective, medical officers were encouraged to choose one of the treatments for trial and keep detailed records of their cases. After one month their opinions and records were to be collected in an effort to determine which showed the most effective results.[51]

Syphilis cases, unlike those of VDG, were immediately transferred to the base via a CCS for treatment with salvarsan. However, the transfer from a field ambulance to a CCS to base often took seven to ten days, during which time a patient did not receive any treatment. To address the problem arrangements were made for treatments to be carried out at selected CCSs and in conjunction with a mobile laboratory. Only definitive cases were to be treated while cases that did not have a clear diagnosis would continue to be evacuated the ordinary way.[52] Diagnosing syphilis cases could be complicated as its symptoms could be mistaken for other illnesses. Mistakes could mean unnecessary arsenic and mercury injections that could jeopardize the wellbeing of an otherwise healthy soldier. In the syphilis ward at No. 9 Stationary Hospital, a system was established to ensure safe and proper treatment of all cases. As many of the medical officers had little to no prior experience with VD and were constantly rotated in and out

[51] TNA, WO95-286, Abortive Treatment of Gonorrhea, Instructions for Medical Officer I/C Units Os.C. Field Ambulances, 1918

[52] TNA, WO95-285, War Diary 2nd Army, 20 December 1916.

of the hospital, one of two officers in charge of the ward would review any case recommended for anti-syphilitic treatment. This way every diagnosis was double-checked before a patient was given any mercury or arsenic. If the doctor in charge did not agree with the diagnosis then the patient was held for further observation. Confirmed cases were given a case card outlining the treatment schedule and were placed in the care of their MO. In November 1915, the anti-syphilis treatments in France were extended to 42 days. Treatment consisted of four 0.3 gram injections in the first two weeks, followed by two weeks rest and then four more injections in the final two weeks.[53] After the war, Macpherson argued that supervision at No. 9 Stationary had granted the hospital "comparative immunity from trouble resulting from arsenobenzol treatment which was enjoyed by the hospital throughout the war."[54] While there were a number of deaths attributed to the use of arsenic in anti-syphilitic treatments, there were apparently no such problems reported at No. 9 Stationary as they reported "only" twelve deaths after 119,727 arsenobenzol injections.[55]

Although the hospital was not immune to the same problems that developed in anti-syphilitic treatments in England, this statistic is significant given the extra challenges of providing these treatments near the front. At a medical conference in 1917, Captain Grantham Anderson, a doctor at No. 51 General Hospital in France, explained that wartime necessity shaped the delivery of treatments. He told his colleagues,

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[53] Macpherson, *Diseases of the War,* 139.

[54] Ibid*,* 135.

[55] Ibid*,* 135.

> Let it be clearly understood that the object of the treatment is to get an infected patient cured of his disease in the shortest period possible, and for this reason the drugs employed are pushed to the utmost tolerance of their toxicity, whereas in the treatment of a private case, where time is not such an important factor, each individual case could be treated on its merits, and the doses of drugs regulated accordingly. Thus although the treatment cannot be called ideal, it is essentially practical for dealing with large numbers of patients, and should be regarded as the minimum which should be given to the average man.[56]

The treatment schedule in England was approximately 2.8 grams of salvarsan over the course fifty days (changed to 2.6 grams over fifty-seven days in 1918) while closer to the front Anderson reported that for cases in the early stages he administered 4.8 grams in forty-three days.[57] The course of treatment at these hospitals varied depending on the type of salvarsan or substitute each hospital used which was affected by availability, doctor preference and conditions. As salvarsan became more difficult to obtain, doctors could choose from a wide variety of substitutes and there was little consensus on which was the most effective. At Camiers, Anderson stated the medical staff was "under some difficulties as the treatment had to be carried out in store tents and marquees, so that it was found more convenient to use Neo-salvarsan and its equivalents, as the preparation

[56] AWM, AWM27 376: 192, Captain Grantham Anderson, The Diagnosis and Treatment of Syphilis on Active Service, February 1917.

[57] For treatment schedules in England see Macpherson, *Diseases of the War*, 139-140.

and administration were much simpler."[58] Compared to established hospitals in England, on the front had they had to contend with ever changing circumstances from weather and location to staffing and supplies, which could negatively impact VDS treatments.

While No. 9 Stationary may have served as the model for VD hospitals, many Canadian authorities began to question whether cases in France needed to be sent to hospitals in the rear for treatment at all. The British maintained a system of sending cases to a CCS or base hospital. Suspected cases of syphilis were to be sent as soon as possible to a stationary hospital to have the nearest mobile laboratory carry out an examination. If the test came back positive, the APM was notified and the hospital was to commence treatment while the APM conducted their investigation. Once the soldier was no longer needed, he was evacuated to base via a CCS to continue his treatment.[59] Under this practice men would not be available to their units for at least eight weeks, sometimes even longer, as they passed through the system. To help eliminate wastage at the front, Canadian medical officials proposed the development of a system that would provide treatment at FAs located closer to the front. This system, the Canadians argued, would help maintain manpower while also allowing for a more thorough treatment.

Captain Colin Russel, a neurologist with the CAMC, reported the U.S. Army was treating their VD cases at Regimental Rest Depots to keep men out of hospital and close to the front. Russel was interested in VDS cases from a neurological standpoint given the

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[58] AWM, AWM27 376: 192, Captain Grantham Anderson, The Diagnosis and Treatment of Syphilis on Active Service, February 1917.

[59] TNA, WO95-533, War Diary, 5th Army, Major-General J.J. Gerrard, Medical Routine Orders, 8 August 1918 and TNA, WO95-286, Surgeon-General W.M. O'Keeffe, Medical Routine Orders, 15 December 1917.

neurological complications that would develop in cases that were left untreated. He was particularly concerned with the fact the treatment time in the Canadian Army was only eight weeks. "In others words," he argued, "the disease is 'whitewashed'; and under ordinary conditions one could look forward to probably 90 per cent recurrences – many of which will be the type of Tabes Doralis, General Paresis, Cerebro Spinal Lues and there will also be the danger of the widespread infection of the people of Canada."[60] He suggested Canada adopt measures similar to the US which treated men in line using the salvarsan substitute novarsenobillon. Since the drug could be given "safely intravenously in as little as 2 cc's water" it appears Russel thought this method would allow VDS cases to be more thoroughly treated while also keeping them at the front.[61] Russel favoured a similar approach to the treatment of shell shock as he also advocated treating them at rest stations at the front.[62] Lieutenant-Colonel John Amyot questioned whether Russel's recommendation would have much of an impact on VDS treatment at the front. He asked, "Will the American system also not be white washed? The product they will use has also been used by us."[63] It would appear that the type of drug used was of little consequence as the goal of treatment was to reduce wastage in the short-term rather than address potential long-term problems Russel was concerned about. Cost, supplies and manpower

[60] LAC, RG9-III-B-1 Vol. 1826, Colin Russel, Treatment of Venereal Disease in U.S. Army, 30 October 1917.

[61] Ibid.

[62] Humphries, *A Weary Road*.

[63] LAC, RG9-III-B-1 Vol. 1826, Handwritten note on by J.A.A. Colin Russel, Treatment of Venereal Disease in U.S. Army, 30 October 1917.

were the most pressing concerns. In an effort to address these concerns, the Canadians implemented a system in which few cases were evacuated to base hospitals.

In September 1917, the ADMS in each of the four Canadian divisions received updated guidelines for processing patients. New gonorrhea cases were to be held in the Corps area and treated at Les Quatre Vents, or Four Winds, by the field ambulance unit there. "After a sufficient rest period," they were told, "such cases should be available for graded work, the decision resting with the M.O. in charge during the remainder of this treatment."[64] Men experiencing recurrent gonorrhea symptoms were to be held for a few days worth of treatment and returned to duty. Men with chronic gleet would remain on duty unless they developed complications. These cases were sent to a field ambulance for longer treatments then returned to duty. Syphilitic cases were evacuated to the ambulance unit at Four Winds for salvarsan treatment although in December 1917 it was later reported that syphilis cases – and VDG cases among officers – were evacuated in the usual way to a CCS.[65]

The OC at No. 10 Canadian Field Ambulance, then in charge of Four Winds, suggested that all cases should pass through the ambulance in their division to arrange interviews with the APM for cases contracted locally. Although this system kept more cases at the front, it was not without its problems. At the time, there were 108 patients under their care and they reported having problems keeping men on the grounds. To help maintain order, they requested a detail of military police for guards. As well, the OC

[64] LAC, RG9-III-B-1 Vol. 1400, Treatment of Venereal Disease, 9 September 1917.

[65] LAC, RG9-III-B-1 Vol. 1400, Treatment of Venereal Disease, 9 September 1917 and LAC, RG9-III-D-3 Vol. 5025, War Diary, ADMS 3rd Canadian Division, 12 December 1917.

asked for clarification on how hospital stoppages were arranged for men receiving treatment at Four Winds. As cases were to be sent to the rear, there were no procedures or policies regarding cases that were not evacuated to the rear.[66] The British later told the Canadian field ambulances that they did not have the proper forms since these cases were supposed to be sent to base hospitals for treatment.[67] Although holding cases at the front went against many procedures established by the British, the Canadians continued to develop a system to keep VDG cases in field ambulances.

To accommodate VDG cases at the front, the CAMC requisitioned a former brewery near Aix Noulette in late 1917. Field ambulances took turns running the facility, which explains why patients were frequently transferred between field ambulances in their admission and discharge books.[68] These were administrative transfers, as men likely never left this established station unless they were moved to the rear for treatment.[69] The venereal station was a two-story cellar situated outside the village that could accommodate up to 180 patients. Admitting rooms, irrigation rooms, dining rooms, a bath-house and medical and pack stories were located within the brewery. A nearby shell-scarred chateau was used for the orderly room, quarters and canteen. To protect against

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[66] LAC, RG9-III-B-1 Vol. 1400, Treatment of Venereal Disease, 9 September 1917.

[67] LAC, RG9-III-B-1 Vol. 1400, Correspondence to Officer Commanding, 10th Canadian Field Ambulance, 12 April 1918 and LAC, RG9-III-B-1 Vol. 1400, Correspondence to D.D.M.S Canadian Corps, 13 May 1918.

[68] LAC, RG9-III-D-3 Vol. 5025, War Diary, ADMS 3rd Canadian Division, 12 December 1917; LAC, RG9-III-D-3 Vol. 5026, War Diary, ADMS 3rd Canadian Division, January 1918 and LAC, RG9-III-D-3 Vol. 5025, War Diary, ADMS 1st Canadian Division, 21 January 1918.

[69] LAC, RG9-III-D-3 Vol. 5025, War Diary, ADMS 1st Canadian Division, 20 February 1918.

splinters from aerials bombs, fatigue parties consisting of personnel and light duty patients constructed a three-foot mud wall around the perimeter. These parties also cleaned up the grounds and sanitized the wards and buildings. Daily admissions numbered around twenty-seven and they reported an average of 190 patients under their care at any one time. Overflow patients were evacuated to a CCS but they were making arrangements to expand operations in order to accommodate more cases.[70]

The irrigation room at the brewery was moved after it was discovered that it was too small and delayed treatments. It could only accommodate six cases at a time and orderlies reported they had trouble maintaining sanitary conditions. To amend the situation, a proper irrigation plant was constructed in a separate area from the wards. They utilized an unused ten by eighteen foot three-sided roofless building located on the grounds. It was retrofitted with corrugated metal on the outside, a canvas lining inside, a brick floor and a fireplace to heat a forty-gallon water tank. Two rows of troughs ran the length of the building that emptied to drain below the floor and ran to a soakage pit outside. With fourteen douche cans and tubes arranged above the trough, the new space could serve more than twice as many patients as before. After the opening of a new ward and the re-arrangement of the old ones, the capacity at the Aix Noulette facility increased to 200.[71]

With these improvements, by all accounts the Corps Venereal Station was able to fulfill the treatment needs for gonorrhea cases. On 26 March 1918, the medical personnel at No. 13 Field Ambulance, who were then in charge of the space, reported on the

[70] LAC, RG9-III-D-3 Vol. 5027, War Diary, 3rd Field Ambulance, January 1918.

[71] LAC, RG9-III-D-3 Vol. 5030, War Diary, 10th Field Ambulance, 10 January 1918.

advanced work being carried out at the station. Three irrigation chambers were in operation and many other improvements had been completed.[72] But the next day they received orders that the 265 VDG patients under their care were to be evacuated or returned to duty. They were likely ordered to dismantle this front line station after the British had discovered the practice a few months earlier. In early January 1918, Macpherson wrote "It has been brought to notice that it is the practice in some instances to treat venereal patients in Field Ambulances, instead of sending them to the base hospitals appointed for the purpose."[73] After notifying the patients a "big proportion volunteered to return to duty" and they were cleared to their units by 7pm.[74] These men were sent with dressings, drugs, twenty-four hour rations, cigarettes and a discharge slip.[75]

While they may have returned these cases to duty, the order appears to have had little impact on the Canadians VDG management system. Instead of returning acute cases of gonorrhea to base hospitals, the Canadians continued to send these cases to rest camps for treatment. They argued treating cases immediately behind the line saved "many days, if not weeks, of active service" which significantly reduced wastage.[76] In June 1918, it was reported that since this system had proven successful the British moved to adopt it

[72] LAC, RG9-III-D-3 Vol. 5032, War Diary, 13th Field Ambulance, 26 March 1918.

[73] LAC, RG9-III-B-2 Vol. 1830, Correspondence from W.G. Macpherson, 12 January 1918.

[74] LAC, RG9-III-D-3 Vol. 5032, War Diary, 13th Field Ambulance, 27 March 1918.

[75] Ibid.

[76] LAC, RG9-III-B-2 Vol. 3617, The Venereal Situation, 12 June 1918.

although there is no evidence that actually supports this assertion.[77] In fact, just a few months earlier in April 1918, the 3rd Canadian Division issued orders that all venereal cases in both officers and men were to be evacuated to the CCS. This marked a reversal of a policy that had been in place from at least February 1918 but likely started much earlier.[78] Suspected venereal cases in the First and Second Armies were to be sent to No. 4 Stationary Hospital in Arques.[79]

Despite British opposition, the Canadians continued to push for changes to the existing VD management system. After forty-three cases developed over the course of six weeks and were evacuated to Rouen, the Canadians argued, "the question again comes up, of the best method of treating Venereal Cases, and it is again emphasized that these cases, in the opinion of the Senior Medical Officer, should be treated locally."[80] In No. 2 District they suggested that instead of sending cases to the rear for treatment, three to four hutted hospitals could be constructed at Conches with one hut devoted to VD cases. They reported that while the usual duration of treatment was six weeks, when treated locally this number fell to three to four weeks. To support their cause, the Canadians referenced two cases that had developed in the Bordeaux group in June. One case spent almost three months in hospital as the soldier was admitted on 28 March 1918 and discharged 17 June

[77] LAC, RG9-III-B-2 Vol. 3617, The Venereal Situation, 12 June 1918.

[78] LAC, RG9-III-D-3 Vol. 5026, War Diary, ADMS 3rd Canadian Division, 15 February 1918 and LAC, RG9-III-D-3 Vol. 5026, War Diary, ADMS 3rd Canadian Division, 18 April 1918

[79] LAC, RG9-III-B-1 Vol. 1400, Correspondence to D.D.M.S Canadian Corps, 13 May 1918.

[80] LAC, RG9-III-B-1 Vol. 1598, The Venereal Situation, 3 July 1918.

1918. The other case was discharged on 22 June 1918 after being admitted on 22 November 1917.[81] With little other information it is difficult to know why these cases were hospitalized for so long and if they represented the norm. But for the Canadians, these cases supported the argument that treating cases in the rear kept men out of lines for far too long; the British remained unconvinced.

By the end of the month, the RAMC issued a reply stating that venereal cases were not to be retained in any hospital that was not designated for venereal disease without permission from the DGMS in France.[82] The British even asked if the practice of holding men to identify the alleged source of their disease unduly delayed transfer to hospital for treatment.[83] The Canadians replied that this procedure did not delay treatment as treatment commenced as soon as the patient was admitted.[84] The CAMC continued to press for changes to the existing system enforced by the British. In contrast to the British system of sending cases to the rear, the Canadians continued to believe these cases should be treated at the front.

Although the Canadian system for treating VD in FAs near the front had been shut down, the Canadians continued to look at ways to expand VD management at the front by focusing on VDS cases. Major William Turner Lockhart compiled a report in August 1917 "demonstrating that a centre for treatment for syphilis could be readily established for troops in the zone of active operation, which would obviate the necessity

[81] LAC, RG9-III-B-1 Vol. 1598, Hospital Accommodation, No. 2 District, 3 July 1918.

[82] LAC, RG9-III-B-1 Vol. 1598, Memorandum from Major Paul Winfield, 27 July 1918.

[83] Ibid.

[84] LAC, RG 9 III-B-1 Vol. 1598, Correspondence from CAMC for DDMS, 27 July 1918.

of sending to hospital at least three-fourths of the officers and men who become infected with this disease."[85] Lockhart was a forty-four-year-old physician from Saskatchewan who had enlisted with the CEF on 25 September 1914. He spent eighteen months as MO for 1st Canadian Artillery Brigade in France before doing a rotation at Etchinghill and eventually ending up at the VD hospital in Witley.[86] At Witley, he reported they administered the neo-organic preparations of arsenic in a concentrated solution. The arsenic was dissolved in 2 ccs of water, based on the findings of Professor Thibirge of the French Army. Lockhart stated that after 1745 intravenous injections they had not experienced the early reactions common when larger quantities of water were used nor had they had any cases of venous thrombosis. Only five out of sixty-three Wassermann tests had come back positive after undergoing this treatment.[87]

This method required fewer supplies and personnel as three orderlies and an officer could give one injection per minute, which would make it viable for use at the front. As well, Lockhart argued that holding cases for treatment in hospital was unnecessary as it had been shown that "infective organisms disappeared from lesions within twenty-four hours after the exhibition of the first intravenous injection of arsenic, thereafter the lesions are merely ordinary ulcers which heal in the ordinary way except for neoplastic and circulatory disturbance which may cause delay in certain cases."[88] The

[85] LAC, RG9-III-B-1 Vol. 3618, Report from Major W.T. Lockhart, 5 August 1918.

[86] LAC, RG150, Accession 1992-93/166, Box 5706 -8, Personnel File: LCL William Turner Lockhart.

[87] LAC, RG9-III-B-1 Vol. 3618, Report from Major W.T. Lockhart, 5 August 1918.

[88] Ibid.

physical demands of duty would also not pose an issue as patients underwent physical training while in hospital and they resumed regular duties when being treated as outpatients during the second half of their treatments in England.

Even with the exigencies that may arise at the front, Lockhart felt syphilis could easily be treated there. Complicated cases would need to be sent to the base hospital but simpler cases, which Lockhart argued was the majority of the cases, could be held at the front. Except on the day of an injection, men could carry on with normal duties while undergoing treatment. He argued troops could be treated while their units were in the support and reserves trenches. It was even easier to coordinate treatments for troops in Field and Heavy Artillery units. This system, Lockhart asserted, would also allow men to begin treatments as soon as their symptoms appeared thereby making these cases "more amenable to curative measures."[89] He informed his superiors that,

> From my experience as an M.O. to a unit in France and subsequently in Special Hospitals in Great Britain, I am sure that very excellent work could be carried out along the lines I have suggested, which would result in a decrease in the loss of effectives at the point where they are required and would diminish the load of disability which the Army and the Nation will have to bear as the result of late or inadequate treatment of syphilis. It would give me great satisfaction to be permitted to organize such a service.[90]

[89] LAC, RG9-III-B-1 Vol. 3618, Report from Major W.T. Lockhart, 5 August 1918.

[90] Ibid.

Canadian officials made plans to visit Lockhart at Witley to consider his proposal.[91] By the end of the month, the senior medical officer in No. 12 District received notification that they should be treating syphilis cases in their hospital provided they had an officer capable of administering salvarsan. They were told, "the patients will receive their injections in your little operating room, they can sleep in Bell Tents, and when they have received their second or third injection they can return to work in their different companies."[92] After their initial treatments, these men were issued syphilitic cards that noted the days they received their injections and when they were to return for their next one. "By this method," they were told, "your syphilitic cases are much more easily and conveniently treated in your hospital than your gonorrhea patients."[93] It is not clear how successful or widespread this system actually was. By 6 November 1918 Major R.M. Gorssaline informed Canadian divisions that all venereal cases were to be evacuated to a CCS and they were not to be held at a Canadian Corps Rest Station.[94]

There is no clear answer to explain why the British insisted on treating patients in the rear. It is possible that without a centralized site for care it was difficult to maintain uniform standards of treatment among cases. Untrained MOs routinely treated all suspected venereal sores with calomel ointment. This approach was problematic as it

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[91] LAC, RG9-III-B-1 Vol. 3618, Treatment Centre for Syphilis in France, 10 August 1918.

[92] LAC, RG9-III-B-1 Vol. 1598, Treatment of Venereal Cases, 31 August 1918.

[93] Ibid.

[94] LAC, RG9-III-B-1 Vol. 1830, Correspondence from Major R.M. Gorssaline D.D.M.S Canadian Corps, 6 November 1918.

often disguised the true nature of the sore and made it difficult to obtain a correct diagnosis later on. Lieutenant Colonel F. Howell asked that all the MOs be made aware of "the harmful results to the patient that may follow injudicious use of calomel or other preparation containing mercury, prior to a definite diagnosis being established."[95] Any MO who did not comply with this order could be investigated and subject to disciplinary measures. At Etchinghill, MacKinnon reported that he had spoken with Captain Scarlett who had been recently assigned to the hospital after serving in France. During his time in France, Scarlett told MacKinnon he had treated cases of VD but had been unaware that VD treatment required any special knowledge. While in France, he had kept no records of treatments meaning that if a soldier saw another MO there was no record of any previous treatment "and for that reason, it would be possible to overdose the case and cause acute atrophy." Scarlett had also been giving only six treatments instead of seven and was unfamiliar with proper dosages or how much time should elapse between treatments. MacKinnon supplied Scarlett with a table, instructions and other literature to bring him up to speed on VD treatment. He reported that Scarlett was anxious to become proficient in VD management. Despite his earlier mistakes, MacKinnon stated he would have "no hesitation in exchanging him for one of the Officers at the hospital at any time."[96]

Scarlett was not the only MO MacKinnon found not using proper treatment methods. MacKinnon had also filed a report about an MO in the Ottawa area who had apparently been treating patients for primary syphilis in Canada by exposing the vein,

[95] LAC, RG9-III-B-1 Vol. 1830, Correspondence from Lieutenant Colonel F. Howell, 22 January 1919.

[96] LAC, RG9-III-B-2 Vol. 3617, 25-11-1 Vol. 9, Letter from W.T.M. MacKinnon, 13 September 1918.

severing it and tying the lower end in order to administer salvarsan through a cannula in the upper end. When these patients arrived at Etchinghill with latent symptoms, MacKinnon found it impossible to use their arms as the site of treatment. They told MacKinnon they had only received three doses of salvarsan as the MO felt this was sufficient. Although he did not provide the name of the MO in question, MacKinnon argued, "The fallacies of this method of treatment should in my opinion be brought to the attention of the authorities in Canada and steps taken to have the treatment of primary or any other stage of syphilis carried out in an intelligent and rational manner."[97] With VD knowledge among MOs lacking, as was also the case in England and Canada, it is possible that the British wanted a central system that would ensure proper treatments. It is equally possible that the British were concerned about holding too many medical cases at the front in the event the Germans went on the offensive and captured these field ambulances and the men within them.[98] Whatever the reason behind the British system, the debates between the two sides became a moot point once the VD management system had to contend with the new mobility of the battlefield. As the Canadians pushed east as part of the British force, semi-permanent spaces like that of the venereal station at Aix Noulette would no longer fulfill the medical needs on the battlefield.

VD posed a big enough problem that it required the creation of a separate evacuation and treatment schedule. Keeping these cases in France limited the amount of time men spent away from their units. They could also provide manpower in non-combat

[97] LAC, RG9-III-B-2, Vol. 3617, W.T.M. MacKinnon, Irrational Treatment, 7 March 1919.

[98] Mark Humphries, *A Weary Road*, 50 and 117.

roles while they underwent treatment. It is unlikely that VD ever had the potential to render the army ineffective for combat. Instead the creation of its own medical system was initially prompted by the belief that these cases needed to be dealt with severely to discourage men from contracting VD either by accident or intentionally. Officials also wanted to segregate these cases over the misguided belief that the disease could be potentially be transmitted via non-sexual encounters. As the army increasingly embraced a medical approach to the VD problem, this shift also supported the existence of a separate medical system. Treating VD required medical training that many doctors did not have. In a clinical examination VDG and VDS could be difficult to diagnose by a non-specialist as symptoms could be easily mistaken for other diseases such as scabies. Administering arsenic and mercury treatments also needed special training to limit the potential for adverse side effects from their use. The establishment of a VD management system at the front was the most effective way for the army to deal with the VD problem.

New Battlegrounds

As hostilities wound down, venereal disease became a bigger problem for commanders in the field. Once Canadian troops pushed east into areas formerly held by the German Army, they faced new challenges in combating VD along the front. Officials reported that their troops were at higher risk of contracting VD while in lines in newly acquired divisional areas. Early on in the war the majority of the cases had been contracted when men were on leave but with more large towns located within the forward

zone there were more opportunities to interact with local women.[99] Allied armies also blamed rising rates on the Germans as they had supposedly released large numbers of infected women and prostitutes from their hospitals as they retreated. It was reported that the Germans freed 60,000 cases just after the signing of the armistice.[100] With hostilities winding down, troops had more opportunities to interact with locals and travel on day passes into city centres. To deal with rising rates of infection, early treatment centres were established in newly occupied areas and men were increasingly reminded that contracting VD would result in the loss of pay and could delay their return home. Despite efforts to control the disease, infection rates for locally contracted cases remained high.

Venereal disease had not been an immediate concern for officials as troops moved into areas formerly held by the Germans. Officials initially stated "According to the information given by the French Authorities venereal disease is at present not very prevalent among the civilians. The precautionary measures and compulsory inspections of suspected women appear to have been rigorously carried out by the Germans."[101] However, officials soon found this was not the case in many areas. Shortly after arrival several Allied divisions informed HQ that "In reconquered territory evidence proves that a number of infected women in the larger towns in some cases amounts to several

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[99] LAC, RG9-III-B-1 Vol. 1830, Prophylactic Measures Against Venereal Disease, 31 January 1919.

[100] LAC, RG9-III-B-1 Vol. 1830, Lecture on Venereal Disease, 10 February 1919. VD rates among German soldiers were reported to be lower than the Allied armies with rates of 1.5 to 2 percent in the field. See Lutz D.H. Sauerteig, "Sex, Medicine and Morality during the First World War," in Roger Cooter, Mark Harrison and Steve Sturdy, eds., *War, Medicine and Modernity,* (Somerset: Sutton Publishing, 1998), 171.

[101] AWM, AWM27 164-167, Memorandum Rhine Women, 1 November 1918.

thousands; that these women on the arrival of relieving troops left the hospitals in which they were being treated and in many cases returned to their homes. They are thus scattered throughout the district."[102] It is not clear whether women left on their own accord once they were no longer under German occupation or if they were intentionally sent home as the Germans retreated. But Allied soldiers were warned that the Germans had deliberately released infected women and were "still trying to cripple you even if the fighting is over."[103] Regardless of the reasons for the apparent high rates of VD among local women, with more opportunities for infection the number of cases contracted locally increased dramatically. To combat the problem, divisions had to develop policies and procedures to effectively deal with the VD situation in Belgium and Germany.

The new mobility of the battlefield initially made it difficult to provide prophylaxis and early treatment to soldiers. While 'blue light depots' had been strategically placed along the Western Front and city centres in France, these were no longer in range of divisional areas. Colonel C.P. Templeton from the 3rd Canadian Division reported that in place of early treatment centres, all field ambulances and regimental MOs had been supplied with calomel ointment and other antiseptics. Treatment rooms were established within medical dressing rooms and MOs were told to urge soldiers to use early treatment methods.[104] However, Templeton was still concerned

[102] AWM, AWM27 376: 196 Part 1, Memorandum from Fifth Army, 1 November 1918.

[103] LAC, RG9-III-D-3 Vol. 5026, War Diary, ADMS 4st Canadian Division, March 1919. See also AWM, AWM27 376: 196 Part 1, Memorandum from Fifth Australian Infantry Brigade, 23 November 1918.

[104] LAC, RG9-III-B-1 Vol. 1830, Memorandum from Colonel C.P. Templeton, 20 November 1918.

at the rising rates of VD in his division. In the month of October 1918, there were twenty-five reported cases of VD with four contracted locally. The remaining cases had been contracted while on leave in Paris or Great Britain.[105] By November, eighty-one cases of VD had been admitted to field ambulances. Thirty-eight of these developed after a man returned from short leave, another thirty-eight cases had local origins and the source of the remaining five cases was unknown.[106] Templeton instructed his medical officers to lecture troops in four main areas: the seriousness of the disease to the individual; their family and society; the negative effects of alcohol; the types of prophylaxis measures that were available as well as the potential fallibility of such measures to encourage continence. In addition to lectures, MOs were to maintain calomel supplies, establish early treatment facilities and provide proper instructions. When infected women were identified and brought in they were to be admitted to the hospital and presumably treated. To improve the effectiveness of these measures, Templeton issued several suggestions. Unit OCs were asked to assist medical officers in carrying out these instructions. Units were also told to issue an order requiring men to seek treatment within twenty-four hours of exposure and to take disciplinary action against men who disobeyed and had to be evacuated due to VD. Unit commanders were also encouraged to promote healthier forms of entertainment such as sports to their troops.[107]

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[105] LAC, RG9-III-B-1 Vol. 1830, Venereal Cases Admitted to Field Ambulances, October 1918.

[106] Ibid.

[107] LAC, RG9-III-B-1 Vol. 1830, Circular to 3rd Canadian Division 'A' from Colonel Templeton, 3 December 1918.

When returns during the first week of December showed higher rates than what had been reported in the previous month, Templeton became increasingly concerned that rates were climbing despite intervention. To address the issue, daily parades would include pertinent information about the prevention of VD. Troops were cautioned against intercourse with infected prostitutes. Prostitutes in the area were examined twice weekly and so should be able to produce a card showing they were free from infection. If a woman could not produce a card then soldiers were warned not to have relations with her. Men could also readily obtain calomel tubes from their MOs. If a man was potentially exposed, he was to report to a treatment centre within twenty-four hours. In the event a man did not follow these produces and contracted VD, he was to be evacuated to a hospital for treatment. If this happened, men were warned they would be hospitalized for two to six months during which time their pay would be docked fifty cents per day plus field allowance. Leave would also be pushed back six months from when a soldier was scheduled to take it. And finally, since hostilities were winding down, he said troops should be made aware that VD would delay a man's discharge from the Army and return home.[108]

Similar problems plagued 2nd Canadian Division. Colonel R.W. Simpson, ADMS for 2nd Canadian Division, Simpson stated that they were doing their best to maintain treatment centres "so far as the present condition of extreme mobility permits."[109] He did report that the doctrine of early treatment had been a feature of the division for several

[108] LAC, RG9-III-B-1 Vol. 1830, Circular to 3rd Canadian Division from Colonel Templeton, 6 December 1918.

[109] LAC, RG9-III-B-1 Vol. 1830, Memorandum from Colonel R.W. Simpson, 22 November 1918.

months and had helped keep the disease at a low level.[110] But early treatment rooms had not yet been established although FAs kept a large stock of calomel tubes.[111] Simpson reported eighty-one cases of VD in the month of December. Twenty cases were contracted in Great Britain while another five developed after men returned from short leave in Paris. Most troubling was that the remaining cases occurred locally with eleven in Germany and thirty-nine in Belgium. Even more problematic was the fact that these figures only included the first fifteen days of the month. Given the incubation period for venereal disease Simpson concluded that roughly one-third of the cases contracted had not yet developed. At the time of the report, only one case of syphilis had been reported among the eleven cases in Germany. However, since the total figures were split approximately 50/50 between gonorrhea and syphilis, Simpson expected more cases would develop. Based on these parameters, he estimated that at least fifteen more cases of both VDG and VDS had been contracted during the first two weeks of occupation in Germany. These calculations were an indication that Canadian forces needed to adopt more stringent measures to keep rates of infection low. "It is only to be expected," Simpson contended, "that as time passes soldiers will become better acquainted with the inhabitants and the natural result will be a gradual increase in venereal disease."[112] To

[110] LAC, RG9-III-B-1 Vol. 1830, Memorandum from Colonel R.W. Simpson, 22 November 1918.

[111] LAC, RG9-III-B-1 Vol. 1830, Memorandum to DDMS Canadian Corps, 26 November 1918.

[112] LAC, RG9-III-B-1 Vol. 1830, Report from Colonel Simpson, 2nd Canadian Division, 31 December 1918.

this end, Simpson argued that the best method for reducing the number of cases was to remove any woman suspected of transmitting VD to a soldier from the divisional area.[113]

This request was not possible as the practice of evacuating women infected with VD from areas occupied by British forces ended in late 1918. Under the new policy, known prostitutes were placed on a nominal roll and examined at regular intervals under the presence of a Canadian medical officer.[114] Local physician Dr. Haberman performed examinations and sent the samples he collected to No. 8 Mobile Laboratory for examination and report.[115] Any woman who tested positive was incarcerated and kept under medical supervision until they were deemed cured. Women who tested negative were given a certificate to show that they were free from infection.[116] However, No. 8 Mobile Laboratory reported that only one prostitute in Bonn went to Dr. Haberman for her bi-weekly inspection.[117] This number was unacceptable to the CEF and Gorssaline suggested that civilian authorities also set aside hospital space to hold and treat any woman found to be infected.[118] The situation appeared to improve by early January when

[113] LAC, RG9-III-B-1 Vol. 1830, Report from Colonel Simpson, 2nd Canadian Division, 31 December 1918.

[114] LAC, RG9-III-B-1 Vol. 1830, Memorandum to D.D.M.S. Canadian Corps, 29 December 1918.

[115] LAC, RG9-III-B-1 Vol. 1830, Memorandum to D.D.M.S. Canadian Corps, 28 December 1918.

[116] LAC, RG9-III-B-1 Vol. 1830, Memorandum to D.D.M.S. Canadian Corps, 29 December 1918.

[117] LAC, RG9-III-B-1 Vol. 1830, Letter from No. 8 Mobile Laboratory, 30 December 1918.

[118] LAC, RG9-III-B-1 Vol. 1830, Memorandum from Major Gorssaline, 1 January 1919.

a sudden rise in the number of examinations forced Dr. Habermann to extend his first time slot to 8 am. The clinic had also set aside twenty beds for these cases and at the time fourteen were filled. However, as the police reportedly escorted a number of women to the clinic it is difficult to determine if the number of women submitting to these examinations voluntarily had increased.[119]

Even with measures in place to medically inspect known prostitutes, commanders reported there were problems with this system. Captain Petri in 2nd Canadian Division stated that multiple women had passed clinical inspection but dozens of men reported that they had contracted VD from them.[120] When he passed this communication along, Lieutenant-Colonel Macdonald of 2nd Canadian Division told his superiors that this situation could be improved by making arrangements to ensure laboratory testing in all cases. He said that it was impossible to guarantee a correct diagnosis without a lab test. Although there was a military laboratory in Namur, many smaller villages did not have access to any resources to test samples.[121] The lack of proper testing meant many cases that did not show external symptoms may have been mistakenly been released and told they were healthy.

In addition to the medical inspection of women, each field ambulance in 2nd Canadian Division was ordered to establish an early report centre marked by a blue light and a sign that read "Early Report Centre. No questions asked." Similar signs giving its

[119] LAC, RG9-III-B-1 Vol. 1830, Dr. Gartzen, Memorandum 'Kontrol of Prostitutes', 1 January 1919.

[120] LAC, RG9-III-B-1 Vol. 1830, Memorandum from Captain Petri, 18 March 1919.

[121] LAC, RG9-III-B-1 Vol. 1830, Memorandum from Lieutenant-Colonel Macdonald, 18 March 1919.

location were to be put up around town. Battalion MOs would also be required to create early treatment centres drawing supplies from the nearest field ambulance.[122] Given the significant problem VD posed, MOs were to be given "no trouble" in pursuing the issue. MOs were to speak to officers about the methods of infection, the progression of the disease and the potential medical consequences of VDG or VDS. Educating officers was an important part of combating the problem since "it has been noted that there exists the most pitiful ignorance amongst the majority of officers and men concerning even the most elementary facts of venereal disease and medical men have an opportunity to educate the public which should no be lost."[123]

Major Arthur Yates reported that he had spoken with several Canadian soldiers arriving on leave in Brussels who informed him that their risk of contracting VD was low as they incorrectly believed that all infected women had been removed from the area. The men he spoke to also had an "exaggerated idea of the efficiency of the early treatment."[124] They would often wait nine or ten hours to seek treatment even when they suspected the woman had had VD, as they apparently were unaware that prevailing belief was the curative rate diminished continually after the first hour. A few men had apparently also been allowed to travel to Brussels with VD, and although it could be hard to detect these cases, it nonetheless created more difficulties for authorities in Brussels and needed to be stopped. To resolve these problems, Yates suggested that the Canadians

[122] LAC, RG9-III-B-1 Vol. 1830, Correspondence from Lieutenant-Colonel 2nd Canadian Division D.D.M.S Canadian Corps, 20 January 1919.

[123] Ibid.

[124] LAC, RG9-III-B-1 Vol. 1830, Letter from Arthur Yates, Prevention of Venereal Disease, 31 January 1919.

start giving addresses at leave clubs. Within the British Army, these lectures had apparently helped reduce rates of VD to one man for every thousand on leave in Brussels. The Canadian Report Centre stated that they had not received the authority to give these lectures to the men.[125] Without the necessary information as to their existence or purpose, the early treatment centres did little to address the VD problem. Many men claimed they had little understanding of the potential dangers or the proper procedure following exposure. Even those that were aware of the centres did not know that the curative rate of early treatment decreased each hour so that it was important they access intervention within the first sixty minutes.[126]

This issue was problematic as it meant more men could become infected and HQ had already reported that 40 per cent of total evacuations while the 2nd Division was in Germany were for venereal disease.[127] Men were to be informed about the existence and locations of early treatment sites and explicitly told they could visit with no questions asked.[128] Reports forwarded to Divisional HQ only needed to contain the place where the disease was contracted and whether the man had undergone early treatment.[129] No records were kept except the certificate that was issued to the soldier. This system

[125] LAC, RG9-III-B-1 Vol. 1830, Prevention of Venereal Disease, 31 January 1919.

[126] LAC, RG9-III-D-3 Vol. 5026, War Diary, ADMS 4st Canadian Division, 11 February 1919.

[127] LAC, RG9-III-B-1 Vol. 1830, Correspondence from Lieutenant-Colonel 2nd Canadian Division D.D.M.S Canadian Corps, 20 January 1919.

[128] Ibid.

[129] LAC, RG9-III-B-1 Vol. 1830, Colonel Snell, Memorandum to ADMS 1st Canadian Division, 29 January 1919.

maintained confidentiality but also ensured that men could prove they had used early treatment and would not be punished if they still developed an infection.[130] With several blue light centres established throughout the town, men were free to visit any one they chose as it was believed soldiers would be more comfortable visiting a centre not attached to their particular unit. Senior medical officers were informed that they should limit their visits to these centres. Once the personnel responsible for running them were trained, he would only need to appear periodically to ensure standards were being maintained. The measures put in place appear to have had a positive impact on infection rates. It was reported that twice as many cases had developed in Cologne compared to all the other towns in the area combined. These low rates in areas outside Cologne were attributed to the presence of early treatment centres in these areas.[131]

For 1st Canadian Division, who was stationed in Cologne, VD continued to pose problems for commanders in the area. They received a note from HQ telling them that they had reported far too many cases during a five-day period in January as they had already recorded twenty-eight cases of VDG.[132] By the end of the month, more than half of the number of cases of VD came from 1st Division. Of the 309 cases reported by 1st Canadian Division, 2nd Canadian Division and Canadian Corps Troops, 168 belonged to

[130] LAC, RG9-III-D-3 Vol. 5026, War Diary, ADMS 4st Canadian Division, 9 March 1919

[131] LAC, RG9-III-B-1 Vol. 1830, Correspondence from Lieutenant-Colonel 2nd Canadian Division DDMS Canadian Corps, 20 January 1919.

[132] LAC, RG9-III-B-1 Vol. 1830, Colonel Snell, Memorandum to ADMS 1st Canadian Division, 29 January 1919.

1st Canadian Division.[133] Colonel Arthur Snell, DDMS for the Canadian Corps, stated "It is hoped that every possible precaution is being taken in your area to limit the disease to a minimum and that the men of your division are aware that nobody be allowed to return to Canada unless thoroughly cured."[134] Lieutenant-Colonel George J.Boyce, ADMS of 1st Division, responded that the men in his division had been given numerous lectures warning them about the dangers of VD. Blue light centres had also been established in Huy, Liege and at a Divisional Rest Station nearby. He blamed the "practically one hundred percent" increase in VD on the fact that the division had been assigned to the Cologne area. He argued that conditions would be different had 1st Division been posted to a different area in Germany.[135] When the division moved in to the Cologne area in mid-December 1918 the number of cases nearly doubled from fifty-four in November to 102. They reported that of the 291 cases that had appeared since the Canadian division took over, 184 of these had been contracted in Cologne.[136] Boyce stated "the Prevalence

[133] LAC, RG9-III-B-1 Vol. 1830, Venereal Statement Canadian Corps January 1919, 31 January 1919.

[134] LAC, RG9-III-B-1 Vol. 1830, Colonel Snell, Memorandum to ADMS 1st Canadian Division, 29 January 1919.

[135] LAC, RG9-III-B-1 Vol. 1830, Lieutenant-Colonel Boyce, Memorandum, 31 January 1919. The Australians had also complained that VD rates had increased dramatically when they were closer to a city when stationed near Amiens. See Butler, *Official History: Volume III*, 167.

[136] LAC, RG9-III-B-1 Vol. 1830, First Canadian Division – Venereal Case Admitted to Field Ambulances of Division July 1st 1918 to February 3rd 1919, 3 February 1919.

of venereal disease is causing the medical services much anxiety and all possible steps are being taken to combat the disease."[137]

Canadian divisions were increasingly concerned about the short-term wastage problem as well as the long-term danger of returning these men to Canada. Colonel Wright hoped that local authorities would be willing to take the necessary precautionary steps as the local authorities in France had been. He strongly believed "In dealing with this question our national health should first be considered rather than the endeavor to avoid hurting the feelings of local inhabitants."[138] Arrangements were made in early February to have women suspected of being infected sent to a hospital in Liege. At the same time, the divisional ADMS stepped up the amount of lectures to the troops. Captain W. W. McKay delivered several lectures and even had a showing of *Whatsoever a man soweth* "an excellent picture setting forth from a medical standpoint the results of venereal disease."[139] Even after leaving the Cologne area in February, 1st Canadian Division still had a number of VD cases that they believed were contracted while troops were still in Cologne. This raised the question as to whether men had been concealing their disease, so Boyce suggested "short arm" inspections be performed once a week. Men would continue to be held back from sailing to Canada and be docked pay while undergoing treatment. In addition, Boyce stated there was a new law in Canada that men

[137] LAC, RG9-III-D-3 Vol. 5025, War Diary, ADMS 1st Canadian Division, 2 February 1919.

[138] LAC, RG9-III-D-3 Vol. 5025, War Diary, ADMS 1st Canadian Division, 29 December 1918.

[139] LAC, RG9-III-D-3 Vol. 5025, War Diary, ADMS 1st Canadian Division, 22 February 1919.

would not be permitted to marry without a medical certificate proving he was free from infection.[140]

To contend with the number of cases that had developed as the Canadians entered Belgium and Germany, the Second Army altered arrangements to treat these cases. Every field ambulance and casualty clearing station would establish means for treating gonorrhea cases while patients were involved in the identification process. Once a woman was located, the case was evacuated to a CCS or ambulance train. No cases were to be treated at the Corps or Divisional level beyond the time it took to complete this process. Any soldier with venereal sores was sent to No. 44 CCS in Cologne for the purpose of identification. Suspected cases of VDS would receive salvarsan and mercury injections at No. 44 before they could be evacuated by ambulance train pending identification. While at No. 44 CCS, the No. 1 Bacteriological Laboratory would test these cases for the presence of *Treponema pallidum*. If a man had any open syphilitic sores, MOs were told not to apply mercury or salt to open sores as doing so made it more difficult to obtain a conclusive result from the lab. The sore was to be cleaned only with a saline solution and covered with clean lint or gauze.[141] They were, however, to be provided preliminary treatment prior to evacuation. Major General Thomson, the DDMS for British Armies in France, reported that a number of cases had arrived at base hospitals having received no treatment when they were initially admitted at a FA or CCS. This situation was problematic as doctors believed curative rates diminished significantly over

[140] LAC, RG9-III-D-3 Vol. 5025, War Diary, ADMS 1st Canadian Division, 5 February 1919.

[141] LAC, RG9-III-B-1 Vol. 1830, Correspondence from DMS Second Army No 117/164, 11 January 1919.

a short period of time. So he requested that VD cases be given initial treatment though it should be limited to washing out the anterior urethra with a weak antiseptic solution for VDG cases. VDS cases should only be given mercury except when special arrangements were made for the administration of salvarsan.[142]

Even with preventative measures in place, 4th Division reported exceedingly high numbers for VD. Colonel Snell reported that the rates jumped in the Canadian Corps when 4th Canadian Division rejoined them. In February 1919, he stated "this division has more venereal disease than any other division due to their proximity to Brussels and the fact that many men are allowed daily into the city on a pass."[143] 4th Canadian Division had established several blue light centres in Brussels each staffed by an officer assisted by five other ranks. When men arrived in Brussels on leave, they had to have their passes stamped within two hours of arriving in the city. At this point, an MO spoke to these men and lectured them about the dangers of VD. They were also supplied with prophylaxis and received instructions on how to use them.[144] Men were told to wash thoroughly with soap and water, followed by a wash with percloric of mercury solution. A solution of 2 per cent protargol or 10 per cent argyol was injected into the urethra and retained for 10 minutes. Afterwards, an inunction of 30 per cent calomel ointment was applied to the

[142] LAC, RG9-III-B-1 Vol. 1830, Correspondence from Major General J. Thomson, 6 February 1919.

[143] LAC, RG9-III-B-1 Vol. 1830, Memorandum from Colonel Snell, 8 February 1919.

[144] LAC, RG9-III-B-1 Vol. 1830, Memorandum from Lieutenant-Colonel Percy Dell, 31 January 1919.

external genitalia.[145] Additionally, in lectures men were told to avoid any woman with rash or a sore on her mouth or privates. They were also advised to avoid kissing as much as possible or exposing injuries such as a cut finger or cracked lips to infection.[146] Lieutenant-Colonel Percy Dell stated that every field ambulance and regimental aid post had established an early treatment centre open twenty-four hours.[147] Snell argued that all possible provisions had been made to offer early treatment in the area. Between 1st, 2nd and 3rd Canadian Division as well as the Canadian Corps division, there were 103 early treatment centres in the area.[148] The success of these measures relied on the self-discipline of the men. They needed to report for early treatment as soon as possible to increase the success rate of preventative treatment. If the number of cases continued to rise over the next week, Snell said they would have to seriously consider putting Brussels out of bounds to Canadian troops.[149]

After visiting a few of the early treatment centres, Snell found that a number of men were still not being told about them. He was concerned "this shows a certain lack of thoroughness in the work of Regimental Medical Officers instructing and lecturing these men. It also bears proof that the Regimental Officers are not taking the interest in this

[145] LAC, RG9-III-D-3 Vol. 5025, War Diary, ADMS 1st Canadian Division, 5 February 1919.

[146] LAC, RG9-III-B-1 Vol. 1830, Lecture on Venereal Disease, 10 February 1919.

[147] LAC, RG9-III-B-1 Vol. 1830, Memorandum from Lieutenant-Colonel Percy Dell, 31 January 1919.

[148] LAC, RG9-III-B-1 Vol. 1830, Memorandum: Early Treatment Centres, 27 February 1919.

[149] LAC, RG9-III-B-1 Vol. 1830, Memorandum from Colonel Snell, 8 February 1919.

matter which is required of them."[150] To address the problem, each divisional ADMS was required to periodically visit these centres and question the men there about their knowledge of venereal disease.[151] Yates proposed that men proceeding on leave be questioned by an officer to see if they understood the main points of VD prevention.[152] Snell questioned several men from both the 1st and 4th Canadian Divisions who had reported to an early treatment centre in Brussels and found, despite efforts to improve VD education among troops, men were not conversant about the centre nor had they received a lecture by their MO.[153] The lack of information surrounding the existence and purpose of early treatment centres no doubt contributed to higher rates of infection. In March 1919, 4th Canadian Division attributed the high rate of disease among their troops to the fact that only 22 per cent of infected men had used early treatment.[154]

The high rates of VD caught the attention of General Arthur Currie who issued a report to all ranks of the Canadian Corps to draw their attention to the problem. In the period from 23 February 1919 to 15 March 1919, there were 842 cases among the Canadian divisions in the Fourth Army. He stated, "These statements disclose a condition of affairs regarding this most obnoxious disease which, besides being discreditable to the Corps, is sufficiently alarming for us all to take it very much to heart, and to work to-

[150] LAC, RG9-III-B-1 Vol. 1830, Memorandum from Colonel Snell, 9 February 1919.

[151] LAC, RG9-III-B-1 Vol. 1830, Memorandum from Colonel Snell, 9 February 1919.

[152] LAC, RG9-III-B-1 Vol. 1830, Letter from Arthur Yates, 14 February 1919.

[153] LAC, RG9 -III-B-1 Vol. 1830, Memorandum from Colonel Snell, 17 February 1919.

[154] LAC, RG9-III-D-3 Vol. 5026, War Diary, ADMS 4st Canadian Division, 20 March 1919.

gether to see if something cannot be done to lessen the danger so apparent."[155] He warned soldiers that they were placing their own health in danger and that contracting the disease would delay their return to Canada. Men were also putting the health of their spouses and future children at risk by potentially exposing them to this "cursed" disease. "I use the word cursed advisedly," he related, "because medical science knows of no other disease that has brought so much unhappiness and misery into the world."[156] Currie also reminded troops that premarital or extramarital sexual encounters were a sin before God. In order to "stamp out this evil" Currie highlighted the measures that were already in place. First, soldiers would continue to receive lectures on the moral and physical dangers of VD. Second, he reiterated that men who exposed themselves to disease needed to seek out preventative treatment as soon as possible.[157] Those who did not would be disciplined, although it was not made clear what these measures would entail. By the end of February 1919, rates were still high among these divisions. Divisions located near larger centres like Brussels and Liege were typically worse especially as men were often allowed on pass to these cities daily so it was suggested that these cities be put out of bounds to Canadian troops.[158] Currie was reluctant to enact such measures as he felt many soldiers benefitted from these breaks and innocent men would be punished. Instead,

[155] LAC, RG9-III-B-1 Vol. 1830, Memorandum from Lieutenant-General Arthur Currie, 21 March 1919.

[156] LAC, RG9-III-B-1 Vol. 1830, Memorandum from Lieutenant-General Arthur Currie, 21 March 1919.

[157] LAC, RG9-III-B-1 Vol. 1830, Memorandum from Lieutenant-General Arthur Currie, 21 March 1919.

[158] LAC, RG9-III-B-1 Vol. 1830, Memorandum from Colonel Snell, 2 March 1919.

he stated that he was doing everything possible to get the Belgian authorities to remove infected women and make soliciting a crime. But ultimately, Currie told them, the solution rested with the soldiers themselves.[159]

As officials struggled to curb high rates of infection, medical services also had to grapple with the increasing number of men who required treatment. With operations winding down by December 1918, Colonel Ross suggested a policy reversal regarding where to treat VD cases for economic reasons. Since these cases were not likely to return to duty anyway, he said they should be evacuated to England for treatment as they had over 1000 cases hospitalized in France. If England could not accommodate all cases, then he proposed sending ones with syphilitic sores to England and holding gonorrhea cases in France.[160] Since syphilis cases required longer treatment, it was felt they should be the first ones evacuated. At No. 7 Stationary Hospital, Brigadier-General F.J.L. Embury reported that they had 1000 venereal cases under treatment. At a reported $1000 per day to hold them in France, he argued these men should be sent to England to continue treatment. He proposed establishing a small staging hospital to facilitate the transfer of these cases once they were able to travel.[161]

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[159] LAC, RG9-III-B-1 Vol. 1830, Memorandum from Lieutenant-General Arthur Currie, 21 March 1919.

[160] LAC, RG9-III-B-2 Vol. 3617, Correspondence from Lieutenant Colonel A. Webb, 12 January 1918.

[161] LAC, RG9-III-B-2 Vol. 3617, Correspondence from Brigadier-General F.J.L. Embury, 14 December 1918.

Officials in France also argued the practice of sending VD cases acquired in England back to their units in France for treatment should be reconsidered. [162]The ADMS of the 3rd Calvary Division reported that while on leave, three of his men had reported sick with VD in London. They were sent back to France where they were then admitted to hospital. He believed this procedure posed a danger to the man and the general public as "the man is travelling untreated and under adverse conditions for many days. Generally he is a source of great danger in latrines, washhouses, baths and general rooms of feeding and sleeping."[163] The response from Argyll House, however, was that hospitals in England could not accommodate these cases. They argued that "since a Canadian hospital has been set apart in France for this work it is thought advisable to continue that work in France for the time being."[164] As space became available they would start taking the more severe syphilis cases. When bed space at No. 7 Stationary could no longer accommodate the number of cases being admitted, they asked if Etchinghill was able to take over 300 cases but it is unclear what happened to these cases.[165]

What is clear is that the new mobility of the battlefield created a number of new challenges for medical services in France. Established systems of both treatment and

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[162] The Australians had long argued that their VD cases should be sent to Bulford, England as conditions and treatments were better there. General Howse got his way in December 1918. Butler, *Official History: Volume III*, 174.

[163] LAC, RG9-III-B-2 Vol. 3617, Correspondence from A.D.M.S. 3rd Calvary Division, 27 January 1919.

[164] LAC, RG9III-B-2 Vol. 3617, Correspondence from Argyll House, 23 December 1918.

[165] LAC, RG9-III-B-2 Vol. 3617, Correspondence from Adjutant-General J.B. Wraughlin, 29 December 1918.

prevention, even if the British and Canadians did not always agree on how they should function, had been built around a largely static battlefield. As men initially had fewer opportunities for sexual relations while on active service, most cases of VD occurred while men were on leave in the United Kingdom However, this changed as Canadian divisions moved into areas formerly occupied by the Germans. In these new areas there was increased contact between soldiers and local inhabitants. And after the armistice, soldiers had more time to visit larger city centres while on daily passes. When combined with the fact that there were initially no early treatment centres in these forward areas, infection rates among Canadian troops increased dramatically. In response, new early treatment facilities were established and troops were constantly lectured as to the dangers of VD. While these measures had helped control VD when stationed along the Western Front since men were being demobilized and returned home it is difficult to know if these measures had any real effect on VD rates.

Conclusion

Although Macphail stated that the Canadian Corps was practically disease free while in France, VD acquired both locally and in the UK was a concern in the field. Like in England, prevention developed along two lines – a punitive approach followed by a medical one. Even with these measures in place, VD in France required the development of a separate medical system for treating these cases. VD at the front never represented a serious threat to fighting capabilities at the front but its presence still prompted action. The creation of medical services at the front to deal with the issue eliminated some of the 'benefits' of contracting VD. Men could escape the trenches but they could still perform

vital non-combat roles while undergoing treatment. At the same time, they could be returned to their units faster than if they were sent across the Channel for medical care.

The medical treatments used at the front were built on established treatments and techniques although conditions at the front sometimes required accommodations. The British established a system in which VD cases were evacuated to a base hospital to undergo treatment. The creation of a VD management system at the front was complicated by the tensions generated by the competing interests and ideas of RAMC and CAMC personnel. In contrast to the British system, the Canadians developed a system to hold more cases in rest stations and field ambulances near the front. This system, they argued, would reduce wastage while also allowing them to provide a more thorough treatment, although the British ultimately did not support this approach. The British were concerned with preserving manpower by ensuring men were treated in the rear where they could be returned to their units quickly but were not in danger of getting captured during a German offensive. Despite the differences between the British and Canadian approaches, the situation in France had been somewhat manageable given that men had fewer opportunities for interaction with local women while in the trenches – although soldiers would take advantage when the opportunity presented itself. As Allied armies moved east, the system once again had to adapt to the new challenges. As hostilities wound down men had more opportunities to form new 'friendships' in newly acquired territories, which ultimately created more problems for commanders in the field.

Chapter 3

Venus, the Invisible Bullet: The Evolution of VD Treatment at Etchinghill Hospital, 1916-1919

While the implementation of prophylaxis and early treatment centres helped to reduce the overall rates of VD among troops, there were still thousands of cases that required medical care and bed space. The need for more treatment space was felt especially in England, as men there had more opportunities for sexual contact and the United Kingdom did not allow for the creation of medically regulated brothels like those found along the Western Front. With regular hospitals unable to accommodate VD patients in their wards, special hospitals needed to be constructed to treat cases. By Armistice Day, 20 special VD hospitals with 11,000 beds were operating under the RAMC medical services of the BEF with another 1,500 beds scattered across various non-specialized hospitals.[1] At their peak, the two main Canadian special VD hospitals, Etchinghill and Witley, had 1,060 and 650 beds respectively.[2] These hospitals played a significant role in managing the Canadian VD problem but how they operated and evolved over the course of the war has received little attention from historians. To begin to address this dearth in the literature, this chapter focuses on the creation and development of Etchinghill special hospital in Folkstone.

As at the front and before the war, VD hospitals were tasked with implementing a medical solution to a disease that was also seen as a moral problem, which affected their development and day-to-day operations. As military leaders struggled to develop an

[1] Macpherson, *Diseases of the War,* 130.

[2] Macphail, *Official History*, 294.

effective policy to combat the rising rate of VD infection among soldiers, an examination of Etchinghill's administrative records allow us to see how VD was dealt with at the medical level. An in-depth look at Etchinghill reveals how VD was treated, its role in developing the VD management system and the problems the hospital, OCs, staff and patients encountered over its three-year history. Like the CAMC at the front, the hospital followed the guidelines and procedures set by the War Office. However, unlike Canadian medical facilities in France, staff and administrators at Etchinghill had more autonomy to modify these practices. The existence of their laboratory and the fact that their patients were generally not in active combat roles gave the hospital staff more independence from the RAMC.

Overcoming the VD Stigma

In the winter of 1914-1915, a 500-bed Canadian tent hospital was established in Bulford, England to house VD cases. The hospital's crude equipment and unsympathetic staff reflected the prevailing belief that men who contracted VD were 'moral lepers' and the army should "let them go to France and get killed."[3] Both Canadian and British officials were reluctant to assume care of these men but they soon came to the conclusion that they only way they could limit the spread of VD was by treating these men as sick rather than social outcasts. It was becoming increasingly apparent that the problem would also require special treatment centres to accommodate the large number of cases.[4]

[3] LAC, RG9-III-B-2 Vol. 3740, History of the Canadian Special Hospital Etchinghill, Lyminge, Kent, ND.

[4] Cassel, *The Secret Plague,* 126.

Existing VD wards in Canadian hospitals were unable to cope with the number of cases, which created problems with record keeping and maintaining proper treatment schedules.[5] The situation was made worse after a major windstorm in November 1915 destroyed seventy-three of eighty tents shortly after the hospital had been moved to St. Martin's Plain, England. In the resulting confusion records were destroyed, patients disappeared and the CEF was left without suitable accommodations for VD cases. In the interim, the Shorncliffe Hospital could accommodate forty to sixty cases but frequently operated overcapacity with as many as 125 cases at one time.[6] In his 1916 report, Colonel Herbert Bruce argued the existing medical structure for VD treatment was inadequate and as a result many cases had not received proper medical attention. With the CAMC unable to handle the large number of cases, Bruce discovered that seventy-five VD cases per week were being transferred to British hospitals at an enormous cost to the CEF.[7] However, the problems highlighted in Bruce's report were not new and the CEF had already selected Elham Union Workhouse near Folkstone as the site for a special VD hospital prior to its publication.[8] In August 1916, Etchinghill opened its doors with a 200-bed capacity. The hospital staff consisted of seventy-five NCOs, most of whom had little prior VD experience although a few had done rotations at the venereal ward at

[5] Cassel, *The Secret Plague,* 130.

[6] LAC, RG9-III-B-1 Vol. 553, Report: Venereal Patients, 18 February 1916.

[7] Cassel, *The Secret Plague*, 133.

[8] LAC, RG9-III-B-2 Vol. 3740, History of the Canadian Special Hospital Etchinghill, Lyminge, Kent, ND.

Shorncliffe.[9] After several expansions the hospital's capacity grew to 1060 beds by March 1918. The hospital processed over 12,000 admissions during its three-years in operation before its last patients were evacuated on 10 June 1919.

The first officer in command of Etchinghill was forty-year-old Captain Henry Ernest Paul, who had been a VD specialist in civilian life in Fort Williams, Ontario (now Thunder Bay).[10] After enlisting in March 1915, Paul did rotations at hospitals in Bulford, Shorncliffe and had even served briefly as OC of the VD tent hospital in St. Martin's Plain. Paul was a prime candidate for the position given his experience in civilian practice and the CAMC Although he had little administrative experience prior to his appointment, his superiors later noted, "he rose to the occasion admirably and it was largely due to his ability that the hospital whose foundations he laid so successfully, attained the degree of excellence it did."[11] Despite his extensive knowledge and experience treating VD, his lack of administrative training made opening Etchinghill a difficult task. On top of this, he also had to contend with the prevailing negative attitudes concerning VD, which affected every aspect of day-to-day operations and patient care. Paul spent a year at Etchinghill, during which time he was promoted to the rank of Major, before relinquishing command and going back to France to work at the No. 1 General Hospital in Étaples.

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[9] LAC, RG9-III-D-3 Vol. 5041, War Diary, Canadian Special Hospital, Etchinghill, ND.
[10] LAC, RG150, Accession 1992-93/166, Box 7657 – 33, Henry Ernest Paul, Personnel File.

[11] LAC, RG 9III-B-2 Vol. 3740, History of the Canadian Special Hospital Etchinghill, Lyminge, Kent, ND

During Etchinghill's first year in operation, staff and medical officers led by Paul had to contend with the negative stigmas surrounding VD. The nature of VD, a sexual disease that as reformers believed could be avoided by adhering to the moral standards of the day, negatively impacted the experiences of its patients. Historian Mark Harrison argues special VD hospitals were initially "regarded, if not intended as deterrents."[12] An earlier report outlined that any OC of a special VD hospital "should not be a medical man but a Military man of demonstrated executive ability, who shall be given such staff assistance as to provide for the physical training and military discipline of the men."[13] This statement reflects the early ideas surrounding the treatment of venereal patients who were seen as moral deviants who needed discipline more than medical intervention. At the clinical level, the staff and medical officers at Etchinghill had to work to overcome this negative view and ultimately improve conditions at the hospital.

As one might expect, Paul's views on VD management were influenced by the fact he was a medical man and not a military one. Since 1916, the official policy had been to dock half the pay of men undergoing VD treatment.[14] Cassel argues this policy was "intended to discourage men from running the risk of infection and to recover some of the financial loss."[15] In contrast to official policy, Paul argued the best method for reducing VD rates would be increasing compliance from soldiers through less punitive

[12] Harrison, *The Medical War*, 157.

[13] LAC, RG25 Vol. 272, Report: Venereal Disease, ND

[14] Colonel J.G. Adami, "The Policy of the Ostrich," *The Canadian Medical Association Journal,* April 1919, Vol. 4 (4): 297.

[15] Cassel, *The Secret Plague*, 127.

measures. After discussing the matter with a number of soldiers over several months, Paul determined preventative measures were only being used by 50 per cent of men who later developed VD. A combination of ignorance, lack of instruction and the absence of any real incentives kept usage low.[16] Men who reported to hospital with VD were docked pay regardless of whether they used preventive measures, which actually encouraged men to delay treatment by concealing their disease.[17] Paul suggested that any soldier who developed VD but could prove he had received preventative treatment within twelve hours of exposure should not be subjected to a hospital stoppage. This system had been implemented by the US Army for soldiers on active service in Mexico with remarkable success.[18] Men would only be docked pay – both their own and any money they had assigned to dependents – in the event they could not produce a record of preventative treatment. While this plan was criticized on the basis that any dependents would suffer, Paul argued it would be more effective since soldiers would then be encouraged to seek preventative treatment.[19] However, Paul's suggestions were not implemented and men continued to be docked pay when they were hospitalized for VD, although their dependents would continue to receive their full allotment. Officers were docked at a rate

[16] LAC, RG9-III-B-1 Vol. 863, Major Henry Paul, Reduction in the Incidence of Venereal Disease, 30 June 1917.

[17] LAC, RG9-III-B-1 Vol. 863, Letter from Sgd. J.C. MacDougall, 10 August 1915.

[18] LAC, RG9-III-B-1 Vol. 863, Major Henry Paul, Reduction in the Incidence of Venereal Disease, 30 June 1917. The Australians experimented with this system. See AWM, AWM27 376/168-169, Report: The Incidence of Venereal Disease in the A.I.F., 18 October 1915.

[19] LAC, RG9-III-B-1 Vol. 863, Major Henry Paul, Reduction in the Incidence of Venereal Disease, 30 June 1917.

of $1 per day and their field allowance while all other ranks were docked $0.50 per day in addition to losing their field allowance.[20]

While it proved difficult to implement change at the policy level, Paul and his staff could affect change at the clinical level. The stigmas surrounding VD treatment had had an adverse effect on patient experiences, especially in the hospital's first year of operation. Shortly after the war, Adami contended that from the beginning of the conflict VD patients were treated as human beings instead of "depraved characters." "I have it from one of our chaplains," he told a group at the Royal Institute of Public Health in 1919, "that as a body he found them the best and brightest and most attractive lot of fellows he had come across in the army, and that he treated them as such."[21] Adami, however, overstated the acceptance initially extended to these men, although their experiences did gradually improve over the course of the war. This change was premised on the belief that improving the conditions of the hospitals would promote recovery, which would see men returned to their units sooner.

A similar pattern characterized the development of Langwarrin, the VD hospital in Australia. When it first opened, the hospital functioned as a detention barracks for soldiers with VD but men frequently ran away before completing their treatments, which generated no shortage of negative press in the local papers. Historian Raden Dunbar argues that it soon became obvious to Brigadier General Williams, the commander at Langwarrin, "that treating men with VD as criminals while trying to force cures upon them was self-defeating…Something had to be done to make inmates want to stay

[20] LAC, RG9-III-B-2 Vol. 3617, ADMS Army Circular Letter No. 10, 30 March 1918.

[21] Adami, "The Policy of the Ostrich," 297.

voluntarily until they were cured, and then to willingly return to their military duties."[22] To this end, Williams sought to change the attitudes surrounding VD treatment at Langwarrin by converting it into a hospital rather than a detention centre. Beginning in late 1915, the staff and patients worked to improve the existing facilities through improvements to the grounds, buildings, entertainment and overall comfort of the staff and patients. These measures appeared to have had the desired effect as the staff reported that by the end of 1916 absences and escapes had all but stopped.[23] While both hospitals experienced a similar evolution in improved attitudes and conditions, Langwarrin benefited from being situated in a fairly remote area in Australia, away from the constraints of wartime conditions and British policy.

Even finding an area to dedicate to the treatment of VD had been no small task given that "there is no part of the British Isles that want to have these men in their neighbourhood."[24] No community wanted to run the risk of an outbreak of VD especially since soldiers who contracted VD were seen as deviants who did not deserve sympathy nor even the simplest of accommodations. For example, out of a sense of moral outrage the Red Cross would not provide comforts such as cigarettes or books to soldiers undergoing treatment at Etchinghill. They supposedly went as far as to refuse to supply the hospital with crutches. During a visit to the hospital in December 1917, DGMS Major-General G. C. Jones argued these supplies were necessary and "no matter what the

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[22] Dunbar, *The Secrets of the Anzacs,* 86. See also Butler, *Official History: Volume III*, 175-177.

[23] Butler, *Official History: Volume III,* 175-177 and Dunbar, *The Secrets of the Anzacs*, 92-97.

[24] LAC, RG9-III-A-1 Vol. 41, Letter to George Perley, 25 November 1916.

origin of the man's illness may be, when he is sick, he should receive the same consideration as if the sickness has been acquired through other sources."[25] The Red Cross did not begin supplying comforts to Etchinghill patients until early 1918. This reversal only happened after Colonel William MacKinnon, who had taken over as OC in 1917, informed the Red Cross of the necessity of such items and the fact that the patients were actually entitled to them.[26]

Men being treated at Etchinghill initially had little in the way of entertainment or exercise. They were not allowed outside for marches and had no sports field or other organized activities until staff members at Etchinghill intervened.[27] Captain Arthur Skerry, an Anglican clergyman from Nova Scotia who was chaplain at Etchinghill from August 1916 to June 1919, was the driving force behind these changes. After discussing the matter with Paul, he wrote to the Director of Medical Services, Colonel A.T. Shillington to request sporting goods for the patients at Etchinghill.[28] "The Societies organized for this purpose," he wrote, "seem to think the men here do not deserve anything in this line. I think it is a great shame not to give any men any opportunities for

[25] LAC, RG9-III-B-2 Vol. 3718, Surgeon General G.C. Jones, Report on Etchinghill, 20 December 1917

[26] LAC, RG 9 III-B-1 Vol. 1826, Colonel W.T.M MacKinnon, Reporting the Work Carried Out at Canadian Hospital Etchinghill During Year Ending 1 November 1918.

[27] LAC, RG9-III-B-2 Vol. 3740, History of the Canadian Special Hospital Etchinghill, Lyminge, Kent, ND.

[28] LAC, RG 150, Accession 1992-93/166, Box 8960-14Personnel File: Captain Arthur Skerry.

amusement and if you could intercede for us we would appreciate it very much indeed."[29] Skerry's role was later described as "most important" given his personal contact with patients and his keen interest in the connection between sports, entertainment and recovery.[30] He worked hard to improve the conditions for patients by advocating for them in appeals to senior ranks but he also contributed his own time and energy to establishing programs, entertainment and support. Religion became an important component of hospital life. Skerry held a church service and bible study group on Sundays, conducted a mid-week song service and established a library and reading room for patients. Over 200 patients enrolled in education classes provided by the YMCA with topics including agriculture, history, French, bookkeeping, shorthand and arithmetic. In one instance, a group of twelve illiterate soldiers was taught to read and write while undergoing treatment. Sexual education was also an important component, and although already intimately acquainted with the dangers of VD, patients were lectured on the risks VD posed to both individuals and the nation.[31]

Physical activity would increasingly become an integral part of hospital life since staff found it kept men fit for service and aided in the recovery process. Shortly after Etchinghill opened in the fall of 1916, the majority of the grounds were cultivated for agricultural use, which quickly became an important activity and resource at the

[29] LAC, RG9-III-B-1 Vol. 3718, Captain Arthur Skerry, Letter to Colonel Shillington from, Canadian Special Hospital Etchinghill, Lyminge, Kent, 12 September 1916.

[30] LAC, RG9-III-B-1 Vol. 1826, Colonel W.T.M MacKinnon, Reporting the Work Carried Out at Canadian Hospital Etchinghill During Year Ending 1 November 1918.

[31] Ibid.

hospital.[32] At an inspection on December 1916 the hospital's dry canteen was criticized for not providing any room for recreational activities for staff or patients but the CO in charge of the inspection stated he was impressed with the hospital's garden and said he would do anything in his power to provide fertilizer and seeds to continue the project and also approved of expanding the farm to include pigs and other livestock.[33] Almost two acres of land were seeded with potatoes, parsnip and greens that could be used in the mess hall with the majority being sold in the surrounding areas. Patients looked after the bulk of the gardening work because medical staff felt "there is double advantage in this as patients in doing heavy work such as digging and rolling provide the medical officer in whose charge they are with a test as to the permanency of their cure it having been discovered in cases of gonorrhea that a great many relapse occur in men who are placed in heavy fatigues in their lines immediately after recovering from an attack of gonorrhea."[34] Due to the physical nature of the work, it could irritate already sensitive urethras and some men would develop increased discharge and had to be returned to the ward for further treatments. This physical test allowed doctors to determine which cases required further treatment and became an important part of gauging the recovery process.

At both Witley and Etchinghill, a growing emphasis on physical activity became an important part of improving hospital conditions and the effectiveness of treatment. To promote physical activity Etchinghill developed a training schedule that included four

[32] LAC, RG9-III-B-1 Vol. 3718, Captain Henry Paul, Letter to ADMS Canadians Folkstone, 7 December 1916.

[33] LAC, RG9-III-B-1 Vol. 3718, Captain Henry Paul, Letter to ADMS Canadians Folkstone, 7 December 1916.

[34] RG9-III-D-3 Vol. 5040, War Diary, Canadian Special Hospital, Etchinghill, ND.

daily parades. The hospital staff modified the three training branches: drill, physical training and bayonet fighting as they were thought to be too strenuous for VD patients. Physical training would only be given three to five days after a patient's last treatment to test their condition. If no relapse occurred then patients were returned to their units with orders to continue light duty for several weeks. Since the level of physical activity required under normal training procedures was deemed too intense for recovering patients they were offered classes in map reading, anti-gas and target practice with muskets, Lewis guns and bombing.[35] There were three levels of exercise corresponding to each class of treatment: acute, sub-acute and chronic to ensure that the level of physical activity would not trigger a relapse or place any undue strain on one's genitalia.[36] This schedule would help keep men battle-ready through regular drilling. Its graduated levels promoted a soldiers' return to the line by slowly increasing his level of physical activity without triggering a relapse.

By the fall of 1917, in addition to regular, modified drilling, team sports such as football and baseball became an important part of recovery.[37] An inter-ward softball league was created and its success led to the establishment of an inter-ward football league. The prevailing wisdom was that VDG patients should avoid all physical activity as it might exacerbate their condition and slow recovery. Contrary to this belief the staff

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[35] LAC, RG9-III-B-1 Vol. 1826, Colonel W.T.M MacKinnon, Reporting the Work Carried Out at Canadian Hospital Etchinghill During Year Ending 1 November 1918.

[36] LAC, RG9-III-B-1 Vol. 3617, Colonel W.T.M. MacKinnon, Instruction in Military Subjects, 3 February 1918.

[37] LAC, RG9-III-B-2 Vol. 3740, History of the Canadian Special Hospital Etchinghill, Lyminge, Kent, ND, RG9-III-D-3 Vol. 5041, War Diary, Canadian Special Hospital, Etchinghill, ND and Adami, "The Policy of the Ostrich," 386.

at Etchinghill determined that "physical training, by keeping the men busy and diverted, very materially shortens the period of hospitalization."[38] Patient participation in sports and games was strongly encouraged and Etchinghill reported the 30-50 per cent of patients generally took part. Physical activity was successfully used as mental stimulus, to maintain discipline and the graduated increase in physical training created a smooth transition once a man was returned to duty.

Despite the stigma surrounding VD, patient experiences at Etchinghill gradually became more humane over the course of the war. These changes can be attributed to the individual efforts of its hospital staff, like Captain Skerry, who advocated for change on behalf of their patients. Conditions at the hospital also benefited from a shift in attitude at the policy level that saw a more liberal approach to the VD problem. Men being treated for VD were initially regarded as moral deviants but this harsh view was gradually replaced by the belief that treating these men as sick instead of criminals would produce better results. This change paved the way for the implementation of entertainment, physical and personal support at the hospital, which improved patient experiences and helped to promote recovery.

Improving the VD Management System

VD hospitals became the central sites for managing VD but they did not operate in isolation. Canadian hospitals functioned in a similar fashion to British hospitals. The War Office outlined practices and procedures for VD care but the CAMC was responsible for the delivery of the system established by the British. The success of the

[38] Adami, "The Policy of the Ostrich," 298.

VD management system depended on the cooperation and efforts of battalion MOs who, in the wisdom of the day, played an important role in determining the sexual health of the men under their command. During the course of the war, Etchinghill became something of a research and teaching hospital tasked with generating and disseminating knowledge among battalion doctors in England. The responsibility of battalion doctors as educators of sexual health at the front has been well documented, while their role as medical practitioners in VD treatments, tasked with diagnosing the disease, has received less attention. The role of the MO was important as they were the first to diagnose suspected cases and time was a crucial element in ensuring a successful treatment. Early diagnosis improved the effectiveness of a treatment thereby reducing the amount of hospitalization that was required. During his tenure as OC, W.T.M MacKinnon took an active role in trying to improve the VD management system through by increasing VD education and awareness among battalion MOs.

Major William Thomas Morris MacKinnon took over command of Etchinghill on 27 August 1917 and remained in charge of the hospital until it closed in early June 1919.[39] The forty-four-year-old ophthalmologist from Amherst, New Brunswick, had been with the CAMC since he had enlisted on 13 September 1914.[40] MacKinnon did rotations at hospitals in both France and England before succeeding Paul as OC of Etchinghill.[41] Although not formally trained as a VD specialist, during his tenure at

[39] Macphail, *Official History*, 218.

[40] "Obituary – W.T.M. MacKinnon," *Canadian Medial Association Journal,* 77 (15 August 1957): 357.

[41] LAC, RG150, Accession 1992-93/166, Box 7009 – 41, Personnel File: Colonel W.T.M MacKinnon.

Etchinghill MacKinnon took an active role in trying to shape the management of VD in the CEF. Under MacKinnon, the hospital's focus expanded to include increased education and awareness about VD prevention and treatments. His efforts did not go unnoticed by those in the senior ranks and he was promoted to the rank of Colonel in the CAMC.

VD education among battalion MOs became a central aspect of MacKinnon's agenda. He continually stressed the importance of early diagnosis and completing treatments as he argued this significantly reduced the severity of cases and thus the amount of treatment time. Any delay could allow the disease to generalize, making it far more difficult to treat. Proper diagnosis, however, could be difficult as VD symptoms could be masked by other illnesses or mistaken for symptoms of another disease. Too often this meant that it was several weeks before men with VD were sent to Etchinghill for treatment, which prolonged treatment times and reduced their effectiveness.

To improve the situation, MacKinnon worked to cultivate awareness and cooperation with MOs about the importance of early diagnosis. He asserted, "It has been found by experience at this hospital that medical officers as a rule through distaste of 'V.D.' neglect this important subject and are consequently both unable to diagnose and to treat these diseases."[42]In a report to his superiors in Folkstone, he described the cases of two men who developed primary lesions but were retained in brigade lines for two weeks before being sent to Etchinghill. In both cases, he noted that the men had enlarged glands with marked indurations –inflamed and hardened masses - and multiple erosions on the

[42] LAC, RG9-III-B-1 Vol. 1826, Colonel W.T.M MacKinnon, Reporting the Work Carried Out at Canadian Hospital Etchinghill During Year Ending 1 November 1918.

penis, all a clear indication that these cases should have been sent to the hospital sooner. MacKinnon requested that this issue "might be brought to the attention of the M.O.'s in the Shoreham Area that early treatment is necessary in order to ensure a cure in primary syphilis; that delays cause the disease to become generalized, and it is almost impossible to obtain a negative Wassermann, even at the end of a double course of 606."[43] Although at times Etchinghill reached capacity and was forced to refuse admission to large groups from outside areas, MacKinnon stressed that there was always enough room to provide immediate treatment to three or four patients if they had primary lesions.[44]

Two weeks later he identified three more cases, two with syphilis and one with chancre that were not sent to hospital until weeks after their symptoms had first appeared. The chancre case was admitted forty-five days after the man first reported his condition. Despite the presence of multiple physical symptoms including enlarged glands, inflammation and induration he was only admitted after a blood test.[45] Another case involved a soldier who had contracted VD in April 1917 with his first symptoms appearing in May that same year. Over the next few months he underwent several medical inspections at several different hospitals. In September he paraded before a MO at Seaford, complaining of a sore throat and had neucus patches and erosions in his mouth and throat. MacKinnon noted "This was undoubtedly the secondary symptoms of syphilis and no error in diagnosis should have be made as was the case with this MO who

[43] LAC, RG9-III-B-1 Vol. 1826, Colonel W.T.M MacKinnon, Delay in Treatment, 16 October 1917.

[44] Ibid.

[45] LAC, RG9-III-B-1 Vol. 1826, Colonel W.T.M MacKinnon, Delay in Treatment, 31 October 1917.

told him it was 'Just a little sore throat' and that a gargle was all the treatment he required.[46] The man was sent back to his unit until he reported sick again on 31 October at which point another MO recognized the symptoms and immediately sent him to Etchinghill. Despite several examinations, it took 158 days before he received a correct diagnosis.[47] The man spent twenty-seven days in hospital before being discharged as an outpatient for the remainder of his treatment. He received six doses of neo-salvarsan and seven doses of mercury, but his Wassermann still came back positive on 31 December 1917. However, he embarked for Canada in January 1918 and there is no further information in his file, so it is not clear whether there were any further treatments or tests as a positive Wassermann should have excluded him from being sent back to Canada, a policy that will be discussed in the last chapter. [48]

Over the next several weeks, MacKinnon continued to report more cases of delayed treatment to his superiors.[49] After Private Higgins went to his MO after noticing a small sore on his penis, he was placed in quarantine and treated for scabies for three weeks. When his condition did not improve, he was sent to Etchinghill and on admission he was also found to have large rashes and multiple sores over his body, inflammation, and indurations. Although the symptoms of VD and scabies were similar MacKinnon

[46] LAC, RG9-III-B-1 Vol. 1826, Colonel W.T.M MacKinnon, Delayed Treatment 158 Days, 1 November 1917.

[47] Ibid.

[48] LAC, RG150, Accession 1992-93/166, Box 8363– 57, Personnel File: Private Major Sargent Saunderson.

[49] LAC, RG9-III-B-1 Vol. 1826, Colonel W.T.M MacKinnon, 5 November 1917 and LAC, RG9-III-B-1 Vol. 3617, Colonel W.T.M MacKinnon, Delayed Treatment, 23 December 1917.

asked "Might the attention of the MO responsible be drawn to the similarity which is sometimes shown between scabies of the penus [sic] and syphilitic sores. Careful examination will reveal the distinction. Induration is very noticeable in syphilitic sores while absent in sores caused by scabies."[50] Private Cook was also mistakenly treated for scabies when he reported to his MO after he noticed a sore on his penis. After undergoing a month of treatment for scabies he was admitted to Etchinghill in September 1918 with syphilis. The delay had allowed the disease to generalize and he had developed several lesions, chancres, enlarged glands and a large rash on his torso. Again, MacKinnon insisted the MO should have caught these symptoms and the ADMS agreed that not enough had been done to get them to hospital as early as possible.[51]

To rectify the situation, the hospital started holding clinical meetings in order to educate MOs of the methods of diagnosing VD, which were generally well attended according to MacKinnon.[52] In the absence of available cases, the hospital relied on lanternslides showing early conditions in natural colours in order to assist the clinical demonstrations.[53] At a meeting at the clinical society at Etchinghill Captain George Orville Scott, a pre-war VD specialist who worked at the hospital from 19 February 1917

[50] LAC, RG9-III-B-2 Vol. 3617, Colonel W.T.M MacKinnon, Delayed Treatment, 23 December 1917.

[51] LAC, RG9-III-B-1 Vol. 3618, Colonel W.T.M MacKinnon, Delayed Treatment, 6 September 1918 and LAC, RG9-III-B-1 Vol. 3618, ADMS Director General Medical Services, Delayed Treatment, 15 October 1918.

[52] For an example of a topic discussed at these meetings see Captain A.V. Greaves, "The cutaneous manifestation of syphilis," *Canadian Medical Association Journal* 8, 5 (May 1918): 417-423.

[53] LAC, RG9-III-B-1 Vol. 1826, W.T.M MacKinnon, Reporting the Work Carried Out at Canadian Hospital Etchinghill During Year Ending 1 November 1918.

to 30 January 1919, informed his audience that "if every medical officer here regard any sore on the genitals as specific until proven otherwise, then we have expended our time to the greatest advantage and actually saved this afternoon thousands of dollars to the government, increased the efficiency of every unit in this area, and greatly helped to keep our overseas division up to fighting strength."[54] While early diagnosis was key to reducing treatment times and improving effectiveness, men frequently reported genital sores to their MOs only to be told that it was too early to have developed an infection. Instead the sores were attributed to chaffing or unhygienic practices. In some cases, battalion MOs serving units in England were also found to cauterize open venereal sores which made it difficult to obtain an early diagnosis through examination or microscopic smear when they were sent to hospital a week or two later. Scott argued, "it would be much better if cases in which the Medical Officers above referred to are doubtful of their diagnosis, were sent to this Hospital at once without being interfered with."[55] He explained that a delay in treatment by three to six weeks allowed the disease to generalize making it more difficult to treat.

The statistics compiled at Etchinghill show that men admitted with primary stage syphilis spent an average of twenty-one days in hospital whereas the average stay of a man with secondary stage syphilis spent an average of twenty-two days in hospital. Although there was little difference in hospitalization times, early diagnosis significantly reduced the length of time required for outpatient treatment. Once released from the

[54] Captain G. Orville Scott, "Advantages of the Early Diagnosis and Treatment of Syphilis," *The Canadian Medical Association Journal* 8, 11 (Nov 1918): 1012.

[55] LAC, RG9-III-B-1 Vol. 3718, Colonel W.T.M. MacKinnon, Cauterizing of Venereal Sores, 3 September 1917.

hospital, men were required to return at regular intervals as outpatients. Outpatient care in cases of primary syphilis was thirty-six days compared to the one hundred and sixty-five day treatment required once the disease had generalized, which significantly delayed their ability to perform full fatigue and subsequently their availability for a draft. Scott stated "The balance sheet stands as follows in the majority of cases: Primary syphilis, available for France in fifty-seven days; generalized syphilis, available for France in one hundred and eighty-seven days."[56] Scott informed the MOs their role was of the utmost importance given that treatment time tripled when diagnosis was delayed.[57] These clinical meetings provided valuable statistical and medical information in an effort to improve coordination with medical officers in the area. MacKinnon felt the meetings were a success and stated "a large number of Officers have passed through this hospital and it is hoped, are now proficient to carry out intelligent diagnosis and treatment upon their return to Canada, where it is feared owing to the conditions which obtain as the result of the war, that venereal disease will have spread to a considerable extent as it has done in this country."[58] MOs played an important role in early diagnosis but their role did not end there as they coordinated follow-up care once soldiers were discharged from hospital. Limited hospital space meant many men undergoing anti-syphilis injections had to be treated as outpatients for the later half of their treatments.

[56] Scott, "Advantages of the Early Diagnosis,"1017.

[57] Ibid, 1016-1017.

[58] LAC, RG9-III-B-1 Vol. 1826, Colonel W.T.M MacKinnon, Reporting the Work Carried Out at Canadian Hospital Etchinghill During Year Ending 1 November 1918.

Since the day it opened, the hospital frequently operated at capacity and had to implement procedures to meet demand. Unable to retain all men in hospital over the course of their treatment, which typically lasted two months, men who had no open sores were sent back to their lines to continue the second half of their treatment as outpatients. From August 1916 to November 1918, the hospital treated 12,281 outpatients.[59] Medical staff at Etchinghill knew sending patients back to their units while they were still undergoing treatments could create a number of logistical issues, but the lack of space made it necessary do so. The success of this system required the assistance of medical and commanding officers at the battalion level. This cooperation could be difficult to get as it was often hindered by inexperience and ignorance among MOs.

Shortly after the hospital opened, the staff began to report problems about the lack of medical experience in treating VD among battalion MOs. Captain Herbert Bates, while working as an MO at Etchinghill stated he quickly found inexperienced MOs giving preliminary treatments had been problematic. He noted "patients have frequently been admitted to this Hospital with badly mutilated arms caused by repeated attempts to puncture veins, which, to an experienced MO, would present no difficulty."[60] Etchinghill had been investigating the use of several different 606 solutions so that men could be treated in lines. But given the fact that it was already difficult to obtain and maintain a steady supply of the drug and the relative inexperience of some MOs, it was difficult to ensure uniform treatment outside of the hospital. Instead, the hospital discharged men to

[59] LAC, RG9-III-B-1 Vol. 3718, Colonel W.T.M MacKinnon, Reporting the Work Carried Out at Canadian Hospital Etchinghill During Year Ending 1 November 1918.

[60] LAC, RG9-III-B-1 Vol. 3817, Captain Bates, Venereal Disease Treatment of Outpatients in Other Areas, 4 June 1917.

their units and had them return for treatments and testing. The outpatient system had been created owing to lack of space and Bates reasoned the "system is not satisfactory, as some men never return for the completion of their course of treatment and a great many never return for a 'Wassermann' reaction."[61] He reasoned that once the hospital added another 100 beds it would not be necessary to discharge men until they were cured, which would solve most of the current problems. But this increase did not solve the bed shortage and syphilis cases were treated as outpatients throughout the war.

Even with the development of a VD management system to track outpatient treatments, compliance from battalion MOs in England remained an issue. The men and their MOs were given written notifications indicating when men were to proceed to Etchinghill for blood tests and treatments. To ensure that there were no negative side effects from 606 treatments, men were also to be placed on light duty for twenty-four hours after their injections. If a man was not recalled seven days after his last blood test then his Wassermann could be marked negative and he could be considered 'cured.'[62] While this system saw men returned to their units sooner, it required the cooperation of the soldier's CO and MO to be successful, which did not always happen. Scott complained to his superiors, "the necessity for these men to get regularly treated is too obvious to require any comment. In spite of these notifications, and the obvious necessity, I find that men fail to report on the proper days, for reasons too varied to enumerate. In most cases I am convinced the responsibility does not lie with the men

[61] LAC, RG9-III-B-1 Vol. 1825, Captain Bates, Venereal Disease Treatment of Outpatients in Other Areas, 4 June 1917.

[62] LAC, RG9-III-B-1 Vol. 836, Outpatient Notification, 27 August 1917.

themselves."[63] He felt this was unnecessarily unfair to the men who were at the mercy of their MOs. Scott recounted the story of a sergeant who had been discharged as an outpatient with a slip outlining the days he needed to report back to Etchinghill. The sergeant's MO and CO had both received separate notifications but when the man asked permission to report to Etchinghill, his request was denied. Not satisfied with the response, the man went to see his Senior MO who told him that he did not need to report on time as "a few days one way or the other made no difference."[64] When the man was still not given permission to report for treatment several days later, he felt he had no choice but to go absent without leave, which left him open to punishment.[65]

MacKinnon took over shortly after Scott's initial complaint and he immediately set about solving the problem. The end result was the creation of a circular letter to be forwarded to all units outlining the necessity and procedures surrounding outpatients to counter the false impression treatment schedules could be altered. All units were informed "this impression is entirely erroneous, resulting often in delays which necessitates carefully calculated changes in dosage and treatment of the soldier, and in every instance nullifies the Medical records maintained at the Hospital, of the particular soldier concerned."[66] In an effort to ensure compliance with outpatient procedure, units

[63] LAC, RG9-III-B-1 Vol. 3718, Captain George Scott, Failure of Outpatients to Report When Due, 3 September 1917.

[64] LAC, RG9-III-B-1 Vol. 3718, Captain George Scott, Failure of Outpatients to Report When Due, 3 September 1917.

[65] LAC, RG9-III-B-1 Vol. 3718, Captain George Scott, Failure of Outpatients to Report When Due, 3 September 1917.

[66] LAC, RG9-III-B-1 Vol. 863, Circular: 'Out' Patients Venereal Diseases – Failure to Report when due, 3 September 1917.

were told that they were to make arrangements to allow a soldier to proceed to the hospital, under the escort of an NCO if the soldiers rank or grade was private. Etchinghill would send notifications to the man's unit MO and OC, who were responsible for forwarding these notifications to the soldiers new unit in the event he was transferred.[67]

When the hospital experienced a marked increase in the number of gonorrhea cases being re-admitted to Etchinghill in early 1918, MacKinnon realized MOs needed a reminder about the proper aftercare of VD patients. In order to minimize the potential for relapse after completing treatments, Etchinghill recommended men be placed on restricted leave and given light duty for three weeks following their discharge from hospital. While investigating these cases, MacKinnon interviewed a number of men who claimed they were immediately returned to full duty or granted a leave of absence. When men were discharged from the hospital, their units were given specific instructions to put the man on light duty for several weeks. Men who returned to full duty right away often relapsed as the strain of heavy work irritated the already sensitive urethral mucosa. Private Moore was discharged to his unit after spending thirty days in hospital with instructions to be placed on light duty. However, two days after returning to duty Moore was placed on heavy fatigues, which involved carrying stacks of potatoes and bundles of rhubarb and relapsed shortly after.[68] Four days after Private Osborne was returned to his unit, he was marched ten miles and put to work cutting brush for several hours, heavy

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[67] LAC, RG9-III-B-1 Vol. 863, Circular: 'Out' Patients Venereal Diseases – Failure to Report when due, 3 September 1917.

[68] LAC, RG9-III-B-1 Vol. 863, Colonel W.T.M. MacKinnon, 2502962 Pte. Phillip Moore 1st C.C.D., 5 April 1918.

work which MacKinnon blamed for his relapse.[69] Although it was not always possible to prevent a relapse MacKinnon was "quite sure that many relapses would be prevented if the Officers Commanding Infantry Units would co-operate intelligently with the medical officers in securing for men on their return to duty, the three weeks construction battalion and light duty asked for, in order to gradually harden these patients and minimise the danger of relapse."[70] Relapses were also common among men who were given leave shortly after release. MacKinnon argued men on leave frequently consumed large amounts of alcohol, which irritated the urethra often resulting in a purulent discharge that prompted a return trip to the hospital. The Shorncliffe area had already introduced an order outlining the proper procedure for dealing with cases of VD and MacKinnon suggested other areas should adopt a similar order. The order stipulated that all VDG patients be placed on three weeks of light duty following their return to the unit. During this time they would also be confined to lines and prohibited from visiting the canteen with any consumption of alcohol resulting in swift punishment as MacKinnon warned them of the negative effect alcohol could have on a man's recovery.[71]

Etchinghill was the central part of the VD management system but MacKinnon and other hospital staff like Scott, relied on the cooperation of battalion MOs and commanders to ensure the eradication of VD. Success started with an early diagnosis but

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[69] LAC, RG9-III-B-1 Vol. 863, Colonel W.T.M. MacKinnon, Relapses of "V.D.G", 21 November 1917.

[70] LAC, RG9-III-B-1 Vol. 1862, Colonel W.T.M. MacKinnon, V.D. Re-Admissions, 22 September 1917.

[71] LAC, RG9-III-B-1 Vol. 3617, Colonel W.T.M. MacKinnon, Relapsed Cases, 4 May 1918. For an overview of the use of alcohol in the CEF in the First World War see: Cook, "More a Medicine than a Beverage,"1-17.

also included follow-up care for recovering patients or those still undergoing treatments. The creation of a better system became a central focus when Mackinnon took over command. To improve the system, MacKinnon and the staff at Etchinghill increased awareness and education by improving communication with MOs and implementing clinical meetings at the hospital. Advancing the knowledge of battalion MOs and building better working relationships with them was vital to the VD management system.

Patients and Admission Process

Clerks at Etchinghill admitted 12,158 patients over the course of its almost three years in operation. The names, diagnosis, and length of hospitalization for each patient were recorded in the hospital's admission and discharge books. To understand more about the men who were sent to hospital, a random and representative sample of 382 patients was constructed, choosing every 27th name from the admission and discharge books sequentially. This number was chosen because it would typically yield results with a confidence interval of 95 per cent, 19 times in 20, using the standardized data points collected and outlined below. The sample was constructed sequentially to ensure that it was both random and representative of the hospital's entire history, given that patients were admitted in batches and the population varied over time. The patient's name, age, disease, length of stay and outcome were recorded and analyzed in an effort to compare the demographics to available hospital reports and fill in missing information about the patient profile. The averages compiled in these categories generally reflect those recorded in hospitals reports allowing for a construction of the typical patient and experience.

My sample of Etchinghill's admission and discharge books reveals that the average age of a soldier admitted to hospital was 26.3 years old, slightly younger than the average age of a soldier in the CEF at twenty-seven. Not all patients, however, fit this demographic and there were several outliers in the sample at both ends of the scale. Private John Harrington claimed that he was nineteen years old when he enlisted with the CEF on 30 December 1915. Harrington was, in fact, only fifteen when he enlisted and was only sixteen years old when he was admitted to Etchinghill with gonorrhea on 4 January 1917. He spent 106 days in hospital before eventually being discharged to duty.[72] Sixteen-year-old Henry Howe left his home in North Dakota to enlist in Crystal City, Manitoba. As Howe was underage, he was not to be sent overseas until he was nineteen but he arrived in England on 11 November 1916 and was assigned to the 11th Reserve Battalion. While in Brighton he developed chancroids and spent twenty-three days at Etchinghill before being discharged to duty on 25 April 1917.[73] The oldest man admitted to the hospital in this sample was Private Archibald Baxter who arrived at Etchinghill on 20 January 1918 with gonorrhea at age fifty-one and spent sixty-seven days in hospital.[74] Baxter, an unmarried meat cutter from Regina, told hospital officials that he had contracted gonorrhea in Regina prior to his enlistment in May 1916.

Gonorrhea was the most common disease among soldiers admitted to Etchinghill. Based on the sample, 193 cases (51 per cent) admitted to hospital were for gonorrhea. One hundred and twenty eight cases (34 per cent) were admitted with syphilis and 13

[72] LAC, RG150, Accession 1992-93/166, Box 4079 – 9, Personnel File: Private John H.

[73] LAC, RG150, Accession 1992-93/166, Box 4551– 4, Personnel File: Private Henry H.

[74] LAC, RG150, Accession 1992-93/166, Box 517 – 3, Personnel File: Private Archibald B.

(0.03 per cent) cases were admitted with both gonorrhea and syphilis. Only 5 of the 382 cases (0.01 per cent) in the sample were classified as chancroids, or sores. The remaining 43 cases (1 per cent) were admitted under several different labels – such as non-specific urethritis, venereal sores, balanitis – and it is impossible to determine which, if any, venereal disease they had contracted. In civilian life too, cases of VDG were generally more common than VDS cases. In pre-war Canada, doctors believed syphilis affected about 5 to 15 per cent of the population while Macphail's numbers indicate 28 per cent of cases were for VDS.[75] Contemporary estimates believed anywhere between 25 to a remarkable 80 per cent of young men had gonorrhea.[76] In comparison, the No. 2 Australian Hospital in Egypt reported in 1917 that gonorrhea represented only 43 per cent of their cases and 11 percent of the cases were for syphilis.[77] Curiously, they diagnosed 45 per cent of VD cases with chancroids even though after the war Macpherson argued they represented only a small number of cases.[78] This difference could be attributed to the theatre of war since Canadian doctors had more opportunities to interact with their British counterparts in England than Australian doctors so they would have similar views and training. Clearly though, while the distribution of these diseases in the CEF reflects civilian estimates, total numbers were clearly much lower than many doctors feared. This probably reflects the fact that it was difficult to get an accurate measurement given the

[75] Cassel, *The Secret Plague*, 118 and Macphail, *Official History*, 293.

[76] Cassel, *The Secret Plague*, 118.

[77] AWM27 371/ 91-96, Major Zwar, Report for No. 2 Australian Hospital, 1917.

[78] AWM27 371/ 91-96, Major Zwar, Report for No. 2 Australian Hospital, 1917 and Macpherson, *Diseases of the War,* 149.

absence of centralized public health institutions, so civilian estimates were more likely derived from moralistic fears and socially constructed extrapolations than reliable data whereas the soldiers of the CEF were subjected to a high degree of surveillance and medical inspection.

Based on the sample, most men were treated at Etchinghill for an average of fifty-seven days. This average is similar to a 1917 report that stated the average stay of men who had not used any preventative treatment was 55.5 days. Men who had used some form of preventative measures were released after 45.8 days, not far off the median of forty-two days.[79] Syphilis patients generally spent twenty-six days in hospital whereas the average stay for men being treated for gonorrhea was sixty-eight days. Although the treatment schedule for syphilis was fifty days until March 1918 when it was extended to fifty-seven days, owing to limited space in the syphilis ward the majority of cases would have been discharged and finished their treatments as outpatients. The longest stay was John Arthur Kealy, a twenty-one-year-old private who was admitted to Etchinghill on 25 October 1917.[80] After contracting Gonorrhea in London, he spent 373 days in hospital. It is not clear from the available records why he had to remain so long in hospital but it is likely his condition had become chronic, which significantly increased a man's average hospital stay. A 1918 hospital report based on the first six months of the year reported that chronic cases were hospitalized for ninety-eight days compared to the 42.6 days needed to treat cases admitted in the acute stage of infection. While his stay exceeded the

[79] LAC, RG9-III-B-2, Vol. 3414, Colonel W.T.M. MacKinnon, Statistics, 17 December 1917.

[80] LAC, RG150, Accession 1992-93/166, Box 5012-53, Personnel File: Private John K.

average stay for a typical case of chronic gonorrhea, it is possible his case was complicated by syphilis as he was later re-admitted to Etchinghill on 6 May 1919 supposedly suffering from generalized syphilis. He was treated with 606 over twenty-seven days, which is consistent with the same report that showed generalized syphilis cases spent about 28.5 days in hospital at Etchinghill before being treated as outpatients.[81]

From a military point of view, then, these figures would suggest that gonorrhea was a far more serious problem for operational efficiency than syphilis, which, in contrast, was a more serious long-term health issue for soldiers. With a typical course of treatment lasting more than two months, a case of gonorrhea might require as long a hospital stay as a gunshot wound or other traumatic injury. Syphilis patients, in contrast, typically spent as long in hospital as soldiers suffering from a variety of other contagious diseases such as mumps, measles, or skin infections. In either case, though, both had the capacity to incapacitate soldiers for lengthy periods of time.

While syphilis could cause more long-term problems, more hospital space was devoted to the treatment of gonorrhea since it was the more common disease and required inpatient care. To accommodate the number of cases being admitted, Etchinghill had eight wards with 100 beds each dedicated to gonorrhea cases by early 1918. Etchinghill's goal was to maintain a high standard of care to prevent the spread of VDG after the war. The hospital boasted that only 7.2 per cent of cases were considered symptomatic when discharged and that this only occurred when the men were needed as reinforcements.

[81] LAC, RG9-III-B-2, Vol. 3718, Summary of Work Done At Canadian Special Hospital, Etchinghill, Lyminge From 1 Jan 1918 – 30 June 1918.

These cases were men who had been hospitalized for longer than six months and could be considered non-infective despite lingering symptoms. In order to be considered cured for discharge from the hospital VDG cases had to meet these six criteria: no urethral discharge; clear urine; urethra smears clear of pus or gonocci; had received their last treatment more than three days prior; clear urethscopic exam of follicles and have under gone heavy physical training to ensure they were not likely to relapse once returned to duty.

Syphilis patients at Etchinghill were frequently told that their time in hospital did not mean that they were cured. Even after they received treatment and were released, former patients would have to continually watch for signs of the disease. In the likely event they developed any symptoms – sores, pains in the head, neck or groin – medical staff advised patients to seek medical care immediately. Even if they did not develop any symptoms they were told they should still have their blood tested every four to six months. MacKinnon informed patients "when the above advice is faithfully followed for a period of three years, you may in all probability expect to be spared the later and severer symptoms of the disease, such as bone decay, nerve and spinal cord afflictions, premature strokes of paralysis etc."[82] Patients were warned of the potential impact the disease could have on their spouses or future offspring. He suggested to the men that they "not consider marrying until you have followed this course for three years, and then only

[82] LAC, RG9-III-B-2 Vol. 3718, Officer Commanding Ethcinghill, Canadian Special Hospital, Etchinghill: Suggestions for Patients Suffering with Syphilis in Its Early Stages, 1 November 1916.

with the approval of your medical officers or your physician. If you do not follow this suggestion, you will be liable to transmit the disease to your wife and children."[83]

Treatments

Treatment at Etchinghill was based on the prevailing civilian approaches to the disease, modified by the requirements of the army. The War Office established the guidelines and practices for VD treatments. In England, like in France, doctors in the CAMC worked within these rules. But the addition of a laboratory at Etchinghill allowed CAMC doctors, who largely came from civilian practices prior to enlisting, the chance to experiment with new techniques. The laboratory provided them with more resources than they would have access to as civilian doctors and the Canadian government was responsible for the costs. Wartime medicine gave them unfettered access to supplies, samples and patients as well as the chance to work alongside VD specialists and other doctors who found themselves working in the field after being assigned to the hospital. The creation of a laboratory was thanks to Etchinghill's first OC Captain Henry Ernest Paul.

Shortly before taking over command of the hospital, Paul visited No. 9 Stationary Hospital in Le Havre, which was used as the model for VD hospitals, to observe their treatment of gonorrhea and came away very impressed by hospital's capacity, capabilities and treatments.[84] He reported that the average stay in the hospital in 1915 was 49.88

[83] Ibid.

[84] LAC, RG9-III-B-1 Vol. 1826, Captain H.E. Paul, Report: Treatment of Gonorrhea at No. 9 Stationary Hospital in Le Havre, 18 June 1916.

days but had fallen to 36 days by March 1916. This improvement was attributed to extensive implementation of a VDG vaccine and intramuscular injections and an overall improvement in hospital conditions. Succinimide of mercury and pthalamine were heavily used in treatments but given the difficulty in obtaining reliable compounds that were free from impurities, the hospital had begun to develop its own compound, which they reported had proven successful. Based on his observations at Le Havre Paul concluded a "well equipped laboratory forms a necessary and most important branch of this hospital" and worked to develop a similar laboratory at Etchinghill.[85] While the War Office set the general treatment schedules Etchinghill followed, the development of the laboratory created a level of autonomy for medical staff, as they were able to experiment with new treatment and techniques.

From February 1917 to June 1919, Captain Alan Bart Jackson, a twenty-two-year-old from Simcoe, Ontario who had just completed medical school, ran the laboratory at Etchinghill.[86] Under Jackson, as we will see later, the lab at Etchinghill played an important role in the development of techniques for VD detection, a cornerstone of Canada's demobilization policies. At the time of Jackson's arrival, the lab was still not fully functioning since the gas supply did not allow for anything other than illumination, nor did the lab have the capabilities to develop its own vaccines for VDG. Vaccines were available through the medical store but were expensive and hard to obtain.[87] Paul tried to

[85] LAC, RG9-III-B-1 Vol. 1826, Captain H.E. Paul, Report: Treatment of Gonorrhea at No. 9 Stationary Hospital in Le Havre, 18 June 1916.

[86] LAC, RG150, Accession 1992-93/166, Box 4737 – 17, Personnel File: Captain A.B. Jackson.

[87] RG9-III-D-3 Vol. 5041, War Diary, Canadian Special Hospital, Etchinghill, ND.

acquire a new lamp called 'Clarke's Sub-Stage Microscopic Lamp,' which was not yet on the market but was used for dark ground examinations and would save on the petrol consumption for lighting. He requested permission to travel to London to enquire about the lamp and to visit different syphilis clinics to exchange information on current techniques. The dark field method would become the preferred method at Etchinghill to check for *Treponema pallidum* in syphilis cases. In 1918 they reported that under this method "we have many times been able to diagnose as specific, small ulcers of a day or so's duration, there by making it possible to inaugurate treatment before the infection has made vital progress."[88] This early detection method was employed 464 times over a ten-month period but the Wassermann reaction, recommend by the Medical Research Committee, was still the most widely used method. Despite the known limitations of the test, it remained the primary method for diagnosing the disease.

Although not all the medical staff at the hospital had been VD specialists prior to their appointments, they quickly learned the important signs to look for to ensure an accurate gonorrhea diagnosis. The doctors at Etchinghill stated that one of the most important aspects of care was to first determine the actual cause of discharge or infection, as gonocci was not always the culprit. From there it was important to determine how far the disease had progressed. If the disease was still in the anterior urethra, doctors believed it could be cured in three weeks or less. However, the majority of the cases were not

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[88] LAC, RG9-III-B-2 Vol. 3718, Etchinghill: Report of Laboratory, 20 October 1917.

admitted to hospital until the disease had reached their posterior urethra, which generally required two to three months of treatment.[89]

The main method outlined by the War Office in the treatment of gonorrhea was the irrigation of the urethra with potassium permanganate twice a day if the disease was in its acute stages. Chronic cases were to be treated by the well-established methods of dilation and prostatic massage.[90] However, there was no one method or drug for VDG favored by the medical community, and the war provided doctors with the resources to continually try new techniques and treatments. In the treatment of acute cases, two main methods were employed by MOs at Etchinghill. With the first method the whole urethra and bladder was irrigated. Only the anterior urethra was irrigated in the second method, leaving the posterior urethra to take care of itself. Of the two, the latter was the preferred method as MOs felt it was successful when performed ten to twenty times a day with mild antiseptic and astringent.[91]

The treatment of chronic cases followed the guidelines set out by the War Office but staff at Etchinghill worked to improve established techniques. Prostatic massage was found to be most effective when used in cases where the prostatic or vesicular secretion showed pus or gonocci. During his time at Etchinghill, Captain W.T. Lockhart wrote about the benefits of prostatic massage for chronic or relapsing patients. Lockhart had trained as a cystoscopist before the war and quickly became a valuable asset at Etchinghill. It was later noted his dedication and keen interest in his work had led him to

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[89] Ibid.

[90] Macpherson, *Diseases of the War,* 150.

[91] LAC, RG9-III-B-2 Vol. 3718, Etchinghill: Report of Laboratory, 20 October 1917.

spend twenty-three pounds of his own money procuring equipment for the lab. Lockhart, a rare specialist in the field, was later moved from the hospital to do the work of an ordinary MO (although he later ended up at Witley) and no other specialists were sent to replace him.[92] In chronic or relapsing cases when there was no discharge, tenderness or cloudy urine, Lockhart advocated prostate massage. He argued "The effects of massage consists in emptying the pus pockets into the urethra, reliving the engorged blood-vessels and lymphatics of the stoma, and stimulating the reparative processes by inducing a more liberal supply of fresh blood and lymph to the entire organ."[93] In cases where the disease had entered the Lacunae Morgagni or Littre's glands, patients were put on a course of gradual dilation using sound and Kohlman dilators. Medical officers believed this resulted in the emptying of the follicles and the absorption of inflammatory products.[94]

The staff at Etchinghill felt that many of the available drugs and devices on the market did not produce any real results. They utilized the hospital's laboratory to experiment with new compounds and devices. At No. 39 General Hospital, Captain J.E.R. McDonagh had experimented with the use of colloidal manganese, later combined with colloidal palladium, which he argued reduced treatment time from 52.6 days to 15.5 days.[95] The staff at Etchinghill argued the use of colloidal manganese did not cause any

[92] LAC, RG9-III-B-1 Vol. 3718, Armstrong, Colonel G.E., Branch of Director Medical Services Medical and Services Medical and Surgical Consultants Report, 11 January 1918. It is not clear why Lockhart was moved.

[93] Captain W.T. Lockhart, "Prostatic Massage," *Canadian Medical Journal Association* 9, 3 (March 1919): 224.

[94] LAC, RG9-III-B-2 Vol. 3718, Etchinghill: Report of Gonorrhea Section, 20 October 1917.

[95] Macpherson, *Diseases of the War,* 151.

significant improvements when tested but it did cause severe reactions in a number of cases. While suction devices had been developed to help treat chronic cases, Etchinghill doctors felt that the use of dilatators produced better results. Various solutions such as Dakin's solution, zinc permanganate and different tincture solutions of iodine and flavine were tested but the results were disappointing. Only a solution containing sodium carbonate had showed any promise but had not yet been tested enough to confirm its effectiveness. Etchinghill's staff argued their methods were more effective as only one out of ten cases would present with severe complications that required special training. This situation could be problematic given "this training is absolutely neglected in our medical schools and it has been found necessary to detail inexperienced medical officers to act as assistants to qualified men for one or two months before giving them charge of a ward."[96] Even with the development of newer, possibly more effective methods, it was not always possible to use them given the limitations of wartime conditions. Older, well-established methods were generally better suited to the needs and resources of these military hospitals.

Anti-syphilitic treatment at Etchinghill followed the schedule set by the War Office of seven intravenous injections of salvarsan, or one of its substitutes, given over the course of fifty-seven days.[97] Treatments started with a half dosage and were slowly

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[96] LAC, RG9-III-B-2 Vol. 3718, Etchinghill: Report of Gonorrhea Section, 11 November 1918.

[97] This was schedule that was established in March 1918 following a number of fatalities attributed to arsenic poisoning. For a detailed description of the treatment schedules trialed at Rochester Row see: Lieutenant-Colonel L.W. Harrison, "The Modern Treatment of Syphilis." *Canadian Medical Association Journal* 7, 1 (January 1917): 31-43.

increased until the last two injections were given at full dose. Doctors also gave patients concurrent intramuscular injections of mercury at weekly intervals. If a patient's Wassermann came back positive after the first round of treatment then they were given four more injections of both mercury and salvarsan, provided they had not received any other arsenic treatment within the last twelve months. If their blood tests still came back positive after the additional round, or they had already received treatment within the last year, the patient was placed on a three-month course of potassium iodine and mercury. During the first week they would receive 15 grams of potassium iodine three times a day, this was doubled to 30 grams three times a day (TID) the next week and in the third and final week the amount was increased to 40 grams TID. Mercury injections were given intramuscularly for the first eight weeks and after that they were given orally in pill form. Based on previous experience, doctors at Etchinghill knew the that any more than twenty-four injections in the buttocks caused great discomfort in patients. If blood testing still came back positive after these treatments, patients were placed on rest with tonic treatments for three months before returning to a course of potassium iodine and mercury treatments. Under no condition was a patient to be put back on a course involving the use of arsenic until after twelve months had passed.[98]

The arsenic solution most commonly used in the hospital was the salvarsan substitute novarsenobillon dissolved with saline and distilled water then boiled for thirty minutes. To ensure the purity of the solution, stemming from concerns over water quality, it was frequently examined for chloride, lead and other potential impurities that could

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[98] LAC, RG9-III-B-2 Vol. 3718, Etchinghill: Report of Syphilis Section, 11 November 1918.

cause unwanted side effects. In a typical month, doctors at Etchinghill performed around 1,000 injections of 606 and slightly more mercurial injections. In the first ten months of 1918 the attendant physician's gave 10,456 salvarsan injections and 11,311 mercury injections. During this time, they had admitted 2408 syphilis cases. Over the same period, 1473 cases were moved to outpatient care while 738 cases were discharged after obtaining a negative Wassermann. Six hundred and sixty three cases were admitted with primary stage syphilis, 552 with secondary or generalized syphilis and 225 cases arrived at Etchinghill with the disease already having progressed to the latent stage. Four hundred and four cases needed to be treated for both gonorrhea and syphilis. There were 150 cases over the course of the year that did not receive treatment, as they did not develop any symptoms despite having tested positive after a Wassermann. Finally, 152 cases were transferred to Etchinghill after being admitted and starting treatments at other hospitals.[99]

The use of arsenic and mercury, both potentially highly toxic compounds, could create a number of unwanted side effects that in turn could cause illness or even death. According to a 1917 hospital report, three patients died while undergoing anti-syphilitic treatment at Etchinghill in the previous ten-month period. One death was blamed on erysipelas, a bacterial skin infection but the hospital claimed this was not caused by any treatment. The second death was attributed to gumma of the brain, a non-cancerous growth resulting from tertiary stage syphilis. A man died from atrophy of the liver after developing jaundice following an arsenic treatment. In this case, the hospital determined that while under treatment at another hospital the patient had received more 606

[99] LAC, RG9-III-B-2 Vol. 3718, Etchinghill: Report of Syphilis Section, 11 November 1918.

injections than deemed safe by Etchinghill standards. Four other patients had developed dermatitis while undergoing treatments, two were mild cases, whereas the other two were more severe, but successfully treated.[100] Twenty cases had to be treated for jaundice, but the hospital medical staff maintained that only eight cases occurred while being treated with arsenic.

In a study of the toxic effects of arsenobenzol treatments, 39, 377 case cards from the United Kingdom were studied shortly after the war. This study found that there had been 370 cases of dermatitis-related illness with eighteen deaths and 221 instances of jaundice with twenty-four deaths among soldiers treated for VDS.[101] The circumstances surrounding the deaths of eleven Canadians attributed to arsenic poisoning are discussed in detail in the fourth chapter of this thesis. But in this instance, medical staff at Etchinghill maintained that these three cases of jaundice had been caused by the disease and actually cleared up after receiving arsenic injections. In nine instances, men became afflicted with the condition a few weeks or even a few months after having been treated with arsenic. In these cases the medical staff blamed the development of the condition on the etiological factor of having VDS plus treatment and not the treatment itself. While not common, there were several instances where patients suffered from vasodilation, when blood pressure drops after blood vessels widen, and had to be given subcutaneous injections of adrenaline. During subsequent treatments these cases were closely watched

[100] Ibid.

[101] Macpherson, *Diseases of the War,* 147.

and given adrenaline just prior to arsenic treatments to prevent a drop in blood pressure.[102]

Drugs were the primary method used in treating syphilis but they could also be used in conjunction with surgical procedures. In some cases, indulations on the penis were excised. Cystoscopy and urethroscopy were performed at the hospital as were more minor surgeries including opening of bubos, meatotomy and circumcisions. Uncircumcised patients were advised that circumcision was the best method to guard against recurrent chancres. Etchinghill circumcised 187 men and another 56 were initially given primary dorsal slits and later fully circumcised.[103]

Due to limited bed space syphilis patients had to be treated as outpatients for the majority of their treatment. As the hospital continued to expand, the medical staff at Etchinghill experimented with new, simplified methods that could allow men to be treated by their battalion MOs and reduce the number of cases that needed to be sent to the hospital. "I am anxious," Paul told the ADMS at Folkstone, "to investigate the efficiency of a new 606 substitute called 'Disodo-Luargol,' which I understand is being used to some extent at London Hospital and is a comparatively cheap preparation which would be immense advantage if this preparation were suitable for our work here."[104] He also told the ADMS that his lab had been working on developing on a new, simplified

[102] LAC, RG9-III-B-2 Vol. 3718, Etchinghill: Report of Gonorrhea Section, 11 November 1918.

[103] LAC, RG9-III-B-2 Vol. 3718, Etchinghill: Report of Gonorrhea Section, 11 November 1918.

[104] LAC, RG9-III-B-1 Vol. 3414, Captain Henry Paul, Letter to ADMS Canadians Folkstone, 1 March 1917.

method for administrating 606 compounds subcutaneously and intra-muscularly that would allow battalion MOs to administer the injections. This development would have saved time and transportation costs as outpatients would not have to return to Etchinghill to finish their treatments but it does not appear the medical staff was able to develop such a technique by the end of the war.[105] Instead patients undergoing anti-syphilitic continued to be treated as outpatients at Etchinghill throughout the war.

The majority of both gonorrhea and syphilis patients at Etchinghill were treated using the guidelines established by the War Office. While the medical services of the CEF fell under command the British, Etchinghill did have some autonomy for experimentation. Even so patients were treated at Etchinghill much the same way that their British counterparts would have been. Although there were sometimes minor deviations in methods they were still based on established practices used by the RAMC. There were no major changes or discoveries at Etchinghill despite the best efforts of a range of medical staffers. Regardless, these sites were seen as important testing grounds that could build on the several discoveries that had occurred in the field just before the war. That the Canadian doctors at the hospital utilized their laboratory to experiment with new drugs and treatments was important, even if it did not produce any profound changes to the system set out by the War Office. As we will see in the last chapter, CAMC doctors took a special interest in developing research surrounding gonorrhea as they felt Canadians had made many important contributions to its study in the past. They also wanted to improve the efficiency of the system the British had implemented. Due to the constant demands of bed space, medical staff searched for ways to reduce treatment times

[105] Ibid.

or simplify procedures that would improve the mobility of treatments. These methods were not always feasible given the limitations of wartime conditions, but the medical staff's continued efforts highlight the active role of the hospital within the VD management system. Their role was significant, even if their work did not produce any major breakthroughs during the war.

Problems With Security and Space

Administrative and logistical constraints negatively impacted the experiences of patients at the hospital. Both Paul and MacKinnon had to grapple with problems of basic accommodation, as they had to increase capacity, improve living conditions and maintain security at the hospital. Even when operating at full capacity, Etchinghill could not accommodate the number of cases requiring treatment and proposed expansions were delayed by poor construction and inadequate infrastructure. Without these expansions, some men suffering from VD had to be turned away and treated in brigade lines. Men who were admitted to the hospital sometimes experienced poor living conditions. Some men actively tried to escape these conditions and Etchinghill struggled to maintain order at the hospital.

The hospital reached capacity shortly after it opened its doors and had difficulty providing basic accommodations for patients and staff. The 200 beds that were available when the hospital opened were filled immediately. By 25 October 1916 Captain Bagnall, a MO at the venereal ward at Shorncliffe Hospital, reported that he had sent Etchinghill their equipment for preparing and administrating salvarsan several weeks earlier since they were to send all of their syphilitic patients there for treatment. However, due to

limited space Etchinghill had returned these patients to Shorncliffe. Bagnall was furious as this meant, "in addition to the ever present overcrowding in the Venereal Division, we have the problem of dealing with the ever increasing number of active syphilis cases without the equipment necessary for giving salvarsan treatment."[106] He had to request their supplies be returned to deal with the backlog of syphilis cases since it was unclear when Etchinghill would be able to take more patients. Less than three months after the hospital opened, Paul argued they needed to expand to accommodate 1200 people consisting of 900 patients, 100 guards and 200 hospital staff. Accommodating these numbers would require four to six weeks of work to construct several new huts, convert the stables and other out buildings into barracks and a dining hall as well as expanding the existing sewage system at an estimated cost of 2000 pounds.[107]

Plans were put in place to start with an increase to 750 people including staff by the beginning of December 1916.[108] Urgent requests for wooden floors, stoves and hospital equipment were made to the quartermaster.[109] Without these supplies, the hospital could not accept any more patients on top of the 508 already receiving treatment. The initial increase to 500 beds had temporarily relieved the VD situation in the Shorncliffe area, which made it possible to treat cases that were being treated in brigade

[106] LAC, RG9-III-B-1 Vol. 3718, Captain Bagnall, Letter to O.C. Shorncliffe Hospital from MO of the VD Ward, 25 October 1916.

[107] LAC, RG9-III-B-1 Vol. 1826,Letter to D.D. of S & T from A.D. of S & Tl, MO of the VD Ward, 10 November 1916.

[108] LAC, RG9-III-B-1 Vol. 3414, Accommodation for Venereal Patients, 1 December 1916.

[109] LAC, RG9-III-B-21 Vol. 1826, Memorandum to Quartermaster, 1 December 1916.

hospitals. But once they started taking cases from outside areas the hospital was overwhelmed. Without an increase to 600 beds, it again became necessary to treat VD in brigade hospitals.[110] Under these conditions, it was difficult to ensure proper and uniform treatment for VD cases. Even by 1918, MacKinnon was still receiving reports from patients who complained about irrigation methods for gonorrhea patients at the Brigade Hospital, Seaford. They claimed there was no NCO in charge and the men were given the solution and had to perform the irrigation on themselves. The nozzles inserted into the urethra were not disinfected in between uses, which could cause the spread of chancres, VDG and VDS.[111]

Starting in December 1916, bed space soon became a secondary concern as a problem with the sewage system was making it difficult for the hospital to provide basic services to the patients already under their care. The ADMS reported their request to increase sewage capacity for 600 patients and 150 staff had been denied which caused significant delays in proposed expansions. [112] As well, shortly after the hospital increased its capacity to 500 beds, a meter was placed on the hospital's water supply limiting it to 10,000 gallons a day.[113] The hospital needed 20,000 gallons of water per day so this reduction caused water shortages across all departments including laundry, the cookhouse

[110] LAC, RG9-III-B-1 Vol. 3718, Venereal Accommodation Shorncliffe Area, 7 December 1916 and LAC, RG9-III-B-1 Vol. 3718, Venereal Accommodation Shorncliffe Area, 10 December 1916.

[111] LAC, RG9-III-B-2 Vol. 3617, Colonel W.T.M. MacKinnon, Method of Irrigation, 6 March 1918.

[112] RG9-III-D-3 Vol. 5041, War Diary, Canadian Special Hospital, Etchinghill, ND.

[113] LAC, RG9-III-B-1 Vol. 3718, Venereal Accommodation Shorncliffe Area, 7 December 1916.

and also resulted in plugged latrines. Medical staff also did not have enough water to distill for 606 treatments, perform Wassermann tests or clean lab equipment.[114] Although the water supply had been increased to 15,000 gallons a day in early July 1917, the sewage and water supply problem had halted the much-needed expansion of the hospital.[115] By October 1917 the sewage treatment upgrade had not been completed and as a result the hospital was not able meet its goal of increasing capacity to 1000 beds until early 1918.[116] This shortage of space was problematic as the number of men contracting VD remained steady and Etchinghill needed to continue to expand to meet demand for bed space. Without an increase in capacity, cases had to be turned away and treated by inexperienced MOs.[117]

Concerns over bed space were further complicated when several of the new huts at Etchinghill were deemed uninhabitable. Both MacKinnon and Amyot had visited the new huts in September 1917 and expressed concerns that they would be useless owing to their faulty design.[118] The Armstrong huts were constructed to increase capacity but they did not pass inspection. After his inspection in December 1917, Colonel Bridges argued

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[114] RG9-III-D-3 Vol. 5041, War Diary, Canadian Special Hospital, Etchinghill, ND.

[115] LAC, RG9-III-D-3 Vol. 5040, War Diary, Canadian Special Hospital, Etchinghill, 1 July 1917.

[116] LAC, RG9-III-B-1 Vol. 3718, Lieutenant Colonel John Amyot, Accommodation Etchinghill Special VD Hospital, 29 October 1917.

[117] LAC, RG 9 III-B-1 Vol. 1826, MacKinnon, W.T.M, Delay in Treatment, 16 October 1917.

[118] LAC, RG9-III-D-3 Vol. 5040, War Diary, Canadian Special Hospital, Etchinghill, 7 September 1917 and LAC, RG9-III-B-1 Vol. 3718, Lieutenant Colonel John Amyot, Memorandum, 16 September 1917.

the huts had not been waterproofed and were not properly insulated against cold weather. The stoves that had been installed in the huts provided little heat and Bridges found the patients "huddled around the stove in the most uncomfortable attitude" and the pipes had frozen in the absolution room.[119] Instead of increasing capacity, the poor construction of these huts resulted in overcrowding as patients had to be moved inside until the situation could be fixed.

Conditions inside the hospital were not much better. An inspection of the hospital in the fall of 1917 raised concerns about overall cleanliness. MacKinnon noted that maintaining a hygienic environment was difficult due to the absence of nursing sisters, as "the presence of trained female nurses in a ward is always conducive to greater cleanliness than in those hospitals where they are not employed."[120] CAMC policy prohibited nursing sisters from working at VD hospitals and instead non-commissioned men were trained as orderlies to take their place.[121] Orderlies did not always provide the same level of care.[122] This problem was compounded by the fact Etchinghill only had two fully trained orderlies. The other orderlies on staff had not had been properly trained as they had been rotated through several different duties. To make up for the staffing

[119] LAC, RG9-III-B-1 Vol. 3718, Colonel J.W. Bridges, Delay in Bed Increase at Canadian Hospital, Etchinghill, 9 January 1918.

[120] LAC, RG9-III-B-1 Vol. 3718, MacKinnon, W.T.M, Inspection by Medical Consultant, 8 November 1917 and LAC, RG9-III-D-3 Vol. 5040, War Diary, Canadian Special Hospital, Etchinghill, 10 November 1917.

[121] Cynthia Toman, *Sister Soldiers of the Great War: The Nurses of the Canadian Army Medical Corps,* (Vancouver: UBC Press, 2016), 115.

[122] Caroline Adams, "Lads and Ladies, Contenders on the Ward—How Trained Nurses became Primary Caregivers to Soldiers during the Second Anglo-Boer War," *Social History of Medicine*, (7 June 2017): 1-21.

shortage patients were put to work under the direction of the orderlies. [123] MacKinnon asked the CAMC send more trained orderlies to the hospital to help improve conditions and the request was granted. While it is not clear how many trained orderlies were ultimately sent to the hospital, another report made six months later noted that, "although the work in the operating room is at a disadvantage, owing to the absence of nursing sisters, the preparation of the instruments, dressings, etc. appears to be carefully done."[124] The lack of nurses negatively affected not only basic cleanliness but also patient care. One report in December 1917 noted that the absence of nurses in the sick wards was notable as "the sick ward contains a number of patients who are miserably ill, and would derive much benefit from proper nursing."[125] It was noted that when some of the local women began to visit the hospital "as a consequence, the hospital lost most of its prison atmosphere."[126] While the role of their husbands has been well documented both Mrs. MacKinnon and Mrs. Skerry became an important and active part of hospital life. The two were credited with organizing social gatherings for the staff that greatly improved morale at Etchinghill.[127]

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[123] LAC, RG9-III-B-1 Vol. 3718, MacKinnon, W.T.M, Inspection by Medical Consultant, 8 November 1917.

[124] LAC, RG9-III-B-1 Vol. 3718, Colonel J.A. Hutchinson, Etchinghill Hospital, 26 June 1918.

[125] LAC, RG-III-B-1 Vol. 3718, Report: Special Hospital, Etchinghill, 26 December 1917.

[126] LAC, RG9-III-B-2 Vol. 3748, History of the Canadian Special Hospital Etchinghill, Lyminge, Kent.

[127] LAC, RG9-III-B-2 Vol. 3748, History of the Canadian Special Hospital Etchinghill, Lyminge, Kent.

Even though most patients undergoing treatment were not 'moral deviants' who needed to be detained, maintaining security at the hospital was a constant concern. At the end of February 1917, the Officer Commanding Shorncliffe, the DAA and the Quartermaster General inspected the hospital. Their main concern was that a Combatant Officer had not been detailed for duty as a permanent guard. In order to meet this recommendation, Paul argued the hospital needed to be re-classified at a convalescent hospital for disciplinary purposes. In the meantime, a large number of NCO's and other ranks were employed as hospital security. This proposed solution drew objections from the inspectors that were partially quelled when Paul informed them they were a permanent guard. Paul expressed concerns about his current rank as he felt that this had contributed to instability at the hospital. He stated "I am of the opinion that if it were pointed out to Divisional Headquarters, that the fact of my rank being below that of a Field Officer, has made it very difficult to maintain good discipline and has deprived me of the full powers of an Officer Commanding, that the Officer Commanding this Division would be only too willing to do all in his power to see that your repeated recommendations for my promotions were acted upon."[128] Paul's concerns over his rank reflect problems that had long plagued military medical staff, before they were given rank and their own chain of command, they had difficulty enforcing medical regulations and prioritizing medical needs on the battlefield.[129] His concerns also likely stemmed from

[128] LAC, RG9-III-B-1 Vol. 3718, Captain Henry Paul, Letter to ADMS Canadians Folkstone, 7 December 1916.

[129] Gabriel, *Between Flesh and Steel*, 193-194 and 208.

an earlier incident with the Canadian Military Police (CMP) over jurisdiction and the treatment of his patients shortly after the hospital opened.

In October of 1916, there were 386 patients undergoing treatment and sixteen of these men had to be placed in detention while at the hospital.[130] These sixteen men became involved in an altercation with several NCOs from the CMP who had entered the hospital grounds while allegedly drunk and without permission from hospital staff. This confrontation was not the first instance of trouble with the local CMP; the hospital staff had lodged an earlier complaint that the CMP did not respect the hospital's authority. On this particular occasion Private Middleton, a patient at Etchinghill, started a verbal altercation when he criticized a CMP for only having one pistol and not being over in France. The officer apparently retorted, "I was carrying one of these when I was bowled over in France and I am not doing my bit in a gonorrhea hospital." According to Middleton, the "remark led to strong language between the patients and police. I answered that perhaps I had been in uniform in France as long as he had."[131] Although Middleton was currently in detention in a VD ward, he took offense to the officer's remark that he had not, or was not, doing his duty. Angry words gave way to a physical altercation. The officers drew their pistols and a brick was lobbed at one of the officers. The main focus of the inquiry was whether the CMP had jurisdiction to enter the hospital without the consent of its staff but the incident reveals some of the contempt that was

[130] LAC, RG9-III-B-1 Vol. 659, Testimony of Capt. H.E. Paul - Court of Inquiry, 18 October 1916.

[131] LAC, RG9-III-B-1 Vol. 659, Testimony of Pte. H.F. Middleton - Court of Inquiry, 18 October 1916.

directed at soldiers with VD and was the first major instance of security concerns at the hospital.

Hospital security was still an issue when MacKinnon took over command. He stated the detention ward comprised of twenty cells with a daily average of fifteen VD patients who are "usually of a particularly bad type."[132] Mackinnon argued the security detail was understaffed, as they required at least twenty-five guards for police and escort duties. On 12 September 1917, six prisoners escaped by removing the iron bars on the bathroom window and two guards were charged for allowing the escape.[133] Just six days later three more prisoners escaped after digging a hole in the wall and scaling the fence.[134] Although all three were captured over the next two weeks, MacKinnon complained, "owing to the inefficiency of a guard furnished from non-combatant ranks, and the more or less insecurity of these detention wards, prisoners are frequently escaping. It is therefore absolutely necessary that an efficient Guard be supplied for this duty."[135] On the same day the last man from the last escape attempt was captured, twenty-four other ranks from the 1st CORD were sent to Etchinghill for combatant guard

[132] LAC, RG9-III-B-1 Vol. 3414, Colonel W.T.M. MacKinnon, Guard for Prisoners, 23 September 1917.

[133] RG9-III-D-3 Vol. 5040, War Diary, Canadian Special Hospital, Etchinghill, 12 September 1917 and RG9-III-D-3 Vol. 5040, War Diary, Canadian Special Hospital, Etchinghill, 15 September 1917.

[134] RG9-III-D-3 Vol. 5040, War Diary, Canadian Special Hospital, Etchinghill, 21 September 1917.

[135] LAC, RG9-III-B-1 Vol. 3414, Colonel W.T.M. MacKinnon, Guard for Prisoners, 23 September 1917.

duty.[136] It would appear that the addition of these twenty-four men finally solved the security issues at the hospital, as there were no further escape attempts recorded in the hospital's war dairy.

Public Health and Prevention

Although he was not a trained VD specialist prior to his appointment, MacKinnon took a keen interest in tracking the spread of VD while at Etchinghill. He felt it was crucial to understand how the disease was spread in order to create effective policies to prevent it. It was a very important issue, he argued, as VD created a serious economic problem for the CEF. Every man admitted, he reasoned, affected the movements of two other men; the one who had to replace him on the draft and the one who had to be brought on reserve in Canada to maintain a levy of men eligible for service. When men on short leave from France contracted VD, his unit also had to replace him with a soldier from their reserve battalion. This meant, according to MacKinnon, that the 4689 cases treated at Etchinghill since January 1917 had affected the movements of approximately 9378 other men.[137]

Starting in 1917, MacKinnon undertook an epidemiological study in order to chart the transmission of the disease.[138] He implemented social case sheets that kept track of

[136] RG9-III-D-3 Vol. 5040, War Diary, Canadian Special Hospital, Etchinghill, 1 October 1917.

[137] LAC, RG9-III-B-1 Vol. 3718, Summary of Work Done at Canadian Hospital Etchinghill Lyminge 1 January 1918 to 30 June 1918.

[138] Gordon Bates used case sheets at the Base Hospital in Toronto to study VD there. See: Gordon Bates, "The Military Aspect" *The Public Health Journal* 9, 2 Venereal Disease Number (February 1918): 53-57.

basic information about the men and their female companions such as occupation or where they were from.[139] Based on the information collected, MacKinnon determined that VD was a problem all over England, Ireland and Scotland. The majority of infections happened when men were on short leave in London, Brighton, Folkstone and Hythe. A study of 2880 case sheets showed that alcohol played an important etiological factor in the VD problem as approximately half of the men who became infected and a quarter of the women who were deemed the source of the infection were intoxicated at the time of fornication – but of course this was based on the statement of the soldiers.[140]

Over 80 per cent of the men became infected after 'falling victim' to professional prostitutes, who were the main source of infection according to MacKinnon's analysis. But while the professional prostitute brazenly solicited men on the street the so-called amateurs – women employed as munitions workers, factory girls, servants, barmaids, shop girls, dressmakers or typists – also posed a threat to soldiers' health. MacKinnon reasoned that "Many of these, all those classified as amateurs, demand payment, such as suppers, a drink of beer or whisky, and do not refuse money if offered. These women both professional and amateur are suffering from Gonorrhea and many of them have active syphilis lesions as well."[141] His statements reflect the predominant belief that

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[139] LAC, RG9-III-B-1 Vol. 3718, Summary of Work Done at Canadian Hospital Etchinghill Lyminge 1 January 1918 to 30 June 1918.

[140] LAC, RG9-III-B-2 Vol. 3718, Colonel W.T.M. MacKinnon, Canadian Special Hospital, Etchinghill: Suggestions for Patients Suffering with Syphilis in Its Early Stages, 30 October 1917.

[141] LAC, RG9-III-B-1 Vol. 863, Colonel W.T.M. MacKinnon, Prevention of Venereal Disease, 28 December 1917. See also TNA, HO45/10724, Some Notes on the

'immoral' women were responsible for the spread of the disease. But his proposed solution to the problem – medically regulated prostitution – deviated from official policy.

Based on his findings, MacKinnon argued men on short leave from France required special attention. He had spoken to one man who was prepared to testify in court that a prostitute approached him on the street and told the man she would give him a "dose of the clap" so that he did not have to return to the front.[142] "Others have had similar experiences," MacKinnon claimed, "Evidently this disease is trafficked for the above mentioned purpose."[143] While the implementation of preventive measures among troops had proven successful, MacKinnon argued VD had remained a problem because there had been no effort to enforce or provide preventative treatment to prostitutes. Nor did he feel there had been a concerted effort to reduce solicitation on the street. After significant pressure from the Dominions, DORA Regulation 40D was later put place in March 1918 to reduce prostitution but its implementation was controversial limiting its use.[144] Even when it was made illegal for women suffering from VD to transmit the infection to a member of His Majesty's Army, prosecution was difficult given that women frequently gave men aliases and fake addresses or some soldiers were simply

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Maintenance of Public Order in the Neighbourhood of Training Camps, With Special Reference to the Health of Troops and Duty of Police the Police, 22 October 1914.

[142] LAC, RG9-III-B-1 Vol. 1826, W.T.M MacKinnon, Reporting the Work Carried Out at Canadian Hospital Etchinghill During Year Ending 1 November 1918.

[143] LAC, RG9-III-B-1 Vol. 863, Colonel W.T.M. MacKinnon, Prevention of Venereal Disease, 28 December 1917.

[144] Cassel, *The Secret Plague,* 126-127, Harrison, *The Medical War,* 165 and Levine, *Prostitution, Race & Politics*, 162-163.

reluctant to provide any information.[145] If officials located a woman, she could be arrested and held for treatment. Based on his report, MacKinnon argued all prostitutes should be examined for free on a regular basis and issued a health card to prove they were free from infection. Soldiers were warned not to have relations with any woman who could not produce a health card. Men who still became infected could then be dealt with more severely as MacKinnon figured this was an indication it was self-inflicted to avoid duty. "If such a measure was adopted," he reasoned, "it would soon become widely known among prostitutes and street walkers who pay special attention to the Canadian Soldier who usually has plenty of money, and in their own interests would be anxious to present evidence that they were free from 'V.D.'"[146]

MacKinnon was suggesting a form of legalized prostitution similar to the way the French medically regulated their brothels. Although medically regulated prostitution had proven successful in the American Civil War and soldiers were more likely to contract VD in England than France, it was a measure military and civil authorities were not willing to introduce given the moral objections.[147]MacKinnon's suggestion that Canada pursue a course of medically regulated prostitution was met with the same concerns from his superiors. Colonel J.W. Bridges replied "The recommendations are so far reaching and involves so many questions of a moral and political nature that it would appear to go

[145] LAC, RG9-III-B-1 Vol. 1826, W.T.M MacKinnon, Reporting the Work Carried Out at Canadian Hospital Etchinghill During Year Ending 1 November 1918.

[146] LAC, RG9-III-B-1 Vol. 863, Colonel W.T.M. MacKinnon, Prevention of Venereal Disease, 28 December 1917.

[147] Boyd Jones Jr., "A Tale of Two Cities," 271 and Lowry, *The Story the Soldiers Wouldn't Tell*, 84.

beyond the powers of the Canadian authorities to do more than agitating this line."[148] Other senior CEF officials shared similar reservations about MacKinnon's recommendations. One agreed that such a policy would "no doubt have a beneficial effect" but since it effectively meant licensing prostitution such a radical departure would not be approved by Canadian or British authorities.[149] MacKinnon lamented that, "In my opinion very little, if any improvement can be made until the people and Government of Great Britain realize the seriousness of the situation as it presently exists, and not only adopt but enforce laws that would deal more effectively with the evil of prostitution which is so rampant throughout the entire country."[150] Unable to affect any change regarding prevention at the policy level, MacKinnon would instead have to focus his efforts on dealing with the disease once it reached his hospital.

Conclusion

With preventative measures only partially effective, medical staff at Etchinghill continued to treat thousands of cases of VD until the hospital was shuttered on 10 June 1919. The hospital became an important site for combating the VD problem. Although it would eventually become the largest VD hospital in the CEF, patients and staff at Etchinghill encountered a number of difficulties in its three-year history. After reaching capacity in its first few days, staff at Etchinghill struggled to provide patients with basic

[148] LAC, RG9-III-B-1 Vol. 863, Colonel J.W. Bridges, Prevention of Venereal Disease, 29 December 1917.

[149] LAC, RG9-III-B-1 Vol. 863, Colonel at Shorncliffe, Prevention of Venereal Disease, 30 December 1917.

[150] LAC, RG9-III-B-1 Vol. 863, Colonel at Shorncliffe, Prevention of Venereal Disease, 30 December 1917.

accommodation. Proposed expansions were repeatedly delayed because of problems with housing, plumbing and security. Even more challenging were the negative attitudes towards VD that impacted patient care and experiences. In its early days, the hospital had little in the way of services for the men under their care. This situation changed under the direction of the hospital's staff, notably its first OC Major Henry Paul and Captain Skerry, who successfully argued entertainment, comforts and physical activity were essential to the treatment process. Paul was also instrumental in developing a laboratory at Etchinghill that played an active role in researching new techniques for the detection and treatment of VD even if it did not lead to any major developments. When Colonel W.T.M MacKinnon took over command he took an active role in improving VD management within the CEF. He focused on improving education about VD diagnosis and treatments among battalion MOs in an effort to make the system more efficient. Getting suspected cases to the hospital as soon as possible and maintaining outpatient treatment schedules required the cooperation of battalion MOs. The use of case study sheets to interview patients provided MacKinnon with a wealth of information on how and where VD was contracted. Based on his work, he favoured a policy of medically-regulated prostitution in an effort to curb the spread of disease especially as a self-inflicted wound that could be used to get out of duty. Although this type of policy had proven successful in past conflicts and in France, MacKinnon was unable to affect any change at the policy level. Nonetheless, he continued to promote cooperation and communication between Etchinghill and battalion MOs as an important part of combating VD.

Chapter 4

A Night With Venus, Death from 606: The Dangers of VDS Treatments in the Canadian Expeditionary Force

As military officials looked for ways to solve the morality problems associated with venereal disease, they also had to develop a medical response to deal with the new cases that were cropping up every week. Medical historian Allan Brandt argues that with the development of new tests and treatments, venereal disease became a scientific problem with a scientific solution instead of just a moral issue. This chapter considers the main factors that shaped the delivery of VD therapy in the CEF. The development of salvarsan just before the war revolutionized the treatment of syphilis and doctors went in to the war believing it produced better results in a shorter period of time than previous treatments. But there were concerns that while salvarsan was considered the most effective treatment available, there could be side effects associated with its use, especially when efforts were made to speed-up treatment by increasing dosage amounts or frequency. Salvarsan, an arsenic-based compound, had already been linked to a number of health problems including organ damage and even death from arsenic poisoning before the war. Similar results were observed in the CEF, which created tensions between the dual medical and military roles of Canadian doctors.

CAMC doctors were tasked with 'curing' venereal disease but they were also responsible for getting men back to their units as fast as possible. Even though the number of overall deaths associated with anti-syphilitic treatment may be small in relation to the number of men who underwent treatment, the examination of these incidents reveals how the VD management system functioned and sometimes failed. The

military wanted to minimize the length of treatments, conserve medical resources and reduce costs and these issues became determining factors within the care system overseas.

By the end of the war, 18,612 Canadian soldiers had contracted syphilis and salvarsan was widely used to treat these cases.[1] Salvarsan reduced the amount of time that men had to spend away from their units but they were often subjected to treatment regimens that pushed the limits of the drug's toxicity and they had little say over the matter. This situation was problematic as records show that there were multiple problems with the management of VDS patients throughout the war. The death of eleven Canadians early in 1918 prompted an investigation into the administration of salvarsan, its substitutes and the overall management of syphilis in the CEF. While the British conducted an investigation into the practices that had been established by the War Office, the CAMC ordered their own inquiry. Hospitals like Etchinghill followed the British system but they were still run by the CAMC. The RAMC created the treatment schedule for VDS and promoted the use of British-made kharsivan, later thought to be a contributing factor in the fatalities, but the CAMC were ultimately responsible for administering care. An examination of Canadian records show that although there was mounting evidence of multiple administrative problems and salvarsan was the most likely cause of these deaths, both British and Canadian officials were reluctant to stop using it and revert to other methods that would have increased costs and treatment times.

[1] Macphail, *The Official History*, 293.

The Use of Salvarsan in VDS Treatments

Despite the potential problems associated with salvarsan, it was the most effective drug on the market and was widely available until the outbreak of war. Since salvarsan had been developed in a German lab, Germany retained tight control over its development and distribution. When the Allied countries declared war on Germany, it immediately placed an embargo on all exports including German pharmaceuticals available through neutral countries. By 1915, Canada was facing supply problems and massive cost increases because the embargo covered "preparations of special service in medicine and surgery on the ground that they might reach the countries at war with Germany and Austria and assist in maintaining the effectiveness of the military forces battling against the armies of those two states," which included salvarsan.[2] To contend with supply shortages drug companies in Allied countries started manufacturing salvarsan substitutes. While all salvarsan was often colloquially referred to as '606', their trade names were galyl (French), diarsenol (Canadian) or kharsivan (British) depending on which company had manufactured them. Additionally, there were the formaldehyde sulphoxylate derivatives of 606, neo-salvarsan and neo-kharsivan, also called novarsenobillon or 914, which were thought to be less potent.[3] The process of taking the crystalline powder, which was highly toxic except in its purest form, and turning it into an injectable solution was a difficult process. Any mistakes could render the solution

[2] "The Manufacture of Salvarsan in Canada," 124.

[3] LAC RG9-III B2, Volume 3618, Letter: from Lieutenant-Colonel Amyot to Militia Council Ottawa, Treatment of Syphilis, 3 August 1916.

ineffective or create unwanted side effects.[4] Patients being treated with salvarsan needed to be closely monitored to ensure they were responding well to treatments.

Drug therapy typically lasted about two months with the patient undergoing intravenous injections every three to five days. In private practice, doctors often had difficulty getting patients to continue with this lengthy and costly treatment, especially when symptoms began to disappear – as typical in cases of syphilis – and they thought themselves cured.[5] In the military, doctors had more control over their patients who could be forced to submit to treatments but they were also concerned with reducing costs and keeping treatment times to a minimum. Early in the war, the army hospitalized men for the duration of their illness, as they preferred to isolate them while they were thought to be contagious. But as the number of cases grew and hospital space became an issue they could no longer hold VDS cases for the full course of drug therapy. After receiving their initial diagnosis, syphilis patients were processed and given their first few injections within a month. They could then be returned to their units where regimental medical officers could continue to attend to men that were no longer considered infectious.[6] To

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[4] "The Manufacture of Salvarsan in Canada," 126 and Dunbar, *The Secrets of the Anzacs*, 240-241.

[5] This brief overview is taken from a more comprehensive description that can be found in: Cassel, *The Secret Plague,* 54-56. A contemporary description of salvarsan can be found in AWM267 367:192, Paper Read by Capt. Grantham Anderson on Feb 1917 before Étaples Medical Society, *Diagnosis and Treatment of Syphilis on Active Service*. This report finds that these intensive treatments combined with improper administration were the main factors in cases of arsenic poisoning: Strathy and George S, Captain C.H.V. Smith and Beverly Hannah, "Report of Fifty-Eight Cases of delayed Arsenical Poisoning, following the Administration of '60' Preparations." *The Canadian Medical Association Journal* 10, 4 (April 1920): 336-353.

[6] Cassel, *The Secret Plague*, 125.

reduce treatment times and get better results, the drugs had to be pushed to their limits.[7] This approach would have the combined effect of reducing costs while limiting the amount of time a soldier with VDS was kept out of the trenches.

In May 1916, the routine course of treatment for new cases of syphilis was seven injections of salvarsan totaling 2.8 grams along with eight injections of mercury over the course of fifty days (see figure 1.1). On the fifty-second day, men received a Wassermann test. If the blood tests came back negative, treatments were suspended until another serological exam was completed three months later. However, if this test came back positive, the soldier would receive several injections of potassium iodine from the 54th to 68th days followed by three more injections of both salvarsan and mercury between the 68th and 83rd days. If there were still traces of spirochetes found in the bloodstream then they were given potassium iodine for two weeks. Then a course of salvarsan and mercury was repeated. Medical officials continued to develop and implement procedures to deal with venereal problems as the war progressed.[8] While the drop in treatment times and overall VD rates may suggest that VD management became more effective over the course of the war, a closer examination of Canadian records shows the CAMC continued to experience complications treating syphilis throughout the war.

[7] See the full quote in Chapter 3: AWM27 367/192, Paper Read by Capt. Grantham Anderson on Feb 1917 before Étaples Medical Society, *Diagnosis and Treatment of Syphilis on Active Service,*

[8] Macpherson, *Diseases of the War*, 139-140.

Day of Treatment	Intravenously	Intramuscularly
	606	Mercury
1st	0.3 gr	1gr
4th	0.3 gr	---
8th	0.3 gr	1gr
15th	---	1gr
22nd	0.4 gr	1gr
29th	0.5 gr	1gr
36th	---	1gr
43rd	0.5 gr	1gr
50th	0.5 gr	1gr
52nd	*Blood test, if positive or doubtful, continue as outlined below*	
54th to 68th	*Potassium Iodine*	
69th	0.3 gr	1gr
76th	0.4 gr	1gr
83rd	0.5 gr	1gr

Figure 1.1 – William Grant Macpherson, *Medical Services Disease of the War, Volume II*, (London: His Majesty's Stationary Office, 1923), 139-140.

Early Diagnosis

Salvarsan was thought to be most effective if it was used during the initial stages of the disease, so early diagnosis was key. After Lieutenant Colonel W.T.M. MacKinnon took over command of Etchinghill in 1917, he reported that many suspected cases were being misdiagnosed, delaying the early treatments that were crucial to recovery. When Private G.S. Lewis was admitted to Etchinghill on 28 September 1917 he stated that he had first noticed genital sores on 15 September 1917 and reported this to his MO on three separate occasions. "He was held in Segregation Camp for ten days," according to MacKinnon, "and received no treatment with the exception of the application of lard. Might I point out that this delay in sending patients to this hospital for immediate treatment, only tends to allow the disease to generalize and when this occurs, prolongs his treatment." By the time he was sent to Etchinghill, the disease had progressed to the

second stage of infection. Lewis had a large, hardened sore on his foreskin as well as mucus patches in his mouth and throat. MacKinnon complained, "Medical officers are evidently unaware that the earlier treatment is begun in primary syphilis, that secondary symptoms are prevented, and cures are more easily and quickly obtained."[9] Lewis went on to spend thirty-two days at Etchinghill, receiving seven injections of 0.4 grams of novarsenobillon before his Wassermann came back negative and he was discharged on 6 November 1917.[10]

Just over two weeks later, MacKinnon encountered two more cases that were not sent to Etchinghill until after the disease had generalized. Sapper Thomas Boyter was symptomatic for two weeks before being admitted to Etchinghill on 13 October 1917 while Driver William Smith had been exhibiting symptoms for eight days before being admitted the same day. At the time of his arrival at Etchinghill, Boyter's condition had progressed to a case of generalized syphilis as he had erosions on his penis as well as a very large indulation. Smith arrived in a similar state with an inflamed penis covered in erosions and indulations. MacKinnon was adamant that the importance of seeing these cases early needed to be made clear to MOs as

> In cases in which early treatment is begun on the appearance of the primary sore, our experience in this hospital is, that a negative Wassermann is obtained at the end of the initial course of 606, but in cases where delay occurs, such as the above, there

[9] LAC RG9-III-B-1, Volume 1826, Letter from Lieutenant-Colonel MacKinnon to ADMS Folkstone, Treatment delays for syphilis from, 28 September 1917.

[10] LAC, RG150, Accession 1992-93/166, Box 2749 – 21, Personnel File: Private Lewis G.S

> is no guarantee that a negative Wassermann can be obtained, even at the end of the double course of 606 treatment, and delays in treatment, not only make it difficult to obtain what they believed could be definitive cure, but deprive the public of the man's services for a much longer time.[11]

Boyter spent almost three weeks at Etchinghill and received three 0.45 gram injections of neo-salvarsan and three mercury injections. On 1 November 1917 he was discharged as an outpatient during which time he received three more injections of mercury, two more injections of novarsenobillon with a final 0.75 gram injection on 22 November 1917. It total, Boyter received thirteen injections over the course of forty-two days, which exceeded the recommended course of treatment. For these men, by the time they were sent to Etchinghill, their conditions had generalized and they had to be treated with double doses of salvarsan. Doctors believed this tactic was necessary to 'cure' cases that arrived at the hospital after the disease had generalized but doing so greatly increased their exposure to a highly toxic drug.[12]

Problems with 606

Even with the use of salvarsan, the medical community believed its perceived curative powers diminished drastically when treatment was delayed by even a few days. They argued early treatment could reduce the number and frequency of injections and

[11] LAC RG9-III-B-1, Vol. 1826. Letter from Lieutenant-Colonel MacKinnon to ADMS Folkstone, Treatment Delays For syphilis, 16 October 1917.

[12] LAC, RG150, Accession 1992-93/166, Box 2749 – 21, Personnel File: Private Boyter.

thereby one's exposure to the potentially dangerous side effects of these drugs. The toxicity of salvarsan was a concern for MOs throughout the war. Its use was linked to outbreaks of dermatitis and jaundice. In his official history of the Medical Corps after the war, RAMC medical historian William Macpherson attempted to approximate the percentage of cases that suffered from the toxic sides effects of salvarsan while under treatment. An investigation of 39,377 treatment cards revealed 370 cases of dermatitis (0.9 per cent) and 107 cases of jaundice (0.32 per cent) with fifty deaths, eighteen of which were definitively caused by dermatitis and another eight due to jaundice as could be determined by the information available in the case records. In late 1917 and early 1918, several Imperial and Dominion venereal disease hospitals experienced outbreaks of jaundice that led to at least twenty-nine fatalities.[13] Canada reported at least eleven fatalities connected with anti-syphilitic treatments. These deaths prompted an examination of VDS management within the Canadian ranks.

One of the first reported Canadian deaths was Corporal George Dysart. Dysart was just eighteen years old when he enlisted on 1 October 1915. He was admitted to the hospital in Brighton on 11 October 1917 for a circumcision and hemorrhoids, although it is possible these were misdiagnosed given that just ten days later Dysart was diagnosed with syphilis. He received two doses of kharsivan and two doses of mercury at Brighton before being transferred to Cherry Hinton on 2 November 1917 for further treatment. Upon arrival, his urine was tested for traces of albumen, a test that was to be performed prior to any injections to ensure one's kidneys were healthy enough to withstand treatment. When the tests came back negative, he received seven injections of mercury

[13] Macpherson, *Diseases of the War,* 141-142.

and five more injections of kharsivan. A Wassermann test performed on 6 December 1917 came back a weak positive, so he did not receive any more injections but remained hospitalized until his Wassermann test came back negative on 23 December 1917. Just over a week later, on 31 December, Dysart complained that he had been vomiting and was experiencing generalized pain throughout his abdomen. He appeared markedly jaundiced and was constipated when he was admitted to Eastbourne the following day. By 2 January, he was still "drowsy, taking little fluid and voiding little urine." He had a high white blood cell count and his urine exam showed albumen and traces of bile. He was given a hot enema to help with the constipation. By 10 p.m. that evening, Dysart became restless and noisy, crying out several times before quieting down a few hours later. In the middle of the night, Dysart became delirious and was given some morphine to calm him down. He fell into a coma and died at 3:50 p.m. on 4 January. Dysart was the first of three Canadians to pass away in January 1918 after receiving anti-syphilitic treatment at Cherry Hinton in the fall of 1917.[14]

These fatalities prompted Colonel Robert Rudolf, the CAMC Consultant in Medicine, and Lieutenant Colonel John Amyot, the CAMC Consultant in Sanitation, to travel to the Seaford area to investigate the first three fatal cases connected to salvarsan-induced jaundice. All three men had come from different units but had been treated with kharsivan at Cherry Hinton between October and December 1917. They all reported as having abdominal pain, their tests showed higher white blood cell counts, there were trace amounts of bile in their urine samples, they had little or no fever and became

[14] LAC RG9-III-B-2, Vol. 3617, Autopsy reports for Dysart, 21 January 1918 and LAC, RG150, Accession 1992-93/166, Box 2749 – 21, Personnel File: Private George D.

delirious then comatose before dying. Rudolf did not feel this was a case of malignant jaundice given that these types of epidemics generally occurred in warm weather and these had occurred in the middle of winter. Guinea pigs were injected with blood from the affected organs for the deceased but the cultures failed to show any evidence of bacteria or any other microorganisms, which seemingly made these incidents isolated. Based on these observations, Rudolf concluded, "Taking everything into consideration, Lt. Colonel Amyot and myself consider that these cases were most probably due to arsenic poisoning. In the two instances the men had shortly before had a full course of 606. We will report again after the full pathological findings."[15]

On 26 January 1918, Amyot received a report from the Canadian General laboratory about a recent autopsy done on Dysart. The particulars of this case fit with five cases that were reported by Professor Stuart McDonald in the *British Medical Journal* a week prior. After conducting the post-mortem exams, McDonald found that all five cases had died from acute yellow atrophy while undergoing salvarsan treatments for syphilis in a two-month period. In these cases, there was a sudden onset of jaundice and in the next two to eight days, their symptoms became more dramatic and included wild excitement, severe jaundice, bile-stained urine, and vomiting blood before falling into a coma and dying one to four days later. Post-mortem exams revealed diminution of the liver and inflamed kidneys while bacteriological examinations showed organisms, possibly of the coli typhoid group, in the heart and lungs. Based on his findings he concluded, "That the most reasonable view to take would appear to be that the essential cause of acute yellow

[15] LAC RG9-III-B-2, Vol. 3617, File 25-11-1, Memorandum from Colonel Rudolf to Lt AMD, 21 January 1918 and LAC RG9-III-B-2, Vol. 3617, Autopsy reports for Dysart, Hutchison and Snelgrove, ND.

atrophy is some poison, possibly of microbic nature, produced in the alimentary tract and acting on a liver previously damaged, or whose function at least has been disturbed." Although the combined use of arsenic and mercury was the most obvious culprit, McDonald noted,

> It is remarkable that though similar cases amounting to thousands have been treated by the same methods, such as a complication as we have recently experienced has not been observed until now. This would seem to point to some other factor having been introduced. There is no evidence that the salvarsan had been materially altered, at least in the last three years, and the syphilitic toxin and mercury factors may be taken as a constant.[16]

The Canadian lab encountered three out of five cases, including Dysart's, which seemed to fall into the same category as McDonald's. The Canadian lab attempted to use the Marsh test, a contemporary test for arsenic poisoning, but Dysart's tissue sample was not large enough. The other cases came back negative, but the lab was not sure if the Marsh test could detect arsenic that had been given intravenously and not ingested orally. The lab noted, "In our control [group] it seems to us that we had to add more 606 substitute before we got a mirror that would be at all likely to be present in a piece of liver of

[16] Stuart McDonald, "Acute Yellow Atrophy in Syphilis, A Preliminary Note," *British Medical Journal,* (19 January 1918): 76-78.

moderate size. To really get ahead on the chemical detection of arsenic we would probably need a lot of books and chemical apparatus."[17]

Amyot's initial response to the problem was to issue an order on 26 January 1918 limiting dosages for salvarsan and instead use inunctions of mercury.[18] The staff at Etchinghill expressed their concern, as multiple applications of mercurial ointment would require at least fifty trained "rubbers" which would complicate and slow the treatment process.[19] Captain George Scott at Etchinghill complained that reverting to older forms of treatment was not feasible given the limitations on military resources. Inunction treatment would require an increase in medical staff while also delaying a man's return to his unit. He argued, "The most scientific treatment of syphilis known at the present day leaves very much to be desired. We, however, at this hospital have had very encouraging results, both as regards the obtaining of negative Wassermanns, few severe reactions from arsenical compounds, and a death rate that is, so far as we know, infinitesimal."[20] Amyot assured the staff at Etchinghill the changes were only temporary to address the current emergency.[21] He did warn them, however, that they would likely have to accept changes

[17] LAC RG9-III-B-2, Vol. 3617, Letter from Canadian General Laboratory to Lt Colonel Amyot, Cpl. Dysart, G.H. 26 January 1918.

[18] LAC RG9-III-B-2, Vol. 3617, Letter from Lt.-Colonel J. Amyot to A.M.D.D, 31 January 1918.

[19] LAC RG9-III-B-2, Vol. 3617, Letter from G.O. Scott to W.T.M MacKinnon, 31 January 1918.

[20] LAC RG9-III-B-2, Vol. 3617, Letter from G.O. Scott to W.T.M MacKinnon, 31 January 1918 and LAC RG9-III-B-2, Vol. 3617, Letter from W.T.M. MacKinnon to ADMS Folkstone, Etchinghill, 31 January 1918.

[21] LAC RG9-III-B-2, Vol. 3617, Letter from J. Amyot to AMDD, 31 January 1918.

to the system that would prolong treatment times. "As things stand now," he reminded them, "many cases remain in Hospital not more than 20 days as indoor patients. Many of these had not received more than 3 doses of salvarsan combined with the mercurial treatment and had their open sores healed."[22] Despite concerns no long-term changes were made. The order was cancelled thirteen days later and hospitals were told to return to their former procedures with the caveat that "special vigilance is to be observed in the selection of cases for full treatment, having regard to debilitating anterior history and present lowering condition. Special care also will be taken in the sterilization of all material and apparatus tools."[23] This precaution was short-lived as by 14 February 1918 Amyot reported "Without being final the conclusion 'pro-tem', is justified that these three men died of chemically ordinated degeneration – not of spirochetic [sic] jaundice…in general they have narrowed it down to one 'local' – so that it is considered justifiable to return to the old establishment of treatment system as 'ante'"[24]

Shortly after reverting back to the old treatments, another Canadian died from complications potentially related to anti-syphilitic treatment. Private John Cathie was a thirty-two year-old married plumber who enlisted on 29 June 1915. Prior to being treated for syphilis, he spent several weeks in March 1917 at the hospital at Eastbourne for nephritis. After developing sores on his penis, Cathie was sent to Cherry Hinton for anti-

[22] LAC RG9-III-B-2, Vol. 3617, Letter from J. Amyot to AMDD, 31 January 1918.

[23] LAC RG9-III-B-2, Vol. 3617, Letter from Major-General Foster, Treatment of Syphilis, 8 February 1918 and LAC RG9-III-B-2, Vol. 3617, Letter from J. Amyot to AMDD, 31 January 1918.

[24] LAC RG9-III-B-2, Vol. 3617. Letter from Lieutenant-Colonel Amyot to Pembroke House, Occurrence of Fatal Jaundice at No. 14 Canadian General Hospital Eastbourne, 14 February 1918.

syphilitic treatment on 26 October 1917. Over the course of the next fifty-three days, he received eights injections of mercury and 2.8 grams of kharsivan over seven injections and was released on 18 December 1917. It was not until early February that Cathie was admitted to Ravenscroft with severe jaundice, which his attending physicians attributed to his exposure to salvarsan. Cathie complained of nausea and vomiting and over the next two weeks, got progressively worse as he was drowsy, irritable and became emaciated before passing away on 24 February 1918.[25]

On 8 March 1918, Colonels Murray, MacLaren, Finely, and Rudolf, as well as Lieutenant-Colonels Adami and Stewart met with Captain Joseph Gibbs, a physician from British Columbia who served with the CAMC in England including at Etchinghill, to discuss the use of salvarsan.[26] Lieutenant-Colonel Lawrence Whitaker Harrison, a renowned expert in venereal disease who had been put in charge of VD research at the War Office, provided the committee with a detailed account of the cases. Prior to the fatalities, there had been a few cases of catarrhal jaundice in patients that had received salvarsan, which cleared up after a few days. Several other cases were in the secondary stages of VDS and had yet to receive any salvarsan injections. In July 1917, hospitals in Cambridge, Dublin and Newcastle had reported several cases of fatalities from jaundice related to salvarsan. Soon after, several Canadian hospitals also reported that they had ten cases of jaundice resulting in eight deaths. Harrison stated,

[25] LAC, RG150, Accession 1992-93/166, Box 1577 – 51, Personnel File: Private John C.

[26] LAC, RG150, Accession 1992-93/166, Box 3494 – 17, Personnel File: Captain Joseph Gibbs.

> Of these Canadian cases there have been up to date, ten: 5 of the 10 (with 4 deaths) had received their treatment at Cambridge; another 5, also with 4 deaths, had been treated, 3 of them at Hastings, 2 at Etchinghill, and subsequently at Seaford. The later doses of the last group, i.e. five cases treated in Canadian Hospitals, were given either in Seaford or Hastings. No cases have occurred in those whose only treatment has been at Etchinghill.[27]

Harrison concluded that the drug itself was not to blame for the fatalities based on several pieces of evidence. He noted that there was no consistency in the drug that was used as several modifications and substitutes had been used in the various treatments. In Dublin, only one hospital had reported fatalities even though another hospital in Dublin had received the same batch of kharsivan. He stated that there were no fatalities reported from larger centres in Manchester, Lichfield, Hillsea, Devonport, Bulford, Connaught, Rochester Row or the 39th General Hospital in France who treated a much larger number of venereal patients so it appeared that there had to be another factor in the deaths than the drug itself.[28]

In his investigation, Harrison found that all of the cases in Dublin had come from the married men's barracks, each small room packed with three or four beds. Eight of the cases in Dublin came from three rooms with blood samples from nine of the fatalities showing the presence of malignant malarial parasites, which were believed have been a

[27] LAC RG9-III-B-2, Vol. 3618, Report on Conference Upon the Treatment of Syphilis by 606, March 1918.

[28] Ibid.

contributing factor in these cases. Harrison reported similar conditions in Cambridge as the treatment huts were arranged in four lines, A through D. There were two treatment rooms, but the solutions were made up at the same spot. All 27 cases from Cambridge came from lines A and B, with no cases reported from lines C and D. He could find no sign of the malarial organism that had been reported in Dublin, Cambridge and Newcastle. However, autopsies from these hospitals revealed two other important features. Harrison said the livers showed an absence of arsenic while mesenteric glands were congested and swollen. These two pieces of evidence suggested an infection rather than metallic poisoning. Based on these findings, Harrison concluded that the most likely scenario was that the salvarsan solution had been contaminated by bacteria from unsterilized water that had been kept in a Winchester jar and replenished several times. He argued, "Just as for years a well at a farm may be contaminated with sewage and yet nothing happen [sic] until suddenly an epidemic of typhoid occurs, so it may chance that for a long period no pathogenic organism invades such unsterilized solution of salvarsan, but if the same Winchester quart bottle is not sterilized, but filled up and sent back to the same treatment centre, then suddenly the contained solution may become and may remain infected with pathogenic organisms."[29] The conclusion that the committee reached was that the most reasonable explanation was that 606 alone was not responsible for the fatalities, but they were the result of another factor which was most likely caused by an infection from contaminated water used to prepare the solution.[30] Liver damage caused

[29] LAC RG9-III-B-2, Vol. 3618, Report on Conference Upon the Treatment of Syphilis by 606, March 1918.

[30] Ibid.

by syphilis had lowered its ability to cope with certain microbes entering the blood stream. These combinations of factors, and not the remedies themselves, were cited as the main factors in outbreaks of acute jaundice.[31]

The meeting produced several outcomes affecting the treatment of syphilis patients in Canadian hospitals. Firstly, Harrison did not see the need to stop salvarsan injections in any hospital that had not reported a fatal case of jaundice. Secondly, although men and MOs might be reluctant to continue salvarsan treatments after a string of fatalities, Harrison was adamant treatments should continue on the basis that if "treatment by 606 be discontinued and replaced by mercurial and other non-arsenic treatments, the cost to the country in money, in time of treatment, and in men fit for active service, will be so great that it cannot be considered. 606 in one or other modification is the only rapid method of treating early cases of syphilis."[32] Wartime necessity overshadowed concerns over safety. In the view of the army, the deaths of eleven soldiers were seen as a regrettable but ultimately minor problem compared to the perceived benefits of the system.

Lastly, Harrison noted that there had been no issues following intramuscular injections of 914. Based on Harrison's report, the committee made several recommendations to the DMS. Firstly, the venereal centres at Etchinghill and Witley would continue to administer 606, as there had been no fatal cases at either hospital. Secondly, intravenous injections of 606 were to be suspended at Hastings and Seaford

[31] LAC RG9-III-B-2, Vol.3617, The Management of Patients Under Treatment for Syphilis, 16 March 1918.

[32] LAC RG9-III-B-2, Vol. 3618, Report on Conference Upon the Treatment of Syphilis by 606, March 1918.

and replaced with intramuscular injections until the cause of the fatalities could be determined. Thirdly, the bacteriologists at Hastings and Seaford were to examine the procedures for the preparation and administration of 606 with a focus on the sterility of the fluids used. Lastly, as an additional precaution, the administration of 606 was modified: the period of treatment was extended and would use smaller doses.

Captain Gibbs recommended all the cases at Seaford, about twenty-six, that were awaiting treatment or had not yet finished treatment, should be sent to Etchinghill or Witley until they had finished their courses of salvarsan. Any Seaford cases that had yet to receive a diagnosis would have their samples immediately sent to Eastbourne before these cases became generalized. Gibbs reasoned this would "will clear up the present situation re: the untoward effects of 606 recently experienced, as these cases would receive their full treatment before discharge from Hospital, and no trouble has been experienced in cases fully treated at Etchinghill or Witley Special Hospital."[33] Like Harrison, Gibbs also recommended intramuscular injections of 914, or arsenobenzol, in the connective tissues of the gluteus maximus and the gluteus medius. He argued, "Even when in a simple solution the injection of 914 is not followed by nearly the same amount of pain as that which results from the local injection of 606…[and] no cases of acute changes have followed the use of this modification of 606, while…the negative Wassermann reaction at the end of the course are 12 percent better."[34] It is not clear why it produced slightly better results, but it was also the drug preferred by doctors at the front

[33] LAC, RG9-III-B-2, Vol. 3617, Letter from from Captain Gibbs to DMS Canadians, 12 March 1918.

[34] LAC RG 9 III B2, Vol. 3618, File 25-11-3, The Method of Intramuscular Injection of 914, March 1918.

as it could be dissolved in less water. Even when used intravenously, doctors at the front argued it created fewer problems than other drugs.[35] When injected into the vein, salvarsan could cause skin irritations and incredible pain at the site of injection. After receiving several injections, Private L.J. Seavey refused any further medical treatments for his VDS. He reported, "The treatment was also upsetting my stomach and I couldn't hold my breakfast down in the morning. Once after the injection it was just like a knife in my back and I had to sit down on a bench in the hospital for two hours, and then they had to carry me to the ambulance. On two occasions the treatment caused an abscess on the hip where they injected it."[36] It was reported that massaging the muscle after the removing the needle helped disperse the substance and abolish the immediate pain.[37]

These recommendations were implemented in the modified course of treatment that was issued in March of 1918 (see Figure 1.2). Treatment times were extended from fifty days to fifty-seven days, patients would seven injections of mercury instead of eight and the overall amount of salvarsan was reduced slightly from 2.8 grams to 2.6 grams. The new schedule also outlined two courses of treatment for the use of 914, or neo-salvarsan, a compound that was about two-thirds the content of 606 and could be injected intramuscularly.[38]

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[35] Macpherson, *Diseases of the War, Volume II,* 135 and LAC, RG-9-III-B-1 Vol. 1826, Colin Russel, Treatment of Venereal Disease in U.S. Army, 30 October 1917.

[36] LAC RG9-III-B-1, Vol.1826, Statement by 2015201 Private Seavey, L.J., 6th D.C.O.R. relative to his receiving further treatment for VDS, 12 October 1917.

[37] LAC RG 9 III B2, Vol. 3618, File 25-11-3, The Method of Intramuscular Injection of 914, March 1918.

[38] LAC, RG9-III-B-2, Vol.3617, The Management of Patients Under Treatment for Syphilis, 16 March 1918 and Macpherson, *Diseases of the War*, 140-141.

Day of Treatment	**Intravenously**		**Intramuscularly**	**Intramuscularly**
	606	***or* 914**	***or* 914**	***and* Mercurial cream**
1st	0.3 gr	0.45 gr	0.45 gr	1 gr
8th	0.3 gr	0.45 gr	0.45 gr	1 gr
15th	0.3 gr	0.45 gr	0.6 gr	1 gr
22nd	----	----	----	1 gr
29th	0.4 gr	0.6 gr	0.6 gr	1 gr
36th	0.4 gr	0.6 gr	0.6 gr	1 gr
43rd	----	----	----	----
50th	0.4 gr	0.6 gr	0.6 gr	1 gr
57th	0.5 gr	0.75 gr	0.6 gr	----
59th	*Blood test, if positive or doubtful, continue as outlined below*			
61st to 75th	*Potassium Iodine*			
82nd	0.3 gr	0.45 gr	0.6 gr	----
92nd	0.4 gr	0.36gr	0.6 gr	----

Figure 2.2 – William Grant Macpherson, *Medical Services Disease of the War, Volume II*, (London: His Majesty's Stationary Office, 1923), 140.

In an effort to deal with the concerns over the continued use of arsenic in the treatment of syphilis, the CAMC produced a circular outlining the management of syphilis patients. It addressed the "exaggerated rumors" of the dangers of anti-syphilis treatment. It acknowledged that there had been several fatalities but it clearly stated there was no evidence to support the claim that increased toxicity of treatments was to blame. While both syphilis and arsenic treatments might cause some liver damage, doctors argued the actual problems started when certain types of microorganisms entered the blood stream. The preparation of salvarsan for injection was a complicated process: if not prepared properly, it could result in illness or death. Salvarsan required pure, distilled water but it was not always possible to obtain under wartime conditions.[39] The War Office ordered an investigation of salvarsan to examine the sterility of the water in an

[39] LAC, RG9-III-B-7, Vol. 1826, The preparation of Salvarsan, Kharsivan, Arsenobenzol, Arsenobillon, ND.

effort to determine whether the side effects were incidental or a directly due to a tainted solution. One hypothesis was that a perfectly healthy liver was able to destroy these microorganisms but if the liver was affected by syphilis then these microorganisms, which entered the body during an injection or were absorbed by the intestine, could lead to the rapid destruction of the liver in some cases. [40]

For Canadian officials the potential risks associated with salvarsan were not enough to justify a complete overhaul of the VD management system. The general belief was "the present system of treatment of syphilis has successfully saved a most important amount of wastage in manpower, not only in affected patients but in medical personnel to look after them, and a reversion to older methods of treatment would result in such an increase in man-power wastage as can not be afforded, even if there were stronger grounds for such a step that there are at present." Instead, more precautions were introduced to minimize the chances of patients developing acute jaundice. Before starting treatment, patients were to be "thoroughly examined as if for life insurance" in order to identify any pre-existing conditions, such as arterio-sclerosis, myocarditis and pulmonary or renal diseases that might affect dosage and intervals between treatments. Over the course of treatment, and before any injections patients were to be carefully watched. Urine samples were to be examined before and after every injection to check for renal problems. MOs were to watch for jaundice, loss of weight or appetite, chronic headache, sleeplessness, irritably of the stomach and bowels, skin disturbances and cyanosis as well as any reactions that may occur during the treatment itself. If any of these symptoms were

[40] LAC, RG 9 III B2, Vol. 3618, File 25-11-3, Letter: from Major-General Foster to DADMS Seaford, V.D.S. Treatment, 9 March 1918.

present during an examination, MOs were to suspend treatment for several months after the symptoms disappeared.[41]

Investigation into VDS Management

Even though the CAMC was ultimately under the direction of British policy, they had some autonomy in their special hospitals.[42] The Canadians conducted their own investigation of the deaths and Captain Austin Irvine was sent to take over the VDS clinic in the area and inspect their procedures. Irvine compiled a list of recommendations for the treatment of venereal disease, specifically syphilis. Before the war, Irvine was a surgeon from Sherbrooke who enlisted in the CEF on 31 August 1916. While in France, he was stationed with the 12th Canadian Field Ambulance and also served as the MO of the 87th Battalion. During his time with the 87th, Irvine was awarded the Military Cross. When he returned to England, he did rotations at Brighton, Eastbourne and Shorncliffe. It is not clear why Irvine was chosen to examine the administration of venereal disease at several clinics, but he provided a number of recommendations to the DADMS.

One of his first recommendations was that the number of patients seen per day at the clinic should not exceed thirty, as that was "the maximum number that can be dealt with intelligently."[43] He also listed a number of precautionary measures to ensure the

[41] LAC, RG9-III-B-2, Vol.3617, The Management of Patients Under Treatment for Syphilis, 16 March 1918.

[42] LAC, RG9-III-B-2, Vol. 3617, Colonel Alex Hutchinson, Administration of Salvarsan, Canadian Special Hospital Etchinghill, 15 October 1918.

[43] In the available war diaries Witley was averaging 22 injections per day in April 1918 and would peak at 45 injections per day in January of 1919. In 1917, Etchinghill was averaging over 40 injections per day.

patient was in good health prior to any treatments: well rested with a light meal and a saline purgative the night before. Patients were to report to the Sick Parade the following day to check for any reactions and have their urine examined for albumen before any more injections. He could not provide a definitive answer on how long treatment would take other than to state patients were to receive two salvarsan injections a week and one mercury a week but that they could not be given on the same day. "Every effort," Irvine concluded, "will be made to give the treatment in as scientific & intelligent a manner as possible, but at the same time with a minimum interference with the duties of a soldier."[44]

Irvine's inspection of Canadian VD clinics continued even though the DADMS, Major Burke had decided that Irvine's recommendations had not yet warranted any action from higher up the chain of command. Burke reasoned that the "recommendation, and the reasons for not forwarding them to the D.M.S. is apparent. Every recommendation can be dealt with and acted upon by this Office, as they only concern the Battalion Medical Officers."[45] To help improve the system, Irvine provided a more detailed breakdown of the type of treatment that should be used depending on the stage of syphilis. According to Irvine, his proposed treatment schedule rested on Erlich's original belief that salvarsan could cure syphilis in one dose. While this theory was proven wrong, Irvine argued that since the spirochetes were most susceptible in the early stages, it was best to treat a patient in the primary stages with as many large doses of salvarsan as the patient could

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[44] LAC RG 9 III B2, Volume 3618, Captain Austin Irvine, Treatment of Venereal Disease*,* 13 April 1918.

[45]LAC, RG9-III-B-2, Vol. 3618, Captain Austin Irvine, Treatment of Venereal Disease*,* 18 April 1918.

withstand as was the practice of large, private hospitals. Treatments were tailored to the patient depending on the stage and severity of the disease. Salvarsan was to be used in conjunction with mercury and pushed to the limit of toleration with mercury becoming the drug of choice in later stages and in instances of prolonged treatment. This treatment schedule was difficult to maintain given that patients often had to receive treatments at different hospitals but Irvine countered that while more patients would require hospitalization, it would use less salvarsan and overall treatment times would be shorter. Irvine concluded, "I do not think an injustice would be done to any patient, who had had an initial and recurrent course as advised here, if he were classed as recovered if free from clinical symptoms. It is a better course of treatment than 75 per cent of luetics receive in civil life, and recurrences should be very few."[46]

As Irvine continued his investigation he began to uncover a number of problems concerning the administration of syphilis. As part of procedure, a syphilis case sheet was to be created for each man that entered the system for VDS treatment to keep track of a soldier's treatment schedule once he left the hospital to be treated as an outpatient. Irvine found that many patients were treated but never supplied with a case sheet. He stated, "In certain instances instead of the case sheet patient [sic] had a small slip of paper on which were marked the injections of 606 and mercury given, and to be given in that particular course, but giving no information as to previous courses."[47] When the case sheets were

[46]LAC, RG9-III-B-2, Vol.3618, Captain Austin Irvine, Views on the Treatment of Syphilis, in Seaford Area, 6 May 1918.

[47] LAC, RG9-III-B-2, Vol. 3618, Letter from Captain Austin Irvine to DMS Canadians, Difficulties to Contend with in the VDS Clinic Seaford, 27 May 1918 and LAC,RG9-III-B-2, Vol. 3618, Letter from Captain Austin Irvine to DADMS Seaford, 16 May 1918.

available, the course of many arsenic and mercury injections had not been properly entered with the most recent injection often the only one that had been recorded. Even more troubling was his discovery that "in several cases whole courses are omitted. This is naturally very misleading and if it were not for the fact that we have carefully looked into the past history of all cases grave results would have followed." Without proper information as to the patients' history, it was possible that men would miss treatments or receive more injections and higher doses than outlined in the recommended course of treatment. In one case, he encountered a man who claimed he could name the dates and hospitals where he had received twenty-five injections. Another nine men told Irvine they had received fifteen or more injections, well over the recommended seven injections.

Irvine believed many of the problems were due to the clinics trying to complete too many VDS treatments in one day. The rushed manner at the clinic meant injections had not been properly recorded and other important information was also missing from the case sheets. The column marked 'Symptoms and Progress' was rarely filled out, which was problematic as these were potentially important factors in guiding treatments and tracking a patient's response to treatment. He also found many reports were missing urinal analysis or had been incorrectly reported as normal. Irvine noted, "One condition that is hard to understand regarding the examination of urine and which is hard to believe is that every urinary examination made on every case sheet so far that we have seen here has been marked normal."[48] After testing several patients' urine, Irvine found several samples contained traces of albumen, an indication that treatment should be suspended.

[48] LAC, RG9-III-B-2, Vol. 3618, Letter from Captain Austin Irvine to DMS Canadians, Difficulties to Contend with in the VDS Clinic Seaford, 27 May 1918 and LAC, RG9-III-B-2, Vol. 3618, Letter from Captain Austin Irvine to DADMS Seaford, 16 May 1918.

He found that his request for urine samples generated a great deal of curiosity among staff and patients as it had apparently not been a regular part of the hospital's routine.

After his observations at Seaford, Irvine concluded there were multiple problems in VDS management from "the want of preparation of patients, slackness in noting symptoms and re-actions and recording them, failure to examine urine before and after treatment, inaccuracies of Syphilis Case Sheets, and general hurry up method of treatment are that if one wishes to avoid accident in the future that every effort be made to overcome these deficiencies in administration and technique. These deficiencies might easily be regarded as possibly the unknown quantity already sought for in certain unfortunate cases."[49] In Irvine's opinion, the problems he had encountered in the system should not be present after almost four years of war. He suggested to his superiors that they hire a syphiliologist, one who had practical experience with treating syphilis and managing a large-scale hospital clinic. Employing a person with extensive experience was, in his opinion, the best way to improve the technique and administration and would eliminate the factors that may have contributed to the fatalities at Seaford. In a follow-up letter to Major-General G.L. Foster, Irvine clarified his recommendation and stated, "I trust that when you read the latter part of the report that you will not think that I am trying to create a post and suggesting myself to fill it. I have no desire to fill that post, but think that it should be created and that someone thoroughly qualified should fill it. I do feel though, that anyone endeavoring to do the VDS work in this area should do that and

[49] LAC, RG9-III-B-2, Vol. 3618, Letter from Captain Austin Irvine to DMS Canadians, Difficulties to Contend with in the VDS Clinic Seaford, 27 May 1918.

that alone, otherwise the work cannot be done and as you would wish. I would put myself on record to that effect, please."[50]

Irvine continued to examine the VDS procedures at Seaford and continued to forward specific cases and examples of errors to his superiors at their request. When he spoke to patients and compared their experiences to what had been recorded on their case sheets, he found multiple discrepancies in three major areas. The first area of concern was the number of patients who declared the urine examinations recorded on their charts were incorrect, with Etchinghill being labeled by Irvine as the worst offender. Private Hittula was placed on the syphilis register when he arrived at Etchinghill on 10 April 1916. According to his chart, he received five injections of salvarsan and five injections of mercury with the last injection on 10 May 1916. With each injection, there was a column indicating that he had had a urine test, which had come back clean each time. When Irvine took over Hittula's treatment, urine tests showed no albumen but it did show traces of bile. Irvine immediately stopped salvarsan injections and continued with only mercury. Private Hittula told Irvine that he had only had his urine examined when he first arrived at Etchinghill despite the fact that his case sheet showed he had received one after every treatment. [51]

The second area of concern for Irvine was the multiple instances where examinations had not been recorded before or after treatments. He found that prior to 16

[50] LAC, RG9-III-B-2, Vol. 3618, Letter from Captain Austin Irvine to DMS Canadians, Difficulties to Contend with in the VDS Clinic Seaford, 27 May 1918.

[51] LAC, RG9-III-B-2, Vol. 3618, Syphilis Case Sheet – Private Hittula, 4 April 1918 and LAC, RG9-III-B-2, Vol. 3618, Letter from Captain Irvine to Colonel MacLaren, 5 June 1918.

April 1918, Etchinghill, Witley, Hastings, Cherry Hinton and Ravenscroft were all offenders. In the case of Private Kennedy, Irvine received two different case sheets. The original sheet, which came from his orderly room, shows that he was admitted on 31 October 1917 for VDS at Witley and received three doses of salvarsan and two doses of mercury before being discharged as an outpatient on 16 November 1917. Over the next three weeks, Kennedy received four doses of both salvarsan and mercury before his treatment was stopped on 20 December 1917. Five months later he was given two blood tests and both came back negative for spirochetes. Kennedy was classed as recovered on 1 June 1918. However, the copy Irvine received from the hospital only charted his treatment until he was discharged as an outpatient on 16 November 1917 and showed that he had received four urine tests that had all come back normal. But the orderly copy showed Kennedy had never received any urine tests. His hospital records also indicated that he had received three doses of mercury instead of the two that had been recorded on his orderly case sheet.[52]

Conducting examinations of patients' urine was important to understand how they were reacting to treatment. Private Hunter was given a urine examination after his transfer to Cherry Hinton on 3 December 1917, shortly after he was admitted to Brighton with syphilis on 28 November 1917. Over the next several weeks, Hunter received seven injections of salvarsan, totaling 4.7 grams, and eight injections of mercury. Even with a double dose of salvarsan, his Wassermann test on 21 January 1918 came back as a strong

[52] LAC, RG9-III-B-2, Vol. 3618, Syphilis Case Sheet –Private Kennedy, 31 October 1917 and LAC, RG9-III-B-2, Vol. 3618, Letter from Captain Irvine to Colonel MacLaren, 5 June 1918.

positive followed by another Wassermann on 7 February that still came back as a weak positive. A positive Wassermann meant another round of treatments for Hunter and over the next few weeks he received three more injections of both salvarsan and mercury. Even though his Wassermann on 28 February showed another strong positive, he was discharged from the hospital on 1 March. Although he received ten injections of salvarsan in total, according to his syphilis sheet, he did not have his urine examined at any point after the initial examination. When he was readmitted on 14 May 1918, Irvine put him on a course of solely mercury after his urine showed traces of albumen, indicating a potential kidney problem. The slight trace of albumen that was detected in his urine sample saved Hunter from a more intense treatment. Hunter's kidney function should have returned to normal between the last treatment and the test. This meant he had severe nephritis or had developed a chronic kidney condition after his last treatment. Regardless of the cause, any further treatments should have been immediately suspended. On 21 May 1918, Hunter was admitted to Eastbourne as severely ill with jaundice from salvarsan. Hunter was hospitalized for ninety-three days before being transferred to Hastings with jaundice. Although his condition had improved enough to be struck off the seriously ill list, Hunter spent another twenty-eight days in the hospital before being discharged on 17 August 1918.[53]

The final area of concern Irvine found was there were several cases where the number of arsenic injections recorded was incorrect. In his preliminary examination of

[53] LAC, RG9-III-B-2, Vol. 3618, Syphilis Case Sheet – Private Hunter, 4 April 1918, LAC, RG9-III-B-2, Vol. 3618, Letter from Captain Irvine to Colonel MacLaren, 5 June 1918. and LAC, RG150, Accession 1992-93/166, Box 4629 – 59, Personnel File: Private Gordon H.

the patients in Seaford, he found seven cases where patients claimed they had received more injections than had been recorded on their case sheets. Private Currie was admitted to Cherry Hinton on 30 November 1917 and a Wassermann test on 3 December 1917 showed that he had syphilis. He received twelve injections of salvarsan and seven doses of mercury over the duration of his hospitalization until he was discharged on 4 February 1918. After talking to Currie, Irvine discovered that missing from his case sheet was the six doses he had received prior to his admission. Currie had previously been admitted to Hastings on 21 June 1917 before being transferred to Cherry Hinton on 17 July 1917. After his Wassermann came back negative, he was discharged from Cherry Hinton on 16 August 1917 with a follow-up blood test scheduled for 16 November 1917. When the results came back positive for syphilis, he was re-admitted to Cherry Hinton. However, the first course of treatment was not recorded in his syphilis case sheet and was subsequently not uncovered until Irvine discovered the omission when he took over the case on 30 April 1918.[54] This meant that Currie had received eighteen doses of salvarsan, more than twice the recommended amount of injections.

Outcomes of the Investigation

Despite numerous examples of mismanagement, MacKinnon dismissed many of the concerns raised by Irvine on the basis that much of the evidence had been furnished by former patients. MacKinnon argued that since the patients were 'interested parties' in the matter, any statements they made could not be considered reliable without further

[54] LAC, RG9-III-B-2, Vol. 3618, Syphilis Case Sheet – Private Currie, 30 November 1917.

evidence to support their claims. MacKinnon also felt that the War Office had already dealt with Irvine's concern that examinations were not being recorded properly. New instructions were distributed on 19 April 1918 so any complaints made before had already been addressed. Lastly, he stated that unless Irvine could state what evidence he had to prove NCO's and orderlies had given salvarsan injections he should not be submitting those types of complaints. MacKinnon's overall impressions of Irvine's report was that it "would appear that the officer [sic] VDS clinic is anxious that the VD cases reaching him should have been treated in accordance with instruction but is relying on the statements of patients in aiming his criticism and not submitting information which will enable these complaints, based on fact, to be properly investigated. It is suggested, please, that the consultant who next proceeds to Etchinghill might have access to this correspondence and quietly investigate on the spot the discrepancies in treatment and documentation which may possibly exist."[55]

The only charge MacKinnon followed up on was Irvine's claim that orderlies and NCOs had been administering salvarsan injections to patients and requested more information on this matter. In response, Irvine furnished a list of fifteen names of NCOs and other ranks that stated that they had received salvarsan and mercury injections by NCOs and orderlies while under treatment at Etchinghill.[56] This recommendation seems to be the one area of concern that was dealt with as a memo was issued to VDS clinics to

[55] LAC, RG9-III-B-2, Vol. 3618, Memorandum from Lieutenant Colonel ADMS, 11 June 1918.

[56] LAC, RG9-III-B-2, Vol. 3618, Letter from Captain Austin Irvine to DADMS Seaford, 16 June 1918.

investigate these charges and institute suitable instructions to eliminate these practices.[57] Both Etchinghill and Shorncliffe responded that all treatments had always been performed under the direction and supervision of qualified MOs and the matter was apparently dropped.[58]

Although he was dismissive of Irvine's claims of any mismanagement, in the fall of 1918 MacKinnon discovered there were still multiple problems in the administration of syphilis treatments. Despite the number of orders, memos and circulars that had been dedicated to deal with the VD problem, MacKinnon's report, written while Canada was trying to demobilize its forces, shows that they continued to experience serious problems in the management of syphilis. These problems were exacerbated by the use of salvarsan, the 'cure' that had been linked to a number of deaths in Canadian and British armies, which prompted the formation of a British-led committee to investigate its use.

The Salvarsan Committee, headed by Francis Coutts, contacted Adami after hearing that there had been several fatalities potentially related to salvarsan amongst Canadian troops. This committee was initially formed in the early stages of the war by the Medical Research Council (MRC) to oversee the standardization, efficacy and safety of manufactured drugs after many German drugs, salvarsan included, became unavailable. It was reformed in 1917 when the potential problems associated with the use of salvarsan continued to be a topic of debate. While the MRC, "wanted to prove that

[57] LAC, RG9-III-B-2, Vol. 3618, Memorandum from Lieutenant Colonel ADMS to ADMS Canadian Shorncliffe Area, 20 June 1918.

[58] LAC, RG9-III-B-2, Vol. 3618, Memorandum from Major Goodall, 20 June 1918 and LAC, RG9-III-B-2, Vol. 3618, Memorandum from W.T.M MacKinnon Etchinghill 24 June 1918.

British *Kharsivan* was as effective and as well tolerated as German *Salvarsan*, the data [was] insufficient to support confident claim – yet the MRC was still stating publicly that British arsphenamine was as good as German arsphenamine."[59] The committee wanted information on any instances of jaundice where the patient had been treated for syphilis and whether they had received salvarsan or neo-salvarsan injections. Within the committee it had "been suggested that possibly severe jaundice following 606 might be associated with an epidemic of jaundice generally and that 606 might act as an existing cause leading to a greater incidence of the disease in those undergoing such treatment and possibly the development of a severer type of jaundice."[60] After review the committee determined, "the relation between arsenbenzol treatment and jaundice cannot be defined exactly, but its close similarity to liver disturbance consequent on trinitrotoluene and toluylenediamine poisoning points to the organic complex of arsenobenzol as being to some extent responsible."[61] Since there had been similar outbreaks in Germany without any changes to the compound or technique, MacDonald's suggestion of a secondary microbial infection could not be ruled out. Yet according to the official medical history, "the committee could not escape the conviction that there is a connection between intensity of treatment and the incidence of jaundice"[62] The committee was unable to reach a definitive conclusion on the relationship between salvarsan and jaundice even as

[59] KJ William, "The Introduction of 'Chemotherapy' Using Arsphenamine – the First Magic Bullet," *Journal of the Royal Society of Medicine*, 102 (2009): 347.

[60] LAC, RG9-III-B-2, Vol. 3618, Letter from Salvarsan Committee, Francis Coutts to Colonel Adami, 24 April 1919.

[61] Macpherson, *Diseases of the War*, 148.

[62] Ibid, 148.

reports sent to them by Canadian medical staff supported the theory that salvarsan, or more specifically the British-made substitute kharsivan, was a key factor in the outbreak of jaundice in soldiers undergoing treatment for syphilis.

In 1919, Adami responded to the committee's inquiry into the fatalities associated with salvarsan. Adami reported that a number of cases in primary treatment showed bile in the urine within 24 hours of receiving a salvarsan treatment while a number of these cases also developed clinical jaundice over the course of treatment. In the spring of 1918, fifteen cases of acute yellow atrophy developed with eleven fatalities. Subsequent investigations into these deaths showed no evidence of spirochetes, arsenic or mercury although Adami admitted that in the case of the last two "our facilities were not exhaustive."[63] All of these cases had become seriously ill seven to ten weeks after finishing their treatments but Adami could not definitively state that 606 was a contributing factor. He did feel that, as these men had received both mercury and arsenic, the arsenic may have been the basic cause and was 'helped' by the mercury. Adami stated, "We had not the courage or temerity which to treat these men in acute conditions existing with '606', and yet we had in mind the possibility that the condition might be a secondary manifestation of syphilis."[64] Kharsivan had been used for the full course in ten of the cases while one treatment had started with kharsivan but switched to another form of salvarsan. Despite these fatalities, they continued with this course of treatment without incident until the spring of 1919 when there were eight more fatalities from cases that had

[63] LAC, RG9-III-B-2, Vol. 3618, Letter: from Colonel Adami to Francis Coutts, 19 May 1919.

[64] LAC, RG9-III-B-2, Vol. 3618, Letter: from Colonel Adami to Francis Coutts, 19 May 1919.

been initially treated in France but there was no record of the type of salvarsan they had received. Adami felt, based on the clinical and post-mortem findings, that these deaths were the result of arsenic poisoning. But given that they had no control group, someone with untreated syphilis, to compare with, their findings were incomplete. He concluded,

> 'Salvarsan' is not a very stable substance. Treatment has been of necessity under war conditions in hands not always cognizant of the delicacy of this drug and of the extent of the patients' resistance that is called on in this form of treatment, also conditions under which the treatment is carried on and the after-care of the patients were not always what could be desired. All of these things must be taken into consideration in explaining these cases, which for the time being we are inclined to think are attributable to '606' or its substitutes.[65]

As the British-led Salvarsan Committee investigated the fatalities associated with salvarsan, Canada continued its own inquiry into its use. Captain Scott reported that he had 42 cases of jaundice develop at Etchinghill at varying periods over the course of their salvarsan treatment. [66] While Adami has concluded salvarsan was the culprit, other Canadian doctors were reluctant to blame the drug itself. Lieutenant-Colonel Shelly had several cases of salvarsan poisoning at No. 16 Canadian General hospital while he was in charge and was preparing a report. His report was waiting on Captain Bailey to test the

[65] LAC, RG9-III-B-2, Vol. 3618, Letter: from Colonel Adami to Francis Coutts, 19 May 1919.

[66] LAC, RG9-III-B-2, Vol. 3618, Letter from Captain G.O. Scott to General Birkett, DMS Canadians, 31 May 1919.

liver function in these cases, which had been held up after the chemicals he needed had not arrived. Once the lab was up and running, Shelly hoped that all the cases of salvarsan poisoning could be sent to him. He wanted to publish a full report by September 1919.[67] Bramshott had also reported a number of jaundice cases following salvarsan treatment and Shelly wanted to examine these cases. He stated, "quite a lot has been done upon the chemical side of these cases, but while there have been theories there has been little practical work done upon possible bacteriological causation of the condition, i.e. upon bacteria of low virulence taking hold in the system damaged by arsenic."[68] In the midst of demobilization, it is unlikely Shelly was able to test his theory. With little consensus among the medical community regarding the dangers of salvarsan, it remained the main treatment for syphilis until penicillin was discovered as an effective cure in 1943.

Conclusion

An examination of the problems with 606 reveals the place of the CAMC within the RAMC. Facilities such as Etchinghill, like all Canadian medical services, operated under the guidelines created by the War Office. But as established in the previous chapter, CAMC personnel in England had more leeway to develop their own techniques and could more readily influence the VD management system than their counterparts in France. While this organization allowed the CAMC to modify existing systems to suit their needs they were still not entirely independent. Nor were they more readily equipped

[67] LAC, RG9-III-B-2, Vol. 3618, Letter from Lieutenant Colonel Shelly to General Birkett, DMS Canadians, 29 May 1919.

[68] LAC, RG9-III-B-2, Vol. 3618, Letter from Colonel ADMS for OMFC to Major Little, Jaundice VDS Patients, 29 May 1919.

to deal with problems in the delivery of this system to its soldiers than the British. The British had promoted the treatment schedule and the salvarsan substitute that were contributing factors in the untimely deaths of a number of soldiers. Even so the CAMC was ultimately responsible for carrying out the orders that were given to them by developing their own practices and procedures around the framework created by the British.

The system that they developed had multiple problems. After four years of war, Canada still did not have consistent procedures in place to effectively deal with the VD problem. Procedures were not followed or enforced, medical staff was not properly trained and clinics had more cases then they were designed to handle. Problems with VDS management were compounded by the use of a highly toxic drug as the primary cure. Although once hailed as the 'magic bullet' to cure syphilis, the repeated use of salvarsan could create a number of problems. The files of the Canadian ADMS show that salvarsan was linked to organ damage, serious illness and even death. Despite the known risks, salvarsan reduced manpower wastage and medical cost and continued to be the primary cure in the anti-syphilitic treatment of soldiers.

Chapter 5

Returning Home after a Night with Venus: Policies and Procedures for the Homecoming of Soldiers with VD

Venereal disease created two distinct problems for Canadian officials while the British had one main focus. The most immediate and pressing concern for both was the drain on manpower and resources. In addition to this matter, Canadian officials were worried returning soldiers would create a public health crisis by carrying VD back to Canada. With an overall VD rate of about 5 per cent in their army, and the fact that British soldiers frequently returned home to their families and communities throughout the war, British officials did not generally share this same fear.[1] Canadian officials, both at home and overseas, had been caught off-guard by the high rates of VD among soldiers and struggled to implement effective procedures throughout the war. Officials in Ottawa complained that Canada had experienced a sharp increase in VD since the beginning of the war, which they attributed to the return of troops from overseas.[2] This increase generated fears over public health and led to a re-evaluation of the procedures for returning men with VD "as many in senior ranks and at home feared the prospect of a plague of diseased soldiers descending on the helpless women of Canada."[3] This chapter

[1] Jay Cassel, *The Secret Plague*, 123.

[2] Ibid, 136.

[3] Cook, *Shock Troops,* 596. For an overview of demobilization see Desmond Morton, *A Peculiar Kind of Politics: Canada's Overseas Ministry in the First World War,* (Toronto: University of Toronto Press, 1982), 178-186.

investigates how the tensions between officials at home and overseas shaped the construction of policies dealing with the homecoming of diseased soldiers.

Men who had a history of VD on their medical case sheet were to be physically inspected and tested before leaving England. This policy was designed to limit the spread of VD in Canada from returning soldiers while also serving as a deterrent. Anyone who tested positive would not be allowed to sail to Canada until they were considered cured. Soldiers were frequently warned that contracting VD could delay their return for several weeks or even months so it was best to avoid sexual encounters.[4] The Wassermann (VDS) and Schwartz (VDG) tests were used to determine which cases required further treatment. These tests produced inconsistent results, so the CAMC took a special interest in the development of more reliable testing. The CAMC saw an opportunity to utilize wartime conditions to expand VD research although pathologists ultimately made little progress during the war. Despite their known limitations, these tests remained the cornerstone of CEF regulations for returning soldiers.

Over the course of the war, procedures were under constant scrutiny and routinely altered to root out men who had VD before they were returned to Canada. The development of these policies was a contentious issue between officials in Canada, who advocated for stricter policies, and overseas officials who argued existing procedures, while not foolproof, were largely effective. Long-term health concerns and public opinion underscored the policies favoured by those at home. Overseas officials had to balance these demands with the realities and limitations of operating in wartime conditions. They argued that focusing only on the overseas contingent was shortsighted

[4] Cassel, *The Secret Plague,* 132.

since it ignored the VD problem at home. Contemporary estimates stated at least 25 per cent, but as many as 80 per cent, of young men in pre-war Canada had gonorrhea while 5 to 15 per cent of Canadians likely suffered from syphilis, compared to a total VD rate of 15.8 per cent among the Canadian forces.[5] Given the problems at home, military officials argued enforcing stricter controls only overseas would have little impact on the rates of infection among the civilian population.

Mass demobilization following the end of hostilities in 1918 intensified these debates. Canadian officials wanted the military overseas to retain responsibility for these cases, while rapid demobilization made this approach impossible. Discussions about demobilization had begun in 1916 to ensure that once the war was over, soldiers were returned to Canada as quickly and comfortably as possible. The original estimate was that it would take approximately eighteen months to return all Canadians serving overseas back to Canada. Instead of the original estimate of eighteen months, two-thirds of Canadian soldiers were back home in five months.[6] To accommodate the new challenges posed by demobilization, changes were repeatedly made to existing procedures. Maintaining strict screening and testing overseas in the face of dwindling military and medical resources made holding and treating cases overseas increasingly difficult. Procedures that were put in place to protect public health and opinion at home had to frequently be altered to address the exigencies of war and demobilization.

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[5] Cassel, *The Secret Plague*, 118 and Macphail, *Official History*, 293.

[6] G.W.L. Nicholson, *C.E.F. 1914-1919: Official History*, (Montreal: McGill-Queen's University Press, 2015), 530-531.

Testing

The policies and procedures put in place to manage the return of soldiers with VD relied on the same contemporary testing methods that were used at the front and in England during treatment. Soldiers who showed a history of VD on their medical histories had to submit to an additional medical exam to determine if they could be returned to Canada. Syphilitic cases underwent a Wassermann test, which had recently been standardized and put forward by the Committee on Bacteriological Standards of National Research Committee for the War Office. If the test came back negative, a soldier could continue on to Canada. Any soldier whose test came back positive but had no open lesions was also likely to be sent home. Those with positive tests and/or open lesions were to be held in England for further treatments until their lesions had healed and then they were sent home.[7] The Schwartz test was used to detect cases of gonorrhea that were in the infective stage but did not display any outward symptoms. While officials relied on these procedures to ensure disease control among returning soldiers, the limitations of these tests were well known. Canadian medical officers stationed in England utilized military laboratories and the population of infected soldiers at their disposal in an attempt to create more reliable testing methods. Their work was well supported by both overseas and Canadian officials. It became an important component of the demobilization process and officials believed it would further VD research and medical advancements in civilian life.[8] This experience represents a process of

[7] LAC, RG9-III-B-1, Vol. 3596, Letter: from Major-General Foster to Department of Militia and Defense, 10 October 1917.

[8] See A.B. Chandler, "Special War Bulletin of the Association of Medical Museums," *Canadian Medical Association Journal* 8, 8 (August 1918): 750 and Captain W.T.

knowledge exchange between home front and battlefield that has not been documented by historians.

In addition to managing the treatment of VD cases in England and France, overseas authorities also needed to manage their eventual return to Canada. This task involved drafting procedures that would ensure every man sent back to Canada was medically inspected before proceeding home. On 10 October 1917, Foster released a memo outlining the procedures. Examination records for gonorrhea patients needed to include the clinical findings of the anterior urethra, posterior urethra, prostate gland, seminal vesicles, spermatic cord and epididymis. In addition to physical exams, blood samples were taken from men who had a history of VD. Special laboratories would be constructed at disembarkation points in Liverpool and Buxton to processes samples. Chronic cases of gonorrhea would be returned to Canada regardless of whether the results of their bacteriological tests came back positive or negative. Only acute cases were to be held in England for further treatment. For VDS cases, the Wassermann was used to detect the presence of syphilitic spirochetes. Any soldier with a positive Wassermann was held in England for further treatment. These procedures were designed to minimize the number of symptomatic soldiers who were returned to Canada although officials understood these measures were not foolproof.[9]

Even with the medical developments that had taken place in the earlier part of the century there were still limitations to their use. Neither positive or negative tests results

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Lockhart and Captain J.R. Atkinson, "Administration of Arsenic in Syphilis," *Canadian Medical Association Journal* 9, 2 (February 1919): 129-135.

[9] LAC, RG9-III-B-1, Vol. 1826, Letter: from Major-General Foster to Department of Militia and Defense, 10 October 1917.

could be considered definitive. Foster issued a warning stating "it must of course, be appreciated that negative Wassermanns or negative gonococcus results are recorded as for the time of examination. By the time the patient's journey home is ended he may again be positive in either case."[10] Pre-existing conditions could flare up or the disease could be contracted somewhere between the final medical inspection and a soldier's arrival in Canada. It was also possible that even if a man was suffering from VDS, his Wassermann test could come back negative. This possibility was problematic given that the Wassermann test was used to determine cases that required further treatment. A false negative could mean "men suffering from VDS, and having shown a negative Wassermann, have gone away feeling gloriously happy that their Blood Test showed they were cured; such things are a sad commentary on the human weakness of allowing one letter to make the word – one symptom to condemn a man to a life of misery one branch of science to constitute the basis of medicine."[11] Potentially unaware of their positive status, these men may forgo further medical intervention and unknowingly pass the disease on to their spouses, sexual partners and future offspring.

Of equal concern was the potential for false positives. Test results that seemingly confirmed the presence of syphilitic spirochetes were not always reliable given that there were a number of diseases besides syphilis that could yield the same results. Positive Wassermanns had been reported in cases of non-specific chancre, yaws, gonorrhea,

[10] LAC, RG9-III-B-1, Vol. 1826, Letter from Major-General Foster to Department of Militia and Defense, 10 October 1917.

[11] LAC, RG9-III-B-2 Vol. 3617, Letter from Captain, CAMC to DDMS Canadian, December 1917. For a discussion over reliability of Wassermann tests also see LAC, RG9-III-B-2 Vol. 3617, Letter from Andrew Macphail to ADMS Canadian, Shorncliffe, Hospital Stoppages – Venereal Disease, 9 September 1918.

alopecia areata, leprosy, lupus, malaria, erythematosus, enteric fever, tumors, herpes, aortic disease, relapsing fever, pneumonia, Scarlet fever, trypanosomiasis, puerperal eclampsia, persons under narcosis and from the serum of dead bodies. As early as April 1917, Captain Joseph Gibbs expressed concern over the confidence placed on these results. He worried men "may easily become a victim to too great a faith in such a means of diagnosis, and his life ever after become a veritable nightmare."[12] The reliance on the outcome of an unreliable test could mean that men underwent unnecessary treatments. This risk was problematic as anti-syphilitic treatments were highly toxic. Given the number of cases that had been misdiagnosed due to faulty testing, Gibbs argued "with evidence such as this, coupled with the general impression that a Positive Wassermann is a definite assurance that Syphilis is present, it would seem that a warning should be sounded, especially to those Medical Officers in charge of VD departments."[13] MOs could not rely on the results of the Wassermann test alone to confirm a diagnosis. They needed verify their results through observation and additional exams before "submitting such a man to a life of worry."[14] Although the medical community was acutely aware of the problems, the Wassermann test remained an important determinant in managing the return of men to Canada.

The accuracy rate for gonorrhea testing was equally inconsistent. A committee headed by Lieutenant-Colonel John Adami had been formed in 1917 to standardize the

[12] LAC, RG9-III-B-1, Vol. 3596, Letter from Captain Joe Gibbs to DDMS Canadians, 2 April 1917.

[13] Ibid.

[14] Ibid.

tests for gonorrhea. The main purpose was to find a method that would produce consistent and accurate results. "A wrong positive diagnosis," the committee argued, "may be the means of inflicting grave injury upon the individual; a wrong negative diagnosis is liable to injure the family of the individual and the community to an even graver extent."[15] Clinical examinations were still the best method of diagnosis, but the goal was to find a test that could supplement these findings especially in cases where symptoms were not observable or conclusive. The committee reviewed several methods including Gram's stain, the cultivation of gonococcus and various methods for producing a focal gonococcal reaction. While the committee believed these methods could yield consistent results they were invasive, required extensive preparations from the patient or needed a specialist beyond a pathologist, none of which were conducive to the constraints of wartime medicine.[16] In contrast, a complement fixation test, used to detect the presence of the antigen created by a gonorrhea infection, required only a blood sample and a pathologist. While the Schwartz method was most commonly used there were several different variations of the test. The results of the test also depended on the type of antigen being used. Canadian MOs had reported difficulties finding a suitable antigen and technique that produced consistent results. It was reported that at Etchinghill, "Captain Jackson has become so disgusted with the antigen and has given up on the fixation test

[15] Medical Research Committee, *Reports of the Special Committee Upon Standardization of Pathological Methods*, (London: Darling and Son, 1916), 3 found in RG 9 III B2 Vol. 3617, 3 April 1918.

[16] Ibid, 10.

entirely."[17] With several different antigens available and no consensus among the medical community on which produced the most accurate results, complement fixation tests for gonorrhea proved to be as equally unreliable as the Wassermann. The report stated the test could also only be used in certain cases. It was not effective in acute cases where there were not enough antigens, in cases where the disease was localized to one area of the body, if a man had received a vaccine for gonorrhea and it also produced non-specific results if other diseases were present. The committee concluded "as for the Wassermann reaction, and for the same reasons, the committee cannot recommend any one standard method of complement fixation…They recommend that in tests made for official returns the method of complement fixation employed be clearly stated."[18] The lack of a standardized method was problematic given the importance that was placed on the outcomes of these tests. The CEF needed a reliable method of diagnosis to prevent a possible public health crisis back home. With military funded labs at their disposal, several doctors within the CEF continued to experiment with new techniques, based on the popular Schwartz, Kolmer and Owen methods.

After discussing the matter, Colonels Finely and Rudolph recommended that Colonel Adami head a combined enquiry into the development of a complement fixation test for VDG.[19] The senior staff of the CAMC, themselves civilian practitioners before the war, saw an opportunity to use military medicine to build on previous developments

[17] LAC, RG9-III-B-2 Vol. 3617, Letter from Captain Edward Fidlar to Colonel Adami, 1 July 1918.

[18] Medical Research Committee, *Reports of the Special Committee,* 13.

[19] LAC, RG9-III-B-2 Vol. 3617, Memorandum from AMDS to AMD, 22 June 1918.

pioneered in Canadian medicine. A letter was sent to several CEF pathologists, physicians and doctors to see if they were interested in joining the enquiry. They were told,

> The complement fixation test for gonococcal infection is peculiarly Canadian. Lt-Colonel Meakins was the first English speaking worker to employ it, H. Schwartz, a Canadian graduate, introduced the polyvent antigen in use to-day and Major Owen published the clearest description of the technique. Now it is being recommended by the Medical Research Committee for general employment in British Venereal clinical laboratories, and there is sure to be considerable work upon it.[20]

The plan was that each laboratory would tackle a specific problem such as the existence of different strains, best mediums for growing vaccines, or the effects of prostate massage. They realized that the war provided them with the unique opportunity to "obtain a sufficiency of cases upon which to make a definite statement."[21] The VD problem created a chance for "Canada to continue in the forefront" of VDG research.[22]

The response to Adami's request was mixed. Captain Farquharson at No. 15 General Hospital responded that he would be "very glad" to be part of the investigation as he stated he had been having problems with the current antigen and had heard the one

[20] LAC, RG9-III-B-2 Vol. 3617, Letter from Colonel, ADMS for DMS Canadian Contingents, 29 June 1918.

[21] Ibid.

[22] Ibid.

supplied by Parks Davis was equally unsatisfactory.[23] The response from the laboratory at No. 11 Canadian General was less enthusiastic. Having previously carried out serological work with Captain Taylor at No. 1 Canadian General, Captain Fidlar confessed, "I have no faith in the G.C. fixation tests although I have continued them as before because of the requests which come in."[24] His concerns came from the problems he had encountered with the antigen supply. Fiddler stated, "The anti-complementary value is such that if one were to take half the amount for each test that the country would be impoverished. On the other hand some capsules will have an anti-complementary value only slightly more than twice the time [?] on the later."[25] To be successful Fidlar argued they would need to isolate and grow their own strain from their soldiers but could only accomplish this with the addition of more trained men. However, if they were able to find a more suitable antigen then he would be happy to assist with the investigation.[26] Captain Jackson echoed the concerns raised by Farquharson and Fidlar over the antigen supply. He told Adami he had not performed any reactions in over a month because of problems with his supply. Jackson said he had "tried to overcome this difficulty for myself by making my own antigen from several strains of gonococci, but situated as I am without a supply of gas or electricity I am dependent upon a paraffin oil incubator and

[23] LAC, RG9-III-B-2 Vol. 3617, Letter from Captain Farquharson to Colonel Adami, 30 June 1918 and LAC, RG9-III-B-2 Vol. 3617, Letter from Captain Farquharson to Colonel Adami, 26 July 1918.

[24] LAC, RG9-III-B-2 Vol. 3617, Letter from Captain Fidlar to Colonel Adami, 1 July 1918.

[25] Ibid.

[26] Ibid.

have therefore met with no success."[27] He agreed that in addition to finding a suitable antigen they would also need to reach a consensus on a method. Jackson said that he had developed his own technique based on Owen's method. While it had produced satisfactory results, it was somewhat tedious. Although he had some reservations about methodology and his current workload, Jackson told Adami that he could count on the support of his MOs and would "take up this problem with pleasure."[28] Meanwhile, Captain Hertherington at Eastbourne told Adami that he first encountered the test while at Folkstone and was "extremely interested in its possibilities. When I came to Eastbourne I attempted to procure antigen with the intention of performing the test on cases in this hospital but was unable to procure the necessary antigen."[29] He informed Adami that he would like to be a part of the enquiry.

The unanimity over the dissatisfaction with the antigen prompted Adami to reach out to Lieutenant-Colonel Harrison who worked out of Rochester Row, the military teaching hospital.[30] Adami informed the Captains that in response Harrison had promised him "if your pathologists can come along here, Captain Thomson would show a better antigen than P.D. & Co's and a better method than Kolmer's for doing the G.C. complement fixation test. Briefly the antigen is a solution of G.C. and the methods

[27] LAC, RG9-III-B-2 Vol. 3617, Letter from Captain Jackson to Colonel Adami, 2 July 1918.

[28] LAC, RG9-III-B-2 Vol. 3617, Letter from Captain Jackson to Colonel Adami, 2 July 1918.

[29] Ibid.

[30] Lesley A. Hall, *Sex, Gender and Social Change in Britain Since 1880*, (Palgrave Macmillan, 2012), 61.

provides for overnight fixation at ice-chest temperature."[31] Adami had to secure arrangements with Foster to have these men proceed to Rochester Row to work with Colonel Harrison. He told Foster that it would be more beneficial if they were able to take control of the matter instead of having to rely on Rochester Row. Once they were able to prepare their own antigen, one laboratory could take over production and distribution. With his prior experience, Captain Jackson was considered to be most well suited for this role but given his current workload would require an assistant.[32] Foster and Amyot made arrangements to have Captain Archibald William Hunter, a thirty-seven-year-old physician and surgeon who worked in Vancouver before the war, transferred from Moore Barracks along with a supply of gas.[33]

The desire to develop a reliable complement fixation test increased dramatically with the signing of the Armistice on 11 November 1918. Facing mass demobilization, the CEF needed an effective method for testing VDG. In early December, Adami wrote to Jackson to inquire about his progress.[34] The news was not what Adami had hoped to hear. Jackson responded, "I regret that we have not accomplished more in regards to

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[31] LAC, RG9-III-B-2 Vol. 3617, Letter from Colonel Adami to Captains Jackson, Hetherington, Fidlar, Farquarson, Patison and Janes, 12 July 1918.

[32] LAC, RG9-III-B-2 Vol. 3617, Letter from Colonel Adami to Colonel Foster, Combined Research on Gonorrhea, 25 July 1918 and LAC, RG150 Accession 1992-93/166, Box 4627 – 5, Personnel File: Archibald H.

[33] LAC, RG9-III-B-2 Vol. 3617, Handwritten note from Foster to Lt. Colonel Amyot found on Letter from Colonel Adami to Foster, Combined Research on Gonorrhea, 25 July 1918 and LAC, RG9-III-B-2 Vol. 3617, Letter from Colonel Adami to Captain Jackson, Combined Research on Gonorrhea, 13 September 1918.

[34] LAC, RG9-III-B-2 Vol. 3617, Letter from Colonel Adami to Captain Jackson, 5 December 1918.

complement fixations. However we have not been idle."[35] He reported Hunter had cultivated about twenty-four different strains. Hunter wrote to Adami to inform him that his work had been slowed by the lack of trained technicians in the lab, which made it difficult to create a supply. However, he reported he was confident that with additional time, help and equipment, he would be able to make any quantity Adami wanted.[36] Meanwhile, Jackson informed Adami that he had created six antigens to test. He said that if Adami wanted he could easily make up a polyvalent antigen from about twenty strains but felt it was better to test them at his lab before sending them out.[37] By January, Jackson wrote Adami to tell him Hunter had prepared eight antigens consisting of one strain that were ready for testing and was eager to know if they should wait to include more strains or move ahead with their current supply.[38] Adami responded that although more would be better, eight strains were a good start given the renewed urgency of the matter.[39]

Etchinghill was eager to share their supply with the other laboratories. MacKinnon reported their antigen had "been getting excellent results [both] undiluted

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[35] LAC, RG9-III-B-2 Vol. 3617, Letter from Captain Jackson to Colonel Adami, 9 December 1918.

[36] LAC, RG9-III-B-2 Vol. 3617, Letter from Captain Hunter to Colonel Adami, 12 December 1918.

[37] LAC, RG9-III-B-2 Vol. 3617, Letter from Captain Jackson to Colonel Adami, 9 December 1918.

[38] LAC, RG9-III-B-2 Vol. 3617, Letter from Captain Jackson to Colonel Adami, 13 January 1919.

[39] LAC, RG9-III-B-2 Vol. 3617, Letter from Colonel Adami to Captain Jackson, 15 January 1919.

and used as a vaccine."[40] The delivery of the antigen, however, had been slowed by the lack of boxes and ampoules needed to ship it. In response, Adami told MacKinnon, "It is pretty hard to get anything out of the ordinary these days. I should have thought that ampoules would have been on the market and easily obtainable, that a big firm like Burroughs and Wellcome would let us have some for investigation purposes."[41] Shortly after drafting these letters, Etchinghill received word from Adami that their supply of ampoules had finally come in.

Staff at Etchinghill hoped this would enable them to conduct more trials of their antigen. Mackinnon proposed the creation of a station at Kinmel Park to root out any men who may have been suffering from latent gonorrhea. He suggested that he could send Captain Hunter with his new antigen to conduct blood tests on soldiers about to be shipped back to Canada. MacKinnon argued this process would involve testing every man whose medical case sheet showed a history of VDG, which provided them with a unique opportunity not found in civilian practice. At Kinmel Park, Hunter would be able to test the antigen in conjunction with the extensive medical histories of each soldier. This information would allow to them confirm the reliability of their new complement fixation test. If the use of the antigen proved to be successful, MacKinnon argued they could continue to perform serological tests months and even years after men were

[40] LAC, RG9-III-B-2 Vol. 3617, Letter from Colonel Adami to Captain Jackson, 7 March 1919.

[41] LAC, RG9-III-B-1 Vol. 3618, Letter from Colonel Adami to Colonel MacKinnon, 8 March 1919 Also see: LAC, RG9-III-B-1 Vol. 3618, Letter from Colonel Adami to No. 3 Canadian General Hospital (McGill), 8 March 1919 and LAC, RG9-III-B-1 Vol. 3618, Letter from Colonel Adami to No. 16 Canadian General Hospital (Ontario), 13 March 1919.

discharged to see if they were still suffering from VDG. A reliable method of testing would enable them to ensure an accurate diagnosis. Such a test would also help deter malingers looking to get a pension from symptoms related to VDG.[42]

As early as 15 May 1917, there were already discussions about the criteria for awarding a pension to a man with a history of VD. In most cases a pension would not be awarded for any disability that resulted from a man's negligence, which was any case that had been contracted while they were in the military. However, there were concerns some cases occurred prior to enlistment but were aggravated by one's service. In a letter to Adami, Major Todd of the Board of Pensions Commission asked "it is suggested that pensions should be awarded in such cases for the extent to which the progress of the disease might be judged to have been accelerated by factors consequent upon military or naval service…Is there any means by which even moderate accuracy in estimating the extent to which progress of the disease has been accelerated by service be obtained?"[43] Apparently, the pension board was having difficulty classifying these types of cases. The position of the pension board was, "On the one hand the necessity for compensating for all disabilities due to service is imperative; on the other hand is an obligation not to give pension for disabilities resulting from a man's own fault or negligence."[44] Adami responded that the majority of these men should not receive a full pension, but were

[42] LAC, RG9-III-B-1 Vol. 3618, Report: from Colonel Mackinnon, Complement Fixation in Gonorrhea, 14 March 1919.

[43] LAC, RG9-III-B-1 Vol. 3618, Letter from Major J. Todd to Lieutenant-Colonel Adami, Syphilitic Afflictions, 15 May 1917.

[44] LAC, RG9-III-B-1 Vol. 3618, Letter from Major J. Todd to Lieutenant-Colonel Adami, Syphilitic Afflictions, 15 May 1917. See also LAC, RG9-III-B-1 Vol. 1826, Colonel J.R. Goodall, DMS Circular Letter No. 27 of 1917, 5 August 1917.

likely entitled to a portion, at least in some cases of VDS. He based his views on Colin Russell's experiment on syphilitic rabbits. During the experiment, Russell flashed a bright mirror into the rabbits' eyes over the course of several days eventually inducing Argyll-Robertson pupils, a sign of neurosyphilis. The conclusion was the rabbits would have never had this reaction had their optic nerves not been strained and exhausted by the mirror. The same principle, Adami argued, could be applied to soldiers who became symptomatic during service. Adami discussed a hypothetical case in which a man that had contracted syphilis prior to enlistment, but believed that he had been cured, might become symptomatic after the stress of service. If a man's symptom manifested after a prolonged period in the trenches or long marches, he believed "it is unjust and immoral to deny that man a pension, on the ground that this is the outcome of venereal disease. It is the outcome, but also the strain has been a definite contributory cause; but for that strain, it might have been years before the symptoms manifested themselves if indeed they ever showed themselves."[45] To ensure men were not lying about having VD in order to get a pension, they would need accurate serological tests to determine which cases were genuine. MacKinnon believed the testing he was proposing would enable them to develop an accurate test.

Adami reported MacKinnon's plan to his superiors but they did not agree with his recommendation for conducting tests at Kinmel Park.[46] It was decided that the proposal was not feasible given the delay it would cause with troop transport back to Canada

[45] LAC, RG9-III-B-1 Vol. 3618, Letter from Lieutenant-Colonel Adami to Major J. Todd, 15 June 1917.

[46] LAC, RG9-III-B-1 Vol. 3618, Letter from Colonel MacKinnon to AMD, 13 March 1919.

especially since the Wassermann test that had been ordered for soldiers with a history of VDS had already been canceled.[47] The scheme would have also created clerical issues, as more soldiers would be required to travel with even more documentation. Instead, Adami recommended using the existing staff and equipment at Kinmel Park to collect information and a small sample of blood from these men, who could then be quickly dismissed and continue on to Canada. These samples, and any other data collected, could be used to conduct examinations including additional tests that would be passed along to the office of the ADMS and, as a courtesy, any information obtained about cases of latent gonorrhea, could be sent to Ottawa every week.[48] Adami argued that if they implemented this system overseas then when the matter of venereal disease was brought up in Parliamentary proceedings it would resonate positively with the Canadian people if they knew the CAMC had "done its utmost and gone further than any other medical service in diagnosing the disease and determining its frequency among our troops."[49] A plan was also put in place to send an officer to Canada who was familiar with the preparation and use of the antigen.[50] They hoped authorities in Canada, having considerable power over the yet-to-be discharged soldier with a history of VD, would be willing to work with staff

[47] LAC, RG9-III-B-1 Vol. 3618, Memorandum from Lieutenant-Colonel Adami to AMD, 18 March 1919.

[48] Ibid.

[49] Ibid.

[50] LAC, RG9-III-B-1 Vol. 3618, Letter from Captain A.G. Fleming to ADMS, 28 March 1919.

from Etchinghill to carrying out testing.[51] Once in Canada, the officer could '"keep in touch with the experts at Etchinghill, so that combined results can be collaborated and credited to those who have done this pioneer work on the preparation of this antigen."[52] The Department of Soldiers' Civil Re-establishment (DSCR) expressed interest in working with the Etchinghill laboratory. Fotheringham wrote, "Your letter affords an interesting side-light on the value of work done by the Military Medical Authorities with respect to V.D. and it is expected that these results will be made available to the proposed Dominion Department of Health with much advantage."[53] Soon after, Captain Hunter was dispatched to Canada to continue his research at a lab at the University of Toronto and assume duties there as a civilian.[54]

MacKinnon later reported that they had successfully tested the antigen on cases in their gonorrhea ward. Ninety-three percent of cases tested positive, which confirmed earlier clinical examinations.[55] While the accuracy of MacKinnon's report is difficult to verify, it provides interesting insight into the use of these newer medical technologies

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[51] LAC, RG9-III-B-1 Vol. 3618, Letter from Captain Fleming to A.M.D.S. Latent and Chronic Gonorrhea, 31 March 1919 and LAC, RG9-III-B-1 Vol. 3618, Letter from Foster to DGMS, Department of Militia and Defence Ottawa, 12 April 1919.

[52] LAC, RG9-III-B-1 Vol. 3618, Letter from Captain A.G. Fleming to ADMS, 28 March 1919.

[53] LAC, RG9-III-B-1 Vol. 3618, Letter from Major-General Fotheringham, 3 May 1919. The positive links between work in the RAMC and civilian medicine are described in: George Adami, "Medicine and the War," *The Canadian Association Medical Journal*, Vol. X (10), (October 1920): 881-900.

[54] LAC, RG9-III-B-1 Vol. 3618, Antigen for Laboratory in Canada, 17 May 1919.

[55] LAC, RG9-III-B-1 Vol. 3618, W.T.M. MacKinnon, Interim Report on the Complement Fixation Test, 9 April 1919.

within the military. Even with their dubious track records, these tests played an important role in the management of VD since they were one of the few methods available that authorities believed could help alleviate long-term problems. Concerns over a potential health crisis shaped the procedures surrounding the disposal of men with VD. This also provided an opportunity for the civilian-trained CAMC doctors to conduct extensive VD research. The staff at Etchinghill was able to take advantage of the unique circumstances provided by wartime medicine to develop what they believed to be an accurate testing method.

Procedures During the War

Even if these tests had been able to identify men who were still considered contagious, there were still a number of problems with the disposal of VD cases. Policies for dealing with these cases developed from the competing demands of Canadian officials and the resources of those overseas. Rarely did these interests ever centre on the actual health of the men themselves. At home officials were anxious to avoid negative press over the high rates of VD among Canadian servicemen. They believed keeping cases overseas was the best method for preserving the legacy of the war and public health. Domestic authorities pressed for strict guidelines to manage the return of any soldier who may have contracted VD including rigorous inspections, paperwork and testing. Any case that slipped through the system was considered grounds for a complete overhaul of the existing procedures. Officials overseas argued little could be done to improve current practices. They believed the few infective cases that may be sent to Canada were regrettable, but ultimately unavoidable, given the problems with testing, overseas

resources and the nature of the disease itself. With VD already a problem at home, overseas administrators also argued the stringent rules favoured by Canadian bureaucrats were shortsighted as they did little to address the real issue.

The debate over VD management policies began in the fall of 1917 when Major Herbert Molson, DAAG for the Canadian Contingent, inspected the procedures for invaliding men with VD back to Canada. He furnished a report in October 1917 that outlined several weak points he found in the system along with several recommendations for improvements. Under the current system men were examined two days prior to entraining to Liverpool and received no further examinations prior to embarkation. Molson argued this practice was problematic as during these two days men were not confined to their barracks but allowed to go into town. After getting a clean bill of health, men could potentially contract VD while waiting for their sailing. Molson had also heard stories that men who had developed VD were getting substitutes from a non-sailing party to pass their inspections but he could not offer any definitive proof to substantiate these rumors. However, he argued that his findings – that there were major problem with the current system – were supported by the latest statistics. Molson complained in a recent sailing of 1150 men, the ship had left England with five cases of VD and arrived in Canada with seven.[56] He argued that "it seemed a needless expense to the Government that the five cases mentioned above should have been kept at Buxton ready for sailing and then should have been sent to the Hospital at Cambridge for further treatment before

[56] LAC, RG9-III-B-1 Vol. 3596, Major Herbert Molson, Suggestions Re: VD Conditions of Men Returned to Canada through Discharge Depot Buxton, 17 October 1917.

discharge from the Service."[57] These cases were considered the financial responsibility of the overseas contingent even if the Canadian government was technically still footing the bill. Regardless, in Molson's opinion such incidents were indicative of major problems with medical processing that had to be dealt with immediately.

To solve these issues Molson offered several recommendations for improving the current system. He suggested that after passing the examination, men should be given a white card with their name, number and signature indicating that they were free from infection. These cards would be presented at the point of embarkation. The personnel responsible for loading the ships would ensure that the number of cards corresponded to the number on the nominal roll. Under this system any man who could not provide a white card had to be examined again before they were allowed to sail. Molson argued men who had been tested for VD should be confined to their barracks for the two days they stayed in Buxton to ensure the results of their earlier medical inspections were accurate. He also recommended that an early treatment centre be established at Buxton to inspect every man returning to camp regardless of his previous medical history. Any soldier who did not pass this inspection should be held for treatment and further testing. To catch latent cases of VD, men should undergo another inspection for VD once the steamer landed in Canada. Men who were free of infection were given a blue card that indicated they were fit to continue home or return to duty. VD cases that developed during the voyage would be issued red cards, segregated and "placed under escort

[57] LAC, RG9-III-B-1 Vol. 3596, Major Herbert Molson, Suggestions Re: VD Conditions of Men Returned to Canada through Discharge Depot Buxton, 17 October 1917.

disposition by the SMO."[58] Once these measures were implemented Molson believed, "it would be possible to keep track of every man and to eliminate entirely the danger of any man carrying back to his home the infection."[59] Although comprehensive policies were already in place, those concerned with public health in Canada championed the creation even stricter regulations. Meanwhile, personnel overseas were skeptical that these new plans would be feasible or more effective.

Lieutenant Colonel Paul Hanson, Commanding Officer of the Discharge Depot, was highly critical of Molson's report. He argued instituting these changes was neither realistic nor necessary. Molson's suggestion that men should be confined to the barracks after inspection, Hanson argued, was both impossible and unwarranted since only a small percentage of men scheduled to sail actually had a history of VD. Since the statistics showed only ninety-two of the almost 12,000 men who had been sent back to Canada were held for VD, Hanson felt it was unfair to treat all of the men like prisoners. Hanson also believed the possibility of men getting someone else to pass their inspection was very slight. His view was supported by the fact there was no evidence to support this claim, so it would make little sense to draft procedures to address a non-existent issue. Furthermore, Hanson considered a ship of 1150 docking in Canada with only seven cases of VD a good outcome. In what is likely a veiled reference to homosexuality Hanson stated, "Take 1150 civilians, either from a shop or from an Ecclesiastical College and I think you would find a higher percentage and in the case of the last sailing where men were only here two days, they might be perfectly clean when they leave here, and they

[58] LAC, RG9-III-B-1 Vol. 3596, Major Herbert Molson, Suggestions Re: VD Conditions of Men Returned to Canada through Discharge Depot Buxton, 17 October 1917.

[59] Ibid.

are, but we cannot prevent disease breaking out on the boat. I will be safe in stating that there has never been a party of 1150 men come from Canada as clean as we send them back."[60] Hanson's remark reveals the frustration overseas officials felt about the apparent double standard in VD controls championed by authorities in Canada. Given the high rates of VD among servicemen coming from Canada, overseas personnel felt their procedures were unfairly scrutinized.

Dismissive of the problems Molson had outlined, Hanson was equally critical of his suggestions for improvement. The use of a colour card system, he argued, was of little benefit given the amount of cards and documentation that was currently in place.[61] Soldiers returning to Canada already had to answer 386 questions and provide their signature eighteen times on thirteen different forms compared to the three forms required by the both the British and Australian armies.[62] It was also unnecessary since a Government of Canada (GOC) order was issued on 5 February 1917 that said no soldiers could leave the United Kingdom unless they possessed the proper certification. Returned men needed to have a medical certificate, issued no later than three days before the scheduled sailing, that was signed by an MO from the CAMC and said the soldier in question was free from all infectious, skin and venereal diseases. The order also included a provision that "no venereal disease, whether in the acute or chronic stage, is permitted

[60] LAC, RG9-III-B-1 Vol. 3596, Letter: from Lieutenant-Colonel Paul Hanson to Argyll House, Soldiers Who Have VD Returning to Canada, 22 October 1917.

[61] Ibid.

[62] Morton, *A Peculiar Kind of Politics,* p.179.

to return to Canada."[63] With these measures already in place, Hanson believed the addition of coloured cards was redundant.

Hanson had similar reservations about Molson's suggestion for early treatment facilities in Buxton. The cost of establishing a centre there would be enormous and ultimately have little impact. Hanson said that he personally warned the men every morning that if they contracted VD after their arrival at the discharge depot, they would have their proceedings canceled and may find themselves delayed for three or four months. A better way to catch the few cases that developed after men arrived at the discharge depot was to have MOs on the boat hold inspections. Once in Canada, these cases could then be isolated and placed in detention quarters. "In conclusion," Hanson wrote, "I would state that we are very particular on this subject here and I think our record will show that we do not send venereal disease to Canada, but over there when the shoe is on the other foot, they let them come over here."[64] Hanson's statement was supported by an epidemiological study undertaken by Captain Gordon Bates in 1917 at the Base Hospital in Toronto. The study showed VD rates were far lower amongst returned soldiers than in a similar subsection of males in the civilian population. Bates argued that this was because soldiers received education, inspection, quarantine and

[63] LAC, RG9-III-B-1 Vol. 3596, Letter from Surgeon General DMS to Argyll House, Prevention of the Return of Soldiers to Canada, Suffering from Venereal Disease, 6 February 1917.

[64] LAC, RG9-III-B-1 Vol. 3596, Letter from Lieutenant-Colonel Paul Hanson to Argyll House, Soldiers Who Have VD Returning to Canada, 22 October 1917. G

treatment.[65] Even though rates were lower among returned soldiers in living Canadian urban centres, they remained the focal point for concerns over rising rates of VD.

The military command structure ensured men would submit to medical exams and treatments but there was little that could be done to compel private citizens to undergo VD testing or treatments. This situation was problematic as the high rates of VD were not limited to Canadian soldiers overseas. Civilians, as well as troops stationed in Canada, suffered from high rates of infection. Those serving overseas were quick to point out that 25 per cent of soldiers who were diagnosed with VD had contracted the disease while still in Canada and were not properly inspected before being sent overseas.[66] Major-General G.C. Jones, the DGMS of the Canadian contingent in 1917, argued stringent measures for returning soldiers were inconsequential if public health authorities ignored the rest of the population. While all three groups were involved in the spread and transmission of the disease, "the only one of these three that there seems a general consensus to attack is the third, probably because it is thought here is a group of men whose history is recorded and who are helpless to resist interference."[67] Jones believed that until Canada developed a cohesive public policy to address all three categories it

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[65] Bates, "The Military Aspect," 53-57. See also Patch, "The Military Aspect of the Venereal Disease," 301-303.

[66] Cassel, *The Secret Plague,* 136.

[67] LAC, RG9-III-B-1 Vol. 3596, Letter from Major-General Foster to Argyll House, Introduction of Communicable Diseases into Canada, 24 August 1917 and LAC, RG9-III-B-1 Vol. 3596, Letter: from ADMS Canadian, Bramshott to DMS Canadian Contingent, 3 August 1917. See also J. George Adami, *War Story of the Canadian Army Medical Corps*, (Canada: Published for the Canadian War Records Office by Colour LTD, 1918), 75 and John W.S. McCullough, "Sanitation in War: Address in Public Health," *Canadian Medical Association Journal* 9, 9 (September 1919): 789-793.

made little sense to only target cases that developed overseas. Especially since of the three groups, soldiers had likely received the best care. The majority of overseas cases had been thoroughly treated and while a few may sometimes still be infective, Jones argued there was little more that could be done in those instances. All cases should be returned to Canada for treatment, "then there will be a question of policy as to whether it is better to treat these men at a Base Hospital and ignore the social storm stirred up, or in each military division or district."[68] Holding these cases overseas did little to improve public health but it did impact public opinion. Jones stressed that Canadians needed to "get over the delight of being shocked by the problem."[69] The Canadian authorities, he continued, needed to go "a little deeper into the subject in their own borders. It would seem premature and not very sound to commence the campaign from this end."[70]

Not all overseas officials wanted to return cases to Canada. Colonel W.T.M. MacKinnon, OC at Etchinghill, felt patients would recover more quickly if kept in special hospitals in England. His vocal opposition followed a report that indicated there were forty VD cases at his hospital that were permanently disabled and should be sent back to Canada. After examining the cases in question, he found that twenty-nine had since been

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[68] LAC, RG9-III-B-1 Vol. 3596, Letter from Major-General Foster to Argyll House, Introduction of Communicable Diseases into Canada, 24 August 1917.

[69] LAC, RG9-III-B-1 Vol. 3596, Letter from Major-General Foster to Argyll House, Introduction of Communicable Diseases into Canada, 24 August 1917; LAC, RG9-III-B-1 Vol. 3596, Letter from ADMS Canadian, Bramshott to Memorandum to DMS Canadian Contingent, 3 August 1917 and LAC, RG9-III-B-1 Vol. 3596, Letter from Major-General Foster to Argyll House, 29 July 1917.

[70] LAC, RG9-III-B-1 Vol. 3596, Letter from Major- General to Argyll House, Introduction of Communicable Diseases into Canada, 24 August 1917. See also: Lieutenant-Colonel W.T. Connell, "The Returned Soldier," *Canadian Medical Association Journal* 8, 9 (September 1918): 803-804.

discharged while the medical officers in charge of the remaining eleven cases reported they would be released to their units within the next few weeks. In response to the report, MacKinnon also examined the 170 cases that had been hospitalized for longer than three months. He selected forty-two of these cases for examination by a Board of Specialists "with a view of finally determining whether it is in the best interests of the Service to have these men returned to Canada for further treatment."[71] "I am of the opinion," he wrote, "that it will not be in the best interests of the Service to return more than 20 of them to Canada."[72] He argued that while the average stay of chronic cases was around ninety-days, many had been hospitalized for 150 to 250 days but were eventually discharged to duty. These rest periods, he argued, were crucial to recovery. The delays caused by transporting these cases to Canada would likely exacerbate the disease and slow recovery. Given these concerns, MacKinnon asserted it was " utterly impossible to lay down a hard and fast rule regarding the disposal of protracted cases. The disposal of these cases should be left to the discretion of the Commanding Officer and Specialists at this hospital."[73] He vowed that patients were receiving the best care available while also returning them to service as soon as possible to conserve manpower in the Canadian Corps. While some cases would not benefit from staying in England, he argued a significant portion of long-term cases could eventually be returned to duty. Whether or not MacKinnon's assessment was correct, his views are interesting as he one of the few

[71] LAC, RG9-III-B-2 Vol. 3617, W.T.M. MacKinnon, Permanently Unfit "V.D." Patients, 2 May 1918.

[72] Ibid.

[73] Ibid.

people involved that considered the cases from a medical standpoint. Unconcerned about overseas resources or public health in Canada, MacKinnon believed holding chronic cases would produce better curative rates.

Others in the medical community also supported keeping cases overseas to maintain discipline. Colonel Simpson, serving as ADMS of 3rd Division in France, concluded it was "in the best interest of the Canadian Corps, in fact all of the Canadians overseas and at home by refusing to return such men without previously having assured ourselves that they are cured, or every effort has been made to effect a cure."[74] His view was predicated on the belief that this type of order was an effective deterrent as men, wanting to return home as soon as possible, would exhibit more caution in sexual matters. The refusal to return Canadian soldiers with VD until they received treatment had been frequently used as a disciplinary tool to discourage sexual intercourse. Simpson asserted that this rule should be strictly enforced among soldiers stationed in both France and England, so that "nothing could be left open to criticism."[75]

Coordination problems in the overseas contingent played a role in creating some of the problems that existed. Difficulties in recording-keeping and communication between authorities in France and those stationed in England created problems with regards to VD returns from the continent. The Department of Militia and Defense in Ottawa complained that medical case sheets from France, which were used to ensure

[74] LAC, RG9-III-B-1 Vol. 1830, Memorandum from Colonel Simpson A/D DMS Canadian Corps, 29 December 1918.

[75] Ibid.

every soldier with a history of VD was checked before embarkation, were not reliable.[76] Under the established protocol, men who showed a history of VD in their personnel files were supposed to submit to a Wassermann or complement fixation test to confirm they were disease-free. If this information was missing, it meant that men could potentially be sent back to Canada without being flagged for extra inspections and testing before being allowed to sail. Fotheringham stated "In view of the number of cases reported as 'positives' on routine examination in hospitals in Canada, it would appear that the subject marginally referred to [the records from France] is entitled to early and careful consideration and will have a direct bearing on the scope of the measures adopted in Canada in dealing with soldiers before they are discharged from the service."[77] Without an accurate medical report, men with a history of VD might not receive extra testing before being sent back to Canada. Men who did not have open lesions but were still infective could be returned home unaware of their status.

To address this potential issue, in May 1918 overseas officials recommended that testing facilities be improved. The basic procedures stayed the same. All men underwent a medical inspection prior to boarding. Any soldier who showed a history of VD on their medical case sheets received a clinical examination including any necessary bacteriological or serological testing to ensure they were no longer symptomatic before being returned to Canada. To improve the quality and speed of testing, laboratories had been established at Buxton and Liverpool. Amyot had personally instructed the chief

[76] LAC, RG9-III-B-2 Vol. 3617, Letter: from Surgeon General Fotheringham to Pembroke House, Venereal Disease Among Soldiers in France – Records of, 1 February 1918.

[77] LAC, RG9-III-B-2 Vol. 3617, Letter from Surgeon General Fotheringham to Pembroke House, Venereal Disease Among Soldiers in France – Records of, 1 February 1918.

personnel there about the method, objective and recording of the examinations. Amyot was confident the estimated 7 per cent of soldiers who had VD in their history had been treated as thoroughly as possible, much more than they would have been in civilian life. Even after the most rigorous therapy, it was still possible that syphilis or gonorrhea could manifest later in life. Amyot contended a "complete cure of VD cases in present state of practice and knowledge, and facility is not accomplished…To treat these cases to finality would require facilities such do not yet exist in England."[78] Unable to 'cure' all VD cases, the overseas contingent would instead do their best to simplify the disembarking and discharge process in Canada. Under the new overseas guidelines, men would be notified of the results of their tests and if they required further treatment once they returned home. Previously, VD cases had been returned to Canada without any information about their medical status. However, this new policy did not permit military or government authorities to interfere with their movements after they arrived back in Canada. [79] Once they were discharged from the military, these men could no longer be compelled to undergo any treatment. If authorities wanted to control the spread of VD from servicemen, they had to ensure men were examined and underwent treatments before they were officially released from the military.

This modified plan was designed to return VD cases without overwhelming medical facilities in Canada. Original estimates concluded that 7 per cent of men returned to Canada would have a history of VD and only a small percentage of them would require any further treatment. Canadian officials had agreed, in principle, to takeover these cases.

[78] LAC, RG9-III-B-2 Vol. 3617, Memorandum from Lieutenant-Colonel Amyot, Memorandum, 6 May 1918.

[79] Ibid.

Although there was a preliminary agreement in place, there was no consensus between Canadian and overseas officials with regards to the actual details of the plan. Overseas authorities wanted to send all chronic cases back to Canada, which would include any case that had been undergoing treatment for longer than six months or any man who would not be returned to duty within six months because of ongoing VD treatments. The plan was to return a maximum of fifty chronic cases per month up to a maximum of 1200 per year if it was necessary. They were confident that Canada would be able to handle the return of all of these chronic cases. The current hospital system in Canada, they argued, could easily absorb fifty cases per month without putting a strain on its existing resources. The laboratories at Liverpool and Buxton would help facilitate the return of these cases by conducting the examinations, collecting clinical data and generating reports "in order that Canada may fully appreciate the amount of treatment they have received; their present condition; and the indications for further treatment."[80] From the perspective of overseas officials, they had taken great care to ensure that soldiers with VD posed a minimal risk to the general public. It was decided, however, that they would not reveal the details of this plan to Canadian authorities until after Major-General Foster returned from France and there were enough invalids, including non-venereal patients, to fill two hospital ships. [81]

After returning from France in June of 1918, still months away from the end of hostilities, Foster began drafting new plans for returning soldiers, which included the

[80] LAC, RG9-III-B-2 Vol. 3617, Letter from DMS Canadian Contingents to Argyll House, VD Cases – Return to Canada, 6 May 1918.

[81] LAC, RG9-III-B-2 Vol. 3617, Letter from Major-General Foster to DGMS Ottawa, 30 May 1918.

eventual demobilization of VD patients. His first suggestion was all Canadian special hospitals, including the venereal ones, and early treatment centres should remain open until the end of demobilization. Contrary to current policy, Foster argued that once the war was over they would not be able to seriously consider a system of universal testing for overseas transports. This type of widespread testing would not be practical once overseas authorities were faced with returning tens of thousands of men home in a shortened period of time. This view was compounded by the belief that the clinical and laboratory tests for syphilis (Wassermann) and gonorrhea (Schwartz) were not very reliable. Since treatments were generally only successful in the acute, early stages of these diseases, it made little sense to root out the chronic cases and detain them overseas. Foster argued that the most they could do in England was to prevent the transfer of men with primary or secondary stage syphilis, or acute gonorrhea, through physical inspections prior to boarding. These cases could be held for treatment. Any chronic cases were to be returned to Canada.[82] However, this plan was criticized later that month when twenty-three chronic cases were sent to Canada, seemingly without approval from Ottawa, which renewed the debate over how to handle chronic cases.[83] Canadian officials did not agree that chronic cases should be invalided back to Canada and argued that they should remain in England until they were cured.[84]

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[82] LAC, RG9-III-B-2 Vol. 3617, Major-General Foster, The Venereal Situation, 12 June 1918.

[83] LAC, RG9-III-B-2 Vol. 3617, Telegram to Ottawa, June 1918.

[84] LAC, RG9-III-B-2 Vol. 3617, Letter from Major-General Foster to Sir Richard Turner, 18 July 1918.

Over the course of the war, there had been considerable discussion between domestic and overseas officials over the return of soldiers with VD. This debate intensified during demobilization when it became impossible to appease Canada's request for tight restrictions on returns. Authorities in Canada wanted all chronic cases held overseas until they could be considered cured while CAMC officials overseas quickly discovered that this system was not feasible especially when tasked with the demobilization of overseas operations. Concerns over public health would no longer be the main factor shaping VD policies that had kept most cases in England.

Demobilization

Procedures for returning soldiers with a history of VD became even more complicated after the Armistice was signed and the tens of thousands of Canadians serving overseas could be sent home. The original plan was that men would be returned by their units with any remaining soldiers being sent back according to the "first in, first out" principle. This system had to be altered when the actual rate of return surpassed earlier estimates.[85] According to the original demobilization plan, men with a history of VD on their medical case sheets were examined and held for treatment if needed. This testing, even with its limitations, had become standard protocol for returning men during the war, but maintaining this system was no longer feasible once the war was over. Just a week after the Armistice, Foster informed Ottawa that "On account of the conditions arisen here in reference to despatch [sic] of low category men, and the availability of Transport to Canada, it has been found necessary to suspend the special post-V.D.

[85] Nicholson, *Official History*, 530-531.

Examination of those soldiers showing V.D. entry on their Medical History Sheets."[86]The logistics of a mass demobilization had created tensions as thousands of Canadian soldiers waited for their sailings. During this time Canadian soldiers were accused of excessive drinking and other raucous behaviour that was attributed to a combination of overcrowding and lack of discipline.[87] These types of incidents helped speed up the process. As more transports were made available, the rate of demobilization increased dramatically and the average soldier actually spent less than a month in England waiting for their sailing.[88]

This accelerated timeline significantly altered the earlier protocol for processing soldiers with VD. Foster assured Ottawa these changes would still ensure the safe return of these cases. Inspections would still be conducted to catch acute cases of gonorrhea or men with open sores. These cases were still held for treatment but men with a history of VD would no longer undergo additional testing. Their medical case sheets were sent to the Disembarkation Medical Officer in Canada who would assess these cases.[89] Authorities in England were confident these cases could be easily processed with minimal risk to Canada thanks to the thorough and accurate medical case sheets for each

[86] LAC, RG9-III-B-1, Vol. 3618, Major-General Foster, Special Examination of Soldiers Returning to Canada with V.D. Entry of Medical History Case Sheets, 18 November 1918. See also LAC, RG9-III-B-2, Vol. 3617, Memorandum from ADM to ADM2, Soldiers Who Have Had VD, Return to Canada.

[87] Cook, *Shock Troops,* 591-592.

[88] Nicholson, *Official History*, 530-531

[89] LAC, RG9-III-B-1, Vol. 3618, Major-General Foster, Special Examination of Soldiers Returning to Canada with V.D. Entry of Medical History Case Sheets, 18 November 1918 and LAC, RG9-III-B-1, Vol. 3618, Major-General Foster, Treatment of V.D., 11 January 1919.

soldier.[90] They argued all men who had contracted VDS during the war had received their full courses of treatment prior to going to France. However, Lieutenant-Colonel Seymour Bulloch argued that many patients did not complete outpatient treatment but were sent to France "when v.d. conditions were at their worst."[91] To rectify the situation, he suggested that orders should be issued and read on parade that men who exposed themselves needed to have their blood tested even if they had been in the hospital. Bulloch believed that men would readily respond once they told it was for the "future of Canada."[92] Foster replied that this action was not necessary as "practically no men during the last 2 years have gone to France who have not been given their full course of treatment."[93] The special hospital in Witley guaranteed that no man suffering from syphilis and undergoing arsenic treatment would be included in drafts for dispatch to Canada until their treatments were completed.[94] All of these men had also been informed that they might require further treatment six months or even a year after their initial treatments and were made aware of the facilities that were available for follow-up care.[95]

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[90] LAC, RG9-III-B-1, Vol. 3618,Major-General Foster, Special Examination of Soldiers Returning to Canada with V.D. Entry of Medical History Case Sheets, 18 November 1918.

[91] LAC, RG9-III-B-2, Vol. 3617, Letter from Lieutenant Colonel Seymour Bulloch to Argyll House, 22 January 1919.

[92] Ibid.

[93] LAC, RG9-III-B-1, Vol. 3617, Letter from Major-General Foster to Argyll House, 29 January 1919.

[94] LAC, RG9-III-B-1, Vol. 3618, Major-General Foster, Return to Canada of Soldiers Suffering From Syphilis, 25 June 1919.

[95] LAC, RG9-III-B-1, Vol. 3617, Letter: from Major-General Foster to Argyll House, 29 January 1919.

Officials overseas argued they were doing everything possible to ensure the health of the soldiers and guard against public health risks back home.

To accommodate the influx of VD cases, Canadian authorities had to develop procedures for processing and treating these cases, if needed, once they arrived back in Canada. On 20 January of 1919 Privy Council Order (PCO) 47 was issued by Governor General Victor Cavendish to coordinate the return of soldiers with VD. PCO 47 stated, "it is considered imperative that the public should be safeguarded as far as is possible from the danger of infection from men being discharged from the Canadian Expeditionary Force who have had venereal disease."[96] The order was issued to the OC in every Military District and stated that all men and officers who had contracted VD while enlisted were to undergo an examination by the Officer in Charge of Venereal Disease in each district prior to being discharged from the army. Cases of chronic VDG, or men who had only received one course of treatment but had no open lesions would be discharged.[97] These cases were told it was in their best interest, as well as their communities, to receive further treatment if the disease reappeared. Treatments would be made available free of charge by the DSCR.[98] The reports of their diagnoses were marked 'confidential' and forwarded to the Medical Officer of Health in the soldier's home province along with the

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[96] LAC, RG9-III-B-1, Vol. 1830, Privy Council Order, 20 January 1919.

[97] LAC, RG9-III-B-1, Vol. 3617, Letter from Major General Fotheringham to Memorandum to DGMS, OMFC, Ultimate Disposal of VD Cases in England, 21 January 1919.

[98] LAC, RG9-III-B-1, Vol. 3617, Letter from Major General Fotheringham to Memorandum to DGMS, OMFC, Ultimate Disposal of VD Cases in England, 21 January 1919.

man's name and address. The same criterion was applied to men who were later hospitalized in Canada with VDS.[99] In order to adapt to the challenges of a mass demobilization, officials in Canada had to assume more responsibility over VD cases.

To ensure men were properly processed once they arrived in Canada, authorities there relied on the accuracy of records and information provided by their overseas counterparts. They requested that soldiers travel with all of their medical information and documentation whereas overseas officials included pertinent information on the nominal rolls. Since the armistice, the nominal rolls had been forwarded to Ottawa, most often before the troops sailed, instead of accompanying the actual ship. The sheer number of men made it exceedingly difficult to coordinate the collection of individual documentation except for when men were boarded at the initial camp where the inspection took place. It was possible, however, that men may be sent to other camps prior to their actual departure. This reality made the possibility of collecting every man's documents, and sending them with the particular ship that they were sailing on, nearly impossible. In some cases, however, it was reported that nominal roles did not always reach the venereal disease officers at the point of embarkation or for the arrival of troop ships at the points of dispersal, which went against PCO 47. Foster felt that although the nominal roles may arrive late to Ottawa, they would have the necessary information including addresses for any men who had VD. Troops received a final medical inspection just before their final embarkation and anyone with an acute case or fresh lesions would

[99] LAC, RG9-III-B-1, Vol. 1830, Privy Council Order, 20 January 1919. See also LAC, RG9-III-B-2, Vol. 1830, Memorandum from Major-General Fotheringham, 23 January 1919.

still be held in England for further treatment. With all of these safeguards already in place, it was not necessary to create more paperwork. Foster contended,

> So many documents are being demanded by Canada, and documents have to be handled by so many Departments before embarkation that to advise another inspection of documents for this purpose just previous to embarkation, would retard the embarkation of troops some considerable time, and it is not thought that the results of such delay would justify this step being taken. The Medical Service in England is working at the present time at full capacity, and this would entail quite additional extra work on the medical and clerical staffs if put into operation.[100]

The pressures of demobilization continually countermanded the requests of Canadian authorities, which still wanted overseas personnel to assume the bulk of responsibilities despite the fact the war was over and overseas resources were decreasing.

As Canadian personnel returned home, overseas medical operations were significantly reduced. The shuttering of medical services made it logistically difficult and impractical to keep VD cases in England. In June of 1919, there were still 6,102 Canadian patients hospitalized in England and about 2,000 of these cases were for VD.[101] A report from 23 June 1919 stated that Moore Barracks was slated to close first on 10

[100] LAC, RG9-III-B-1, Vol. 3617, Letter from Major-General Foster to Department of Militia and Defense, Procedure VD – Personnel Returning to Canada, 21 February 1919.

[101] LAC, RG9-III-B-1, Vol. 3617, Letter from Major-General Foster to Argyll House, VD Patients, 24 June 1919.

July and still had 664 patients. Epsom and Bramshott were scheduled to close at the end of July or early August and had 522 and forty-seven VD patients respectively. Witley had the highest number of patients at 889 and was given the probable closure date of August 1919.[102] It was still policy to retain and treat cases in the acute or infective stages but accommodating these cases was becoming increasingly difficult. There was still considerable debate between Canadian authorities in Ottawa and London about the best way to deal with the remaining Canadian VD cases. Fotheringham reported officials in England wished to dispatch a group of 300 venereals starting on 3 July 1919. However, General Frank Mewburn in Canada urged them to reconsider as Ottawa wanted VD cases to remain in England until cured. But Fotheringham's request was prompted by reports that 1,000 VD patients who had been transferred there from the continent and had been responsible for recent riots in Epsom. The result was British officials wanted to transfer the majority of the men back to Canada regardless of whether they had finished their treatments.[103] On 24 June 1919, the Overseas Military Forces of Canada (OMFC) reported, "owing to the present feeling on the part of the inhabitants at Epsom towards Canadian Personnel, it is been decided to evacuate Epsom Hospital entirely…[and it] will

[102] LAC, RG9-III-B-1, Vol. 3617, List of Hospitals in the United Kingdom in which Officers and Soldiers of the Canadian Forces Suffering from Venereal Disease are at Present Under Treatment, 23 June 1919.

[103] LAC, RG9-III-B-1, Vol. 3617, Letter from Major General DGMS to Sir Edward Kemp, Venereals Overseas Return to Canada, 25 June 1919 and LAC, RG9-III-B-1, Vol. 3617, Letter from Argyll House, 16 June 1919. The participation of Canadian patients in the problems at Epsom is disputed in: LAC, RG9-III-B-1, Vol. 3617, Letter: from Lieutenant Colonel for Medical Services OMFC to Argyll, House VD Patients in CCH Epsom, 19 June 1919.

be completed about July 1st next."[104] Plans were made to move the patients to Moore Barracks in Shorncliffe, which marked a reversal from the previous plan to transfer patients to Epsom from Moore Barracks since it was supposed to be the first of the remaining hospitals to close.[105] Ottawa felt this move was a better alternative to sending these patients back to Canada.[106]

Canadian authorities argued an influx of patients would create a number of logistical and financial problems in Canada. Current facilities could not manage the return of almost 2000 men, many of who still needed treatment, over the course of just two months. Men needed to be segregated in Camp Borden or Long Branch, which would exacerbate existing staffing shortages. Accommodating more cases required an expansion of existing facilities and men would also need to be transported to Toronto, both of which would be costly. The change in location would also make it increasingly difficult for these men to conceal their conditions from their friends and families. Mewburn believed many men would have preferred to stay overseas until their treatments were complete. He wrote,

> It has been strongly felt that the majority of the men concerned would prefer to be cured overseas, rather than be brought here to face a period of segregation in Canada, with the practical

[104] LAC, RG9-III-B-1, Vol. 3617, Letter from Major General, Adjutant General OMFC to the War Office London, 24 June 1919.

[105] LAC, RG9-III-B-1, Vol. 3617, Memorandum from Lieutenant Colonel DMS, 23 June 1919, DSCF 6194 and LAC, RG9-III-B-1, Vol. 3617, Venereal Section, No. 11 Canadian Gen (Moore Barracks) Hosp. Shorncliffe, 16 June 1919.

[106] LAC, RG9-III-B-1, Vol. 3617, Letter from Lieutenant Colonel, OMFC to Argyll House, 24 June 1919.

> certainty of their conditions becoming known to their relatives. So as far as facilities and staff overseas are concerned, it is understood that these exist. The largest V.D. Camp now is at Witley, where it is understood that there is abundant room for expansion. I am aware of the fact that there are many Medical Officers ready to remain Overseas so that there will be no difficulty about the staff.[107]

However, Major Paul, who had inspected Camp Borden in July 1918, had already recommended that the next of kin of these soldiers should not be notified of their arrival since they could not immediately return home. This practice, he argued, would ease the minds of patients whose families may not have been aware of their conditions. It would also benefit the medical staff from having to deal with an influx of questions from anxious friends and relatives.[108]

If VD patients were eager to stay in England to keep their condition under wraps, Canadian authorities were equally motivated to keep them overseas for the same reason. The logistics of caring for these men in Canada were not Mewburn's only concern; public opinion was another important factor. "We have had to take a very great deal of pains," Mewburn wrote, "to satisfy public opinion and prevent scandal with regard to the incidence of VD among the Canadian troops, and all our best effort, it is thought, would be neutralised by the knowledge which would spread all over the country if two or three

[107] LAC, RG9-III-B-1, Vol. 3617, Letter from Major General DGMS to Sir Edward Kemp, Venereals Overseas Return to Canada, 25 June 1919.

[108] LAC, RG9-III-B-1, Vol. 3617, Report from Major H.E. Paul to A/DGMS, Ottawa, 29 July 1918.

ships, and four or five hospital trains, loaded with cases of this type, had been returned from overseas and transported in a contagious condition half way across the continent."[109] Overseas authorities did not agree. They largely supported the British view that they should evacuate all remaining patients. Continuing to keep patients in the United Kingdom until they were treated would significantly delay the demobilization of the remainder of the Canadian Corps. They saw no reason to hold these patients until September and thought they could have the majority of the remaining 2900 men out by August.[110] The only purpose the delay seemed to serve was the desire of Canadian authorities to limit criticism "The objections from Canada," a memo from the OMFC argued, "have not been stated officially, rightly or wrongly, they are assumed to be ones which are based on the grounds of public sentiment and arise out of social conditions. In this connection it is noted that of 10,777 cases dealt with by this service in which the source of the disease was ascertained that 1366 originated in Canada prior to embarkation."[111] Although there was already a VD problem at home, authorities in Canada hoped keeping men overseas would allow them to avoid discussing rates of VD among its soldiers or citizens.

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[109] LAC, RG9-III-B-1, Vol. 3617, Letter: from Major General DGMS to Sir Edward Kemp, Venereals Overseas Return to Canada, 25 June 1919.

[110] LAC, RG9-III-B-1, Vol. 3617, Memorandum from ADMS to ADM, 11 June 1919, DSCF 6203 and LAC, RG9-III-B-1, Vol. 3617, Letter: from Lieutenant-Colonel DDMS to Argyll House, Return to Canada of Soldiers Suffering from VD, 13 June 1919.

[111] LAC, RG9-III-B-1, Vol. 3617, Letter: from Lieutenant-Colonel DDMS to Argyll House, Return to Canada of Soldiers Suffering from VD, 13 June 1919. Earlier in the war, Sir Robert Borden had expressed concern that back in Canada negative press over the VD problem had hindered recruitment. See: TNA, WO32 11401, Temptations of Overseas Soldiers in London, 27 April 1917.

While some men may have been anxious to get home as soon as possible, MOs overseas were concerned that many men who still required treatment for VD were not in the same rush. Some officials felt it was not just the fear of being exposed but also their desire to remain in the hospital that slowed their recoveries. As long as these men were still hospitalized overseas, they could not be discharged from the army. Staff at Witley began to suspect that a number of patients in their care were reluctant to return home and resume their normal duties. Lieutenant Colonel E.L. Stone, OC at Witley, reported to the ADMS they "have reason to suspect that in some instances there is not hearty co-operation on the part of the patient in hastening recovery, and that some patients prefer the treatment and care of the hospital to discharge from the Army and returning to work."[112] He asked if there was still a provision in place for invaliding men back to Canada who had been in the hospital for more than four months as they had twelve patients in their care they wanted to discharge. The OMFC replied that the twelve cases in question should be transferred immediately to No. 5 Canadian General Hospital in Liverpool in anticipation of sailing on 12 May back to Canada.[113]

Demobilization put increased pressure on a system that was already under constant scrutiny. The process of returning tens of thousands of Canadian soldiers made it near impossible to conduct universal testing, especially when the actual rate of demobilization exceeded initial estimates. Despite these new challenges, Canadian officials still wanted to treat cases overseas to avoid a public health crisis and minimize

[112] LAC, RG9-III-B-1, Vol. 3617, Letter From Lieutenant Colonel Stone, OC Witley to ADMS Witley. Invaliding to Canada, Patients Venereal, 23 April 1919.

[113] LAC, RG9-III-B-1, Vol. 3617, Letter from Pembroke House to ADMS Witley, Invaliding to Canada, Venereal Patients, 28 April 1919.

public criticism. However, holding these cases was became exceedingly difficult to do as overseas medical services were shuttered. The stringent procedures that were in place for much of the war, had to be abandoned when the war ended and Canada was tasked with demobilizing its overseas contingent at a rapid pace.

Conclusion

In spite of the policies and procedures that were put in place, Canadian officials in Ottawa continually argued throughout the war that Canadian overseas officials were not doing enough to mitigate the risk of returning soldiers who were still infected. Domestic officials frequently demanded that procedures be altered to address their concerns. These requests could include holding more cases in England, increasing the number of pre-embarkation inspections and forms, or even confining men to barracks for the time in between their final inspection and sailing to limit their exposure during these few days. Overseas officials, already burdened with maintaining a healthy army and winning a war, were unwilling to add more steps to existing procedures. Especially given that statistics compiled by the CAMC showed almost 25 per cent of Canadian soldiers had contracted VD while still Canada. With officials there doing little to prevent these cases from having been sent overseas in the first place, enforcing even stricter standards overseas made little sense until Canadian officials were willing to face the VD problem at home.

Even with the developments in the diagnosis and treatment of VD - with the advances for complement fixation tests - there was no way to guarantee all men would be returned home 'cured.' Doctors were still aware of the limitations of these tests for accurately diagnosing VD and the ability to effectively treat all of these cases. The

CAMC utilized military resources and laboratories to address the problems with contemporary testing especially with regards to developing a suitable antigen in an effort to improve VDG testing. The war provided CAMC personnel with a unique opportunity to expand on prior VD research that had been done in Canada. While their work ultimately did not improve the quality of testing that was used to screen returning soldiers, their work highlights the connections between civilian and military medicine that are created under wartime conditions.

The process of demobilization intensified the debates between overseas and Canadian officials concerning the procedures surrounding the return of men with VD. Already aware that testing could be inconclusive and with VD already a concern at home, overseas officials proposed relaxing procedures in order to expedite the return of soldiers, even those with a history of VD. Instead of holding every man with a history of VD, which had been part of procedure since 1916, men were inspected and anyone with fresh lesions was held in England. The demands of demobilization did not allow for any extensive testing, instead the nominal rolls forwarded to Ottawa would note any man who had a history of infection so that authorities there could implement procedures to dispose of these cases. Canadian officials were reluctant to take on more cases, even chronic ones, but the dismantling of overseas medical operations made it increasingly difficult to keep patients in England. The views and capabilities of overseas officials frequently conflicted with the demands of Canadian officials concerning the so-called VD problem among soldiers. Early in the war, concerns over public health and public opinion were important issues that influenced the development of policies and procedures for returning venereal cases to Canada. Over the course of the war, however, the realties of war and

demobilization increasingly became more significant factors in determining the creation of policies that regulated the return of infected soldiers.

Conclusion

On 23 September 1914, Lester Learmouth, a twenty-six-year-old paper maker from East Angus, Quebec, enlisted in the Canadian Expeditionary Force.[1] Sometime in May of 1915 while serving with the 14th Battalion in France, the unmarried Learmouth contracted VD. Once the first symptoms appeared, he was sent to No. 22 General Hospital on 23 December 1915 with a diagnosis of syphilis and was given a hospital stoppage. He spent two weeks at No. 22 General followed by a brief stay at No. 1 Convalescent Camp before being admitted to the special VD hospital ward at No. 9 Stationary in Le Harve as 'Not Yet Diagnosed.' Doctors were likely unsure if it was VDS or VDG since both diagnoses appear in his medical records. Learmouth spent almost two months at No. 9 Stationary before being discharged to No. 11 Convalescent Hospital. On 10 March 1916 he rejoined his unit in France – two and a half months after leaving the line.

A few months later, while on short leave in England, Learmouth checked in to Shorncliffe Hospital with VDG. He claimed he had contracted the infection on 16 June 1916 when he checked into Shorncliffe on 24 June. However, given the short period of incubation these symptoms were likely caused by his previous infection. On 2 July, Learmouth was sent to Cherry Hinton with VDG and was discharged twenty-two days later. He spent time with several units in England before being sent back to France in May of 1917 – nearly a year later. He remained in France until 16 March 1919 during which time he managed to stay out of the hospital although he did not stay out of trouble.

[1] LAC, RG150, Accession 1992-93/166, Box 5489 – 55, Personnel File: Lester Lyman Learmouth.

He received No. 2 Field Punishment twice: once for drunkenness while on active service and later for not complying with orders from an NCO. During this time Learmouth was also sentenced to "make good" for the value of potatoes he had stolen from a Belgian farmer. On 21 March 1919, Learmouth was given a Wassermann test at Witley that came back a strong positive. Despite this, his file said "he would be dealt with on arrival in accordance with P.C.O. 47" and Learmouth proceeded to Canada on 10 April 1919.[2]

Once back in Canada, Learmouth tested positive for syphilis but was discharged on 21 April 1919. The following June, he received word that he was not eligible for a pension on the grounds that he could return to his former trade as a paper maker. Learmouth resumed work in his former trade in East Angus. He married in 1920 and had a son who was born in 1921. There were no reports of any illness or problems until five years later when Learmouth was admitted to St. Anne's Hospital in Bellevue on 6 May 1924 with general paresis, a severe neurological disorder causing insanity that occurs in tertiary stage syphilis. The admitting physician reported,

> Man has no complaints but states in a jocular manner that he has syphilis and supposes that he will have treatment for this while in hospital…There is a noticeable slurring of the speech. The emotional mood is one of exaltation and elation. He is quite satisfied with his lot and is satisfied at being confined to his ward. The ethical sense shows degeneration and he talks of chancre and anti-luetic treatment before the Nurse with entire

[2] LAC, RG150, Accession 1992-93/166, Box 5489 – 55, Personnel File: Lester Lyman Learmouth.

> freedom and without any feelings of shame or apology. He is very unstable emotionally, laughs with little if any provocation: is highly pleased with himself, everybody and everything. A degree of confusion exists and he not infrequently hunts through the fellow patients' lockers without seeming to appreciate the error. This case appears without question of doubt to be General Paresis.[3]

It is clear that by the time Learmouth was admitted to St. Anne's he was already suffering from tertiary stage syphilis. As is characteristic of general paresis, he exhibited loss of inhibitions and suffered from delusions and problems with his speech. Over the next few months, his condition continued to deteriorate to the point where he had lost both muscle and brain function and was bedridden. Evidently, the treatments he had received overseas did not cure his disease. Given his mental state when he was finally hospitalized, it is also unlikely that he had not sought further medical intervention after being discharged, even though it was available through the DCSR.

Learmouth remained at St. Anne's until he died on 2 June 1925, by which time he had become completely dependent on his caregivers. Shortly after his death, his wife applied for a pension but received word in August 1925 that her husband's death was not related to his military service. Her application was rejected although she did receive $75 from the DSCR for his funereal expenses. On 30 August, Mrs. Learmouth wrote to the Pensioner Commissioners inquiring as to why her application had been rejected since she was

[3] Laurier Military Centre for Strategic and Disarmament Studies Archive, Veteran Affairs Canada Pension, Reel 295, Lester L. Learmouth, Pension Number 130863.

> Sure some of his trouble was due to the war for he was overseas nearly five years, also was buried twice or three times and was in the hospital. I think any person that serve [sic] five years overseas was enough to make any person out of their head. I can't understand why there isn't a pension. There are cases around here that are getting pensions that are entitled much as what I am. It seems very strange that there is nothing for his son, as I am not able to work, and who is to look after him I think there is something strange about it. I always thought that was what the Government was for looking after the Soldiers dependents [sic].[4]

The symptoms exhibited by Learmouth when he was admitted to St. Anne's were similar to symptoms those associated with shell shock, which she clearly believed her husband had. It does not appear that Mrs. Learmouth knew the sordid details of her husband's service overseas. It is equally possible that her own ill health, which prevented her from working, could be attributed to syphilis that she had contracted from her husband. The Board reviewed her letter and file but once again rejected the application. They did not specify why it was denied, only stating that she and her son were not entitled to a pension. Considering his five-years of service, this response clearly frustrated Mrs. Learmouth. "I do not think it is hardly fair," she told the pension board in a letter dated May 1926, "to let things like this go on. I could name over more than a dozen people that

[4] Laurier Military Centre for Strategic and Disarmament Studies Archive, Veteran Affairs Canada Pension, Reel 295, Lester L. Learmouth, Pension Number 130863.

are drawing a pension in this town that has a husband to work for them also son, that were never in the firing lines. I can't understand why this is."[5] An internal letter addressing Mrs. Learmouth's request stated that after careful consideration the dependents were still not entitled to a pension but "it is suggested that the above information be treated as confidential in so far as it related to the nature of the condition causing the disability which resulted in death."[6] Instead B.J. Kee, Secretary for the BPC, informed Sherbrooke MP C.B. Howard, who had petitioned the board on the family's behalf, that "if you are in Ottawa sometime in the future I will be glad to discuss with you personally and fully the marginally noted man's case. His death was the result of an infection which was contracted during service, but which is considered as misconduct under the Pension Act and is not pensionable. The above information is confidential, and I know you will not communicate such to his dependents, relations or friends."[7]

The story of Lester Learmouth is an interesting example of what was probably a typical case of VD. He was sent to the rear after receiving several different diagnoses before finally undergoing treatment at No. 9 Stationary Hospital after contracting syphilis in France. During his time in hospital he was subject to the army's punitive measures for VD and received a hospital stoppage. Upon his arrival at No. 11 Convalescent Hospital, however, his hospital stoppage was reversed, likely because he was employed as a stretcher-bearer or performed other manual labour while there. Although his infection should have prevented him from taking leave for twelve months, this policy was

[5] Laurier Military Centre for Strategic and Disarmament Studies Archive, Veteran Affairs Canada Pension, Reel 295, Lester L. Learmouth, Pension Number 130863.

[6] Ibid.

[7] Ibid.

evidently not widely enforced. Just three months after rejoining his unit he contracted, or had a reoccurrence, of VD while on short leave in England. Despite the fact that cases like his were to return to France to undergo treatment, he remained in England. Learmouth would spend the next ten months in the hospital system before returning to the front. When it was time for him to return home he was given a Wassermann, which came back positive for syphilis. Earlier in the war this test result would have delayed his return home, but since it was March 1919, he was immediately returned to Canada according to the stipulations of Privy Council Order 47, which had been put in place to meet the demands of demobilization. Cases like Lester Learmouth no doubt substantiated the fears of Canadian officials that soldiers would return home and infect women in Canada. Mrs. Learmouth likely suffered from VDS, which she had contracted from her husband. Although since she was kept in the dark about her husband's 'war related' illness, the preferred legacy of the war remained intact.

Venereal disease created a number of difficulties for the Canadian Army Medical Corps. The high rates of infection early on in the conflict were made worse by the fact that the British Army went into the war without a comprehensive policy towards VD. In an effort to reduce infection rates and appease concerns over morality, the military experimented with punitive measures such as court martial, hospital stoppages and legislation aimed at prostitutes and local women. When this approach failed to address the problem, both the BEF and CEF also utilized a medical approach and established early treatment centres and prophylaxis kits. Even with this shift in policy, the problem required the development of separate medical services to treat VD cases. Along with contemporary stigmas and limitations of testing and drugs, the CAMC had to work within

the confines of the RAMC. An examination of their records show that, while the VD management system in the CEF followed the guidelines and orders set out by the War Office, the CAMC displayed some autonomy. They utilized their special hospitals and laboratories to experiment with new techniques and drugs in an effort to improve the efficiency of the system. In England, at least, they operated with little interference from the British. Hospitals like Etchinghill were actively involved in improving the VD management system by way of better conditions, educating medical officers and utilizing their labs to further VD research.

This independence did not extend to VD management in France where, despite the development of a system that returned men to their units sooner, the RAMC forced the CAMC to fall in line with the British system of sending cases to the rear. The procedures that had been implemented in France were not able to meet the new challenges created by the mobility of the battlefield in late 1918. Earlier that same year, conditions in England were also subjected to an inquiry. The deaths of eleven Canadians from 606 treatments shows that there were still multiple problems with the VD management in England after almost four years of war. Hospitals often operated while overcapacity and understaffed, which led to difficulties with treatment procedures, staff training and record keeping. These issues were exacerbated by the fact that contemporary 'cures' involved the use of mercury and arsenic, two highly toxic compounds. Part of the VD management system overseas was already under close scrutiny from officials back in Canada. They were very worried that the returning soldiers to Canada with a history of VD would cause a public health crisis. This concern, of course, ignored the fact that 25 per cent of the cases had been contracted while men were still in Canada. But even with

equally high rates among civilian populations, there were concerns that high rates among soldiers would tarnish the legacy of the war. To control the situation, Canadian officials demanded strict screening practices prior to embarkation. This system required the extensive use of the Wassermann and Schwartz tests even though it was well known that the results were not always conclusive. Canadian pathologists worked to improve testing methods right up until the end of the war but ultimately these rigorous procedures had to be abandoned. The demands of demobilization simply did not allow for widespread testing. Canada had to assume responsibility for the inspection and care of these men even if they were unwilling to do so. Exploring the CAMC through the lens of VD allows for a long overdue examination of the medical war of the CEF.

An emphasis on morality shaped the punitive policies and procedures that characterized VD management in the beginning of the war. As VD rates continued to increase, these disciplinary tactics were supplemented by a medical approach that used chemical therapy and preventative measures. VD treatments followed pre-war methods, utilizing advances in testing and drugs that occurred in the first decade of the twentieth century. These methods had to be modified to meet the military environment. Military physicians had more control over men's bodies than civilian practitioners, so they could require their patients submit to lengthy, and sometimes painful, treatments. However, these treatments had to be altered to meet wartime demands. Treatment schedules were materially shortened and the drugs that were used had to be pushed to their limits to get soldiers out of the hospital and back to their units as quickly as possible. To address the VD problem, the British Army created comprehensive procedures and policies.

Physicians with the CAMC generally followed the framework established by the RAMC. At the same time, many Canadian officials believed these approaches should also address long-term concerns like public health and opinion. The British were typically not as concerned about these factors and their policies reflected this general feeling. The Canadians instead developed practices to suit their needs, which could create tensions with the British that varied depending on the theatre of operations. To improve techniques and practices they utilized the unique opportunities for development and research created by the war. War gave the young, civilian doctors that made up the bulk of CAMC personnel money and resources that they could use to further VD research and development beyond the battlefield. In contrast, the permanent physicians of the RAMC were military-trained and worked within an existing and well-established military structure. Examining the Canadian approach to VD shows the unique circumstances that shaped the development of the CAMC.

This work is a starting point from which we can begin to connect the wartime experiences of Canadian soldiers like Lester Learmouth to their lives in the interwar period. As Marina Larrson briefly explores in her book, VD created problems for the families of these veterans as did cases of shell-shock, tuberculosis, amputation and every other disease or trauma treated by the CAMC. To fully understand both the short and long term impacts of war on soldier health we need to better understand the services that cared from them. Trying to situate this work with the larger historiography draws attention to the fact that we are missing a comprehensive examination of the Canadian Army Medical Corps for the First World War. Most recently historians Cynthia Toman and Mark Humphries have looked at the medical services overseas during the war

through two different lenses. Toman wrote an excellent history of Canadian nurses while Humphries expertly examines the treatment of shell shock in the CEF. These works provide important starting points, insights and examples of how to frame individual experiences within the larger military organization, but they would benefit from being part of a larger discourse on the history of the CAMC. The medical history of the Canadian Expeditionary Force in the First World War deserves to be written.

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