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EXERCISE NEW HORIZONS

FACING THE CHEMICAL/BIOLOGICAL THREAT: RECOMMENDED TRAINING FOR HEALTH SERVICES SUPPORT PERSONNEL

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ABSTRACT

Members of the Canadian Forces Health Services Group (CF H Svcs Gp) must be able to provide quality health care to Canadian Forces members in a number of operating environments, including the Chemical, Biological, Radiological, Nuclear setting. This paper asserts that in order to provide effective Health Services Support (HSS) in this environment, the applicable training for CF H Svcs Gp personnel needs to be expanded to include collective training venues.

There are several challenges facing HSS personnel operating in a chemical/biological (CB) environment which cannot be adequately addressed by classroom instruction. Like all tactics and techniques, confidence in carrying out HSS tasks in this unique setting is achieved through drills and practical training. For HSS personnel who must work together as a team to provide medical support, collective training opportunities are essential. CF H Svcs Gp personnel currently receive individual and clinical CB training for their respective roles, but very few are provided with collective training opportunities that simulate operating in a CB environment. In order to properly prepare these personnel to carry out their duties in this challenging setting, the implementation of collective training venues should be pursued by the medical branch.

"Whether or not gas will be employed in future wars is a matter of conjecture. But the effect is so deadly to the unprepared that we can never afford to neglect the question."

- General John J. Pershing,
Commanding General, American Expeditionary Forces, Europe 1917-1918

INTRODUCTION

The provision of timely and efficient medical care to soldiers can be a challenging task, especially in a deployed setting. This challenge is further complicated when faced with operating in a Chemical, Biological, Radiological, Nuclear (CBRN)[1] environment. Members of the Canadian Forces Health Services Group (CF H Svcs Gp) are expected to be able to provide quality health care "for those who serve anytime anywhere".[2] Consequently, these personnel must be able to perform their primary duties in the CBRN setting.

First and foremost, as a matter of practicality Health Services Support (HSS) personnel must be able to individually protect themselves against CBRN threats if they are to remain capable of fulfilling their duties. Medical units as a whole must be able to survive an attack involving chemical or biological agents if they are to be of service to their fighting counterparts. Being prepared against such threats requires more than textbook study and theory – "without adequate training, no amount of good equipment, drills and procedures will be effective."[3] The Canadian Forces (CF) NBCD Strategic Doctrine mandates the training of all CF members in the

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[1]CBRN is the current terminology for the threat formerly referred to as Nuclear, Biological, Chemical (NBC). CBRN will be primarily used throughout this paper, however, some reference to NBC and NBC Defence (NBCD) will also be used to maintain the integrity of certain quotations and titles.

[2]Canadian Forces Health Services, http://www.dnd.ca/health/engraph/about_us_e.asp?Lev1=5; Internet; accessed 22 August 2005.

[3]Department of National Defence, B-GJ-005-410/FP-000 *Health Services Support to Canadian Forces Operations (Ratification Draft)* (Ottawa: DND Canada, 2005) 9-17.

measures required to ensure "personal survival and mission accomplishment"[4] in a CBRN environment. By extension, this direction dictates the requirement for HSS units to be capable of performing their primary mission in this setting. At present, the majority of CF H Svcs Gp personnel do receive some form of clinical training regarding CBRN defence, drawing upon a limited number of courses offered by other armed forces to supplement the training provided within the CF. This paper argues that in order to provide effective HSS when faced with the challenge of operating in a CBRN environment, the training for CF H Svcs Gp personnel needs to be expanded to include collective training.

This paper will provide an overview of the CBRN threat, the applicable CF doctrine and the CBRN training currently provided to CF H Svcs Gp personnel. Additional training opportunities will be presented with a view to recommending venues that should be considered by the medical branch. In preparing this paper, the focus of the CBRN threat has been limited to the chemical and biological (CB) components. This has been done primarily due to the training potential with respect to defending against CB agents (in comparison to radiological or nuclear threats), but also due to consideration of the likelihood of which operating environments might be faced by members of the CF.

THREAT

Chemical agents as a means of warfare were first used in World War I by German forces against the Allied troops at Ypres in 1915.[5] Examples of military forces having used these agents are not restricted to the days before the 1925 Geneva Protocol banning their use. Iraq

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[4]Department of National Defence, B-GJ-005-311/FP-000 *Nuclear, Chemical, Biological Defence Strategic Doctrine* (Ottawa: DND Canada, 2005) 9-1-1.

[5]Borden Institute, "Textbook of Military Medicine," http://www.bordeninstitute.army.mil/cwbw/default_index.htm; Internet; accessed 23 February 2006.

employed a chemical agent as an offensive weapon in 1983 against Iran, inflicting thousands of casualties.[6] While international agreements may still afford some sense of security with respect to the use of CB agents in large force on force conflicts today, they certainly offer little comfort insofar as non-state actors are concerned. The release of sarin gas in the Tokyo subway in 1995 serves as a relatively recent example of just such an attack. While the death toll caused by this incident was relatively low (12 people), over 5500 people were injured, inundating local medical resources.[7]

Chemical agents are categorized as either persistent or non-persistent, a distinction based on their physical properties. Persistent agents evaporate slowly and may endure for periods extending from days to months, depending on environmental conditions. In warfare, this type of agent might be used by an enemy to deny their opponent the use of select terrain or equipment. Non-persistent agents evaporate quickly and generally do not last more than several hours. From a tactical perspective, forces might choose to employ non-persistent agents prior to an advance into an enemy area that they wish to seize and use at a later time.

A clinical categorization of chemical agents groups the compounds as either nerve, blister, choking, incapacitating, blood, tear or vomiting agents. The most lethal of the chemical agents are the nerve agents, an example of which is the sarin gas released in the Tokyo subway. Nerve agents, along with the blistering agents, are believed to be the most common agents in modern arsenals.[8]

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[6]*Ibid*., 123.

[7]Canadian Security Intelligence Service, "The Threat of Chemical/Biological Terrorism." http://www.csis.gc.ca/en/publications/commentary/com60.asp; Internet; accessed 17 March 2006.

[8]Borden Institute, "Textbook of Military Medicine," http://www.bordeninstitute.army.mil/cwbw/default_index.htm; Internet; accessed 23 February 2006.

Biological agents are microscopic organisms that are used as weapons to cause known diseases in humans. There are a multitude of naturally occurring agents, but their usefulness is generally limited by such factors as their stability and infectivity.[9] Biological agents are grouped as either bacteria, viruses, rickettsiae or toxins. A familiar example of a bacterial agent is anthrax, which was distributed by terrorists through the American postal system shortly after the September 11, 2001, attacks, resulting in 22 cases of active disease in humans and five deaths.[10]

In assessing whether there is a need for CF H Svcs Gp personnel to train to operate in a CB environment, it is important to consider whether the current threat warrants such a resource-intensive investment. The Government of Canada provides a clear answer to this fundamental question, stating that while "there is no specific threat of a CBRN attack against Canada, … because the consequences of a CBRN incident could be high, it is critical that we are prepared."[11] In addition, it is important to remember that the risk to CF members is not limited to the borders of Canada, since current operational deployments send members to areas in the world known for harbouring terrorists with potential CB capabilities.

When analyzing the threat of a CBRN incident, it is important to note that the likelihood of the CF facing a deliberate radiological or nuclear attack is far less than that for a chemical or a biological attack. The 2003 Annual Report submitted by the Canadian Security Intelligence

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[9]*Ibid*., 5.

[10]Daniel Jernigan, *et al*, "Investigation of Bioterrorism-Related Anthrax, United States, 2001: Epidemiologic Findings," *Emerging Infectious Diseases* 8, no.10 (October 2002):1019-1029; http://search.epnet.com ; Internet; accessed 17 March, 2006.

[11]Public Safety and Emergency Preparedness Canada, "Responding to CBRN Threats: A Federal Perspective," http://ww2.psepc-sppcc.gc.ca/publications/national_security/pdf/CBRN_Backgrounder_e.pdf#search='Responding%20to%20CBRN%20Threats%20perspective'; Internet; accessed 10 March 2006.

Service (CSIS) states that the most significant threat to Canada is that of terrorism.[12] While many people primarily associate terrorist attacks with the use of conventional explosive devices, CSIS acknowledges that the use of CB agents in the form of weapons of mass destruction is conceivable.

Further corroboration for the potential for a CB threat comes from the Department of National Defence's (DND) Biological and Chemical Defence Review Committee (BCDRC). The BCDRC has stated that although its role is not to assess the details of a CB threat, it is mandated to advise whether the potential exists for these agents to be used against the CF, either domestically or while deployed abroad. The committee agreed in its 2004 report that the potential does exist.[13] This potential can be explained by a number of factors, such as the fact that CB agents are more readily available to terrorists than either radiological or nuclear weapons.

Due to the relative ease of production, CB agents have often been referred to as the "poor man's atomic bomb".[14] Terrorists may prefer to use CB agents for a number of reasons. The toxicity of these products theoretically provides the capability to inflict thousands of casualties using just a small volume of the agent. This need for such small quantities aids in minimizing the costs and complexity of their production. A simplified production process can minimize the requirement for large infrastructure and personnel resources, which in turn makes it easier to avoid detection.

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[12]Canadian Security Intelligence Service. "2003 Public Report." http://www.csis.gc.ca/en/publications/annual_report/2003/report2003.asp ; Internet; accessed 17 March 2006.

[13]Biological and Chemical Defence Review Committee, "2004 Annual Report of the Biological and Chemical Defence Review Committee," http://www.vcds.dnd.ca/bcdrc/00native/annual-report-2004_e.pdf ; Internet; accessed 10 June 2005.

[14] Borden Institute, "Textbook of Military Medicine," http://www.bordeninstitute.army.mil/cwbw/default_index.htm; Internet; accessed 23 February 2006.

Other advantages of CB agents include the difficulty of their detection (especially for biological agents), the delay between the release of an agent and the detection of its impact on a population and the psychological effect the threat has on an enemy.[15] When all of these factors are combined, it becomes apparent that this option might appeal to an enemy who wants to cause a great deal of suffering yet does not have a large amount of conventional forces or weapons at their disposal.

HSS CHALLENGES

There are several challenges facing HSS personnel operating in a CB environment. Effective CB attacks generate large volumes of casualties, which can tax medical personnel under any circumstance. On top of being faced with the possibility of a mass casualty situation, other factors combine to complicate the task at hand for HSS personnel exposed to this threat. Like all CF members, CF H Svcs Gp personnel must be comfortable donning their protective equipment and be capable of performing basic decontamination drills. However, HSS personnel must also be proficient in decontaminating casualties, while ensuring they minimize any aggravation to concurrent routine injuries (trauma, burns, fractures, etc). This decontamination process may take up to 20 minutes, however, a well-trained team can usually perform patient decontamination in just under ten minutes.[16] While saving ten minutes may not seem significant, it may very well be vital to patient's overall welfare, allowing traditional conventional medical intervention to be given that much sooner.

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[15]Canadian Security Intelligence Service, "The Threat of Chemical/Biological Terrorism," http://www.csis.gc.ca/en/publications/commentary/com60.asp; Internet; accessed 17 March 2006.

[16]Borden Institute, "Textbook of Military Medicine," http://www.bordeninstitute.army.mil/cwbw/default_index.htm; Internet; accessed 23 February 2006.

CF HSS resources are seldom abundant, plagued by chronic personnel shortages and numerous competing priorities. Operating in a CB environment will demand even more from the already overstretched health care team due to increased workload and heat exhaustion. It is estimated that functioning in full protective gear reduces efficiency by approximately 50%.[17] As a result, HSS units operating at Mission Oriented Protective Posture (MOPP) 4 can expect a requirement for additional resources and to be challenged in providing rapid medical attention to the casualties.

On the clinical side, medical personnel need to be knowledgeable concerning the existing chemical and biological threats. The knowledge must encompass not only the treatment regimens to counteract the various agents, but it must also include recognition of the signs and symptoms caused by the agents. This is particularly important considering the HSS personnel may be the first to observe trends in the patient population that indicate an attack has occurred. Biological agents present a unique challenge in that they mimic many natural diseases, necessitating extra vigilance on the part of the health care team. In addition, attacks with these agents may be harder to identify due to the fact that the onset of the symptoms may be significantly delayed, making the association of the symptoms with a deliberate attack more difficult. Without a thorough comprehension of the signs of a biological attack, inexperienced HSS personnel may allow essential treatment and passage of key operational information to be needlessly delayed.

A further challenge faced by HSS personnel operating in an environment involving attacks employing CB agents relates to the management of their limited resources. CB attacks bring with them the risk of contamination of medical equipment and supplies at a time when

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[17] *Ibid*., 329.

increased casualties are likely to develop and additional supplies will be required. This contamination is even more detrimental if it extends to the HSS personnel themselves.

Resources other than the medical personnel and supplies will also be strained in a CB environment. While operating in this environment, there is a need to duplicate several aspects of HSS, dividing the capabilities into a "clean" and a "dirty" system. This may apply both to the medical facilities themselves and the evacuation resources employed. Transport requirements for larger field medical facilities may increase by as much as 40% in a CB setting.[18] Meanwhile, if the agents used in an attack have a delayed effect of several hours, there may be a requirement for HSS facilities to establish longer holding policies, further draining the limited personnel resources.

The challenges that would be faced by HSS personnel in a CB environment cannot be completely overcome by classroom instruction. As with all tactics and techniques, confidence in carrying out the actual task is achieved through drills and practical training. For HSS personnel who must work together as a team to provide medical support to patients, this can only truly be accomplished through collective training opportunities.

DOCTRINE

The BCDRC annually reviews DND's biological and chemical research, development and training programs. Following visits to numerous DND organizations, the 2002 BCDRC report noted that the medical branch of the CF lacked doctrine for the provision of HSS in a CB

[18] *Ibid*., 125.

environment.[19] The CF H Svcs Gp acknowledged this shortfall and progress was noted in the 2003 BCDRC report. The HSS doctrine is currently undergoing the process of ratification by the Joint Doctrine Review Board and is available for limited distribution in draft form.

The CF's NBCD Strategic doctrine explains it is essential to train "medical personnel to cope with an NBC situation", noting that "specific medical NBC defence training is required".[20] In keeping with this direction, the corresponding draft CF H Svcs Gp HSS doctrine highlights the fact that "HSS units must be able to survive in NBC…environments before they can be of benefit."[21]

The draft HSS doctrine identifies three broad categories of training applicable to the provision of HSS in a CB environment: First Aid Training, Specialist Training and Unit Training.[22] The First Aid Training includes recognition of CB casualties and the provision of basic first aid to these individuals. Specialist Training recommendations vary with the occupation of the HSS member: direct medical care providers (e.g., physicians and nurses) must have an understanding of the mechanism of action of the agents as well as the recommended treatments; pharmacists must be well-informed regarding the use of medical countermeasures; and Health Services Operations (HSO) Officers must be familiar with HSS planning for CB environments. For HSS Unit Training, the doctrine recommends that HSS units must train in the use of collective protection (COLPRO) and contamination control, to include casualty

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[19]Biological and Chemical Defence Review Committee, "2002 Annual Report of the Biological and Chemical Defence Review Committee," http://www.vcds.dnd.ca/bcdrc/00native/annual-report-2002_e.pdf ; Internet; accessed 10 June 2005.

[20]Department of National Defence, B-GJ-005-311/FP-000 *Nuclear, Chemical, Biological Defence Strategic Doctrine* (Ottawa: DND Canada, 2005) 9-1-1.

[21]Department of National Defence, B-GJ-005-410/FP-000 *Health Services Support to Canadian Forces Operations (Ratification Draft)* (Ottawa: DND Canada, 2005) 9-3.

[22]*Ibid*., 9-17.

decontamination and evacuation.[23] Clearly, the HSS doctrine provides the general scope of training required to ensure HSS personnel are able to perform their medical duties in a CB environment. The question to be addressed is whether or not the currently available training opportunities meet these criteria.

CURRENT FIELD TRAINING

The HSS draft doctrine notes the requirement for HSS units and personnel to conduct training in order to ensure they are prepared to operate in a CB environment. The annual training guidance distributed to CF H Svcs Gp units reinforces the requirement for the units to conduct basic individual training, however there is no formal direction provided regarding collective training in this setting.[24] An informal survey of recent HSS field unit Commanding Officers (CO) has shown that due to resource constraints, the collective skills required for HSS personnel to effectively operate under CB conditions receive little attention during exercises. As noted by a former CO of 1 Field Ambulance, members of the unit conducted dry individual training, with only those personnel deploying on operational tours actually having their individual skills validated in a gas hut.[25] No CB component was incorporated into the unit field exercises during his tenure as CO. A similar lack of training was noted by the author during a posting to the same

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[23]*Ibid*., 9-17.

[24]Cmdre Margaret Kavanagh, *CF H Svcs Gp Commander's Annual Planning Guidance*, (CF H Svcs Gp HQ Ottawa: file 1243-2 (Comd), July 2005).

[25]Lieutenant-Colonel David Weger (CF H Svcs Gp HQ), e-mail correspondence with author 21 March 2006.

unit during a different period of time. These comments have essentially been echoed by a recent CO of 5 Field Ambulance, indicating a common trend within the field medical units.[26]

One notable exception to the trend is the training conducted in the recent past by the members of 1 Canadian Field Hospital (1 Cdn Fd Hosp), the CF's only Role 3 medical unit. 1 Cdn Fd Hosp exercised its COLPRO capabilities during field exercises as recently as 2003 in order to ensure its high readiness Advanced Surgical Centre could meet the capability requirement of functioning in a CB environment.[27] During the 2002-2004 period the unit was involved in writing Standard Operating Procedures for a patient decontamination centre and as part of its field training, 1 Cdn Fd Hosp collaborated with a non-medical unit in the establishment of one of these facilities during the Brigade Training Event in 2003. The unit was also involved in a number of other related CBRN training activities, providing support to other units as required.

This encouraging training tempo has waned recently, with the current CO noting no collective CB training has occurred in the past year.[28] A project to upgrade the unit's outdated COLPRO holdings has been delayed and the unit's recently acquired shelters are not COLPRO capable. New COLPRO tentage is currently being developed, but it is not expected to be available before 2010.[29]

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[26]Lieutenant-Colonel Danielle Savard, (4 H Svcs GP HQ), e-mail correspondence with author, 3 April 2006.

[27]Lieutenant-Colonel Carol Mitchell (CF H Svcs Gp HQ Det Edmonton), e-mail correspondence with author, 20 March 2006.

[28]Lieutenant-Colonel Dave Doyle (1 Cdn Fd Hosp), e-mail correspondence with author, 4 April 2006.

[29]Master Warrant Officer John Bucci (1 Cdn Fd Hosp), e-mail correspondence with author, 5 April 2006.

CURRENT FORMAL TRAINING

The principal military institution for the training of CF H Svcs Gp personnel is the Canadian Forces Medical Services School (CFMSS), located in Borden, Ontario. The school provides the occupation qualification training for the various medical trades, as well as courses related to medical services in the field. While there is no specific CBRN course, the topic is gradually being incorporated into many of the course training plans.

CFMSS provides clinical training to physicians and nurses concerning the classification, method of action and treatment of the various CB agents. While a great degree of the physician training focuses on the management of casualties exposed to the CB agents, both occupations receive training concerning the use of COLPRO, the use of personal protective equipment and casualty evacuation. A small portion of the training received by these two trades involves practical demonstrations in the applicable drills for operating in a CB environment, but there is no field portion to the program.

Two other medical occupations that receive clinical training at CFMSS are the Physician Assistants (PA) and the Medical Technicians. PAs are essentially senior Medical Technicians who have completed a two-year advanced medical training program that consists of instruction at CFMSS and a lengthy clinical placement component. At present, the PA curriculum is under review with the intention of including a CB component. As an interim solution, the present class will attend the four days of CBRN training provided to the physicians.[30]

As with the curriculum for the PAs, the training provided by CFMSS for Medical Technicians is also under revision, incorporating several recommendations that resulted from a working group held in May of 2005. The core module of the Medical Technician training does

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[30]Major Sean Blundell (CFMSS), e-mail correspondence with author, 27 March 2006.

not currently cover medical care in a CB environment due to recent developments in the HSS doctrine and resource shortages, however, the subject will be incorporated in future serials.[31] A review of the draft teaching points for this module indicate there will be less emphasis on the clinical aspects of managing CB casualties, focusing instead on such practical drills as patient decontamination and evacuation.

Understandably, the trade qualification training provided by CFMSS does not include a collective training aspect to develop CB defence skills. The occupational qualification courses are discrete programs, whereas collective training for any form of field medical care would necessitate the involvement of a number of trades in order to simulate the health care team aspect of HSS. A collective training exercise of ten physicians would not be logical, especially if the intent were to simulate a Field Ambulance environment where one physician might lead a team consisting of a Physician's Assistant plus several Medical Technicians. Unfortunately, the school is not in the position to offer multi-trade courses with significant field components, as would be appropriate for the instruction on providing medical care in a CB environment.

CFMSS provides a limited amount of CB training to one final HSS trade – the HSOs who occupy a number of senior planning and administrative positions within the headquarters and field units of CF H Svcs Gp. The training provided during the HSO qualification course covers concepts such as planning considerations for the provision of HSS in a CB environment as well as command and control issues. The HSO curriculum, which is currently under review, contains only one hour of instruction on this topic.

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[31]Major Paule Poulin (CFMSS), e-mail correspondence with author, 21 March 2006.

NEW TRAINING OPPORTUNITIES

A unique resource for CB training available to the CF H Svcs Gp exists within Defence Research and Development Canada (DRDC) Suffield. DRDC Suffield is the center of technical expertise for CB defence in Canada, serving as the only facility where the use of live chemical agents in training is authorized.[32] Training provided by the establishment involves equipment decontamination exercises and emergency response exercises for simulated terrorist attacks. This training is provided to a host of audiences, including members of the CF.

The establishment of DRDC Suffield's Counter Terrorism Technology Centre (CTTC) in 2003 was part of DND's response to the terrorist attacks of September 11, 2001. The mission of the CTTC is "to deliver superior live agent training, testing and scientific advice to [its] clients to enable safe operations in a high risk CBRN environment".[33] This unique facility could serve as a valuable collective training venue for the CF H Svcs Gp.

The focus of the CTTC is collective training. Groups conducting training at the facility generally possess a high level of CB defence skills and the CTTC allows them to work in a live agent environment, evaluating their tactics and techniques. The CTTC trains both medical and non-medical personnel, tailoring the instruction provided to the needs of the client.[34] As an example, units with a medical component are provided the opportunity to work with live pigs as casualty surrogates, enhancing the value of the practical clinical training they receive.

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[32]Defence Research and Development Canada, http://www.dres.dnd.ca/ResearchTech/Products/CB_PRODUCTS/RD95016/index_e.html ; Internet; accessed 25 January 2006.

[33]Counter Terrorism Technology Centre Capabilities, reproduced in the CTTC Medical Training CD-ROM [CD-ROM] (Suffield: Defence Research and Development Canada, 2006).

[34]Major Rodger Sloan (CTTC), e-mail correspondence with author, 23 March 2006.

HSS personnel first attend a basic course which includes working with live chemical, biological and radiological agents or sources in the lab environment. During this portion, they will manipulate, detect and identify a range of agents, giving the students confidence in their ability to work safely with the agents. Following this instruction, the HSS students move to an operating room suite where they observe a live pig exposed to a nerve agent while under an anaesthetic. This allows the students to view the progression of the symptomatic effects of the nerve agent, as well as the effect of timely administration of the appropriate medical countermeasures.

The observation phase of the training is followed by a practical hands-on component. Students have the opportunity to perform various invasive emergency procedures, such as intubation, while in MOPP 4. Finally, the training moves to the field setting where a variety of scenarios can be exercised to evaluate specific response capabilities, such as mass casualty evacuation and patient decontamination drills. The training program is usually completed over a five day period, however, this timeframe could be adjusted based on the client's need. Since the CTTC is not a sanctioned school within the CF, it is not bound by length restrictions on formalized courses, allowing organizations to put forward requests for periods of differing duration.[35]

The Director of the CTTC has expressed an interest in supporting increased training of CF H Svcs Gp personnel in CB defence, but admits there are currently restrictions due to limited resources at the CTTC. Over the past few years there has been an increasing demand for medical components to train at CTTC. Unfortunately, only a portion of these demands can be met due to a limited capacity at the facility, particularly with respect to the availability of the operating

[35] *Ibid*.

room suite. While there is a plan to improve this situation, it is estimated that the establishment of additional operating rooms may take up to five years to complete.[36]

Collective training opportunities are not limited to those available within the CF. The CF H Svcs Gp often draws on external sources for a variety of training resources, primarily related to clinical instruction. Efforts have been made to incorporate the management of casualties in the CBRN environment in this out-sourced training. A limited number of CF H Svcs Gp personnel have participated in courses such as the American Medical Management of Chemical and Biological Casualties Course or the Field Management of Chemical and Biological Casualties, as well as the British NBCD Medical Officer Course or Advanced NBC Staff Officer Course/Principles of War Surgery/NBC Medical Defence Course.[37] While these courses primarily represent individual training opportunities, they have only been attended by a limited number of CF H Svcs Gp personnel (on average, less than ten members per year attend any of these courses). Some of these courses do, however, have the potential to serve as a useful means of collective training for CF H Svcs Gp personnel.

The United States Army Medical Research Institute of Chemical Defence conducts the Field Management of Chemical and Biological Casualties course at Aberdeen Proving Ground in Maryland. This course is designed for a number of medical trades and consists of classroom, laboratory and field components. Classroom instruction covers some of the material provided by CFMSS, but also makes use of small group exercises to reinforce casualty management principles. The laboratory component, similar to the training available at CTTC, allows the students to observe the resuscitation of an animal exposed to a nerve agent simulant. Of key

[36]Major Rodger Sloan (CTTC), e-mail correspondence with author, 18 April 2006.

[37]Captain Tim Deline (CF H Svcs Gp HQ), e-mail correspondence with author, 7 March 2006.

interest to the matter of collective training, the course includes a two-day field exercise during which the students practice the principles of managing CB casualties using various scenarios.

As previously mentioned the CF H Svcs Gp has taken advantage of this course in the past, but primarily as an individual training venue. This course should be seen as an opportunity to provide valuable collective training to members of the deployable CF H Svcs Gp units. The course accommodates large numbers of students (over 120) and provides detailed exposure to the field aspect of providing HSS in a CB environment. A recent attendee noted that the course would be quite suitable to training unit/sub-unit elements of CF H Svcs Gp and that the instructors indicated a willingness to provide the training in Canada vice having large numbers of CF H Svcs Gp personnel travel to Maryland.[38] This option may represent a significant collective training opportunity for the CF H Svcs Gp and would offer the HSS personnel a much-needed opportunity to practice their medical skills in a CB environment.

CONCLUSION

Canada is fortunate to be considered as a country that is under no immediate or direct threat of a CB attack. Members of the CF, however, are often deployed to areas where this may not be the case. Consequently, complacency regarding matters of defence against CB threats can be deadly. In military medicine it is important to maintain "capabilities that are deliberately underutilized under normal conditions so that they can readily be deployed when contingencies arise."[39] Maintaining these underutilized skills, such as those required to function in a CB setting, cannot be done without effective and practical collective training.

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[38]Master Warrant Officer Marcel Pigeon (CFMSS), e-mail correspondence with author, 22 March 2006.

[39]Arthur M. Smith, "Military Medicine: Not the Same as Practicing Medicine in the Military," Armed Forces & Society 18, no.4 (Summer 1992):576-585; http://search.epnet.com; Internet; accessed 7 March 2006.

The provision of HSS in a CB environment poses several challenges for CF H Svcs Gp personnel. Casualty loads increase while productivity decreases. Medical resources are consumed more quickly at a time when logistics become more difficult to manage. HSS personnel must be able to protect themselves from the CB threat both in terms of direct exposure and as a consequence of handling contaminated casualties. Coping with these challenges requires more than classroom instruction in the principles of casualty care in a CB environment.

While appreciating that the CF H Svcs Gp does not have an abundance of funding or time to allocate to new training venues, the requirement to have its personnel capable of effectively operating in a CB environment should not be overlooked. Individual training, both of a clinical and practical self-protection nature, is currently conducted for CF H Svcs Gp personnel. Collective training in a simulated (or live agent) CB environment, however, is lacking. In order to improve this situation, as a minimum those field units designated to establish deployed medical facilities in upcoming operational tours should be given the opportunity and direction to conduct collective training in a CB environment. Once regular collective training opportunities can be established with units such as the CTTC, all deployable CF H Svcs Gp personnel should receive this training on a routine basis. While the common adage “practice makes perfect” might be difficult to apply to the capability of practicing medicine in the face of CB threats, at the very least, practice in the form of collective training will provide a degree of confidence and competence that it not being fostered at present.

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