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An Evaluation Perspective:

CF MEDICAL SUPPORT TO  
DEPLOYED OPERATIONS

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## LIST OF ACRONYMS

ABCA	America, Britain, Canada, Australia	HNS	Host nation support
ADM(Mat)	Assistant Deputy Minister (Materiel)	HSS	Health services support
ADM(HR-Mil)	Assistant Deputy Minister (Human Resources-Military)	ICU	Intensive Care Unit
AOR	Auxiliary oiler replenishment	IOR	Immediate Operational Requirement
APS	Active posting season	MAJAID	Major air disaster
ASF	Aeromedical Staging Facility	MO	Medical officer
BMET	Biomedical engineering technologist	MOSID	Military Occupational Structure Identification
CF	Canadian Forces	NATO	North Atlantic Treaty Organisation
CFFETs	Canadian Field Force Equipment Tables	NCM	Non-commissioned member
CF H Svcs Gp	Canadian Forces Health Services Group	NTM	Notice To Move
CAS	Chief of the Air Staff	PA	Physician's assistant
CLS	Chief of the Land Staff	PERSTEMPO	Personnel tempo
CMP	Chief Military Personnel	PML	Preferred manning level
CMS	Chief of the Maritime Staff	PRL	Primary Reserve List
CMTC	Canadian Manoeuvre Training Centre	Roto	Rotation
CRS	Chief Review Services	RW	Rotary wing
DAR	Directorate of Air Requirements	SOR	Statement of Requirement
DART	Disaster Assistance Response Team	TO&Es	Tables of Organization and Equipment
DGHS	Director General Health Services	TMST	Theatre Mission Specific Training
ECS	Environmental Chief of Staff	UOR	Unforecasted Operational Requirement
Forward AE	Forward aeromedical evacuation	VCDS	Vice Chief of the Defence Staff
FW	Fixed wing		



## SYNOPSIS

*This report presents the results of evaluation research conducted into Canadian Forces (CF) operations over the period 2001 to the end of Rotation 2 for Op ATHENA in December 2004, plus input from US operations up to March 2005. The research was conducted into the capacity of the Canadian Forces Health Services Group (CF H Svcs Gp) to provide modern, effective medical services in support of deployed forces. The evaluation work was requested by the Assistant Deputy Minister (Human Resources-Military). The conclusions of this research are based on analysis, including reference to activities and approaches adopted by our allies. The conclusions are reasoned and objective; however, they are not represented as definitive. Rather, they offer a perspective and recommendations for consideration by CF leadership. Further, in view of the progressive program of CF Transformation, the issues are presented in terms consistent with the current culture of constructive change.*

*An evaluation completed in 2004 dealing with CF readiness encountered certain perceptions regarding the capacity of the CF medical community to fully support the CF in operations on the modern battlefield. These views and the corresponding evaluation work preceded changes in defence policy and the attendant acceleration in CF Transformation. At the same time, we believe that the basic conditions observed, and the evaluation recommendations, continue to have relevance.*

*At the outset, it must be stated emphatically that the professionalism and dedication of the personnel who work within the CF H Svcs Gp cannot be questioned. Indeed, the delivery of medical support to CF operations over the last number of years has been a challenge given an increasingly complex and difficult series of deployed operations and in view of the critical shortages of uniformed health care providers.*

*This evaluation has concentrated principally on the most demanding and resource-intensive operational aspect of medical services support, which is support to deployed ground forces. Overall, it determined that the CF H Svcs Gp will have to modify its vision, force structure and force generation approaches to provide the most effective medical service to deployed CF operations. We observed an increasingly stretched organization, with noticeable personnel issues in recruiting and retention. In our considered view, even though the senior levels of the CF H Svcs Gp understand the realities of complex post-Cold War international deployments, this understanding is not uniformly shared across the CF H Svcs Gp. As a result, the required organizational, doctrinal and equipment changes have not been made.*

*Overall, the CF H Svcs Gp field forces, both Regular and Reserve, are not structured for modern managed-readiness expeditionary warfare, and are unlikely to be able to provide effective medical support for many of the existing Defence Plan 2005/2006 directed high readiness tasks within directed timelines. Although it has proven it can bring together the required capabilities in an ad hoc fashion, without organizational and doctrinal change, the CF H Svcs Gp will not be able to reach and sustain a high enough readiness level to support CF Task Forces over the long term as envisioned in current defence policy.*



*The proposed recommendations for this evaluation concentrate principally on achieving a better understanding throughout the CF H Svcs Gp and the CF at large that medical support to operations is a continuum of care that incorporates medical support to deployed forces, and that medical support provided in-garrison. This requires a change of vision for the CF health services. To support this, the evaluation recommendations are aimed at organizational change and renewal, plus a more focused and disciplined approach to training for both medical and non-medical personnel. There are a multitude of organizational options, training opportunities, and life-saving equipment available through our closest allies. Ensuring the provision of modern, effective medical care will require that the CF take advantage of these opportunities.*



## RESULTS IN BRIEF

The Canadian Forces Health Services Group (CF H Svcs Gp) provides a continuum of operational readiness care from pre- and post-deployment care in-garrison, to the provision of health care in an operational setting. The goal is to provide a standard of care, which mirrors what the average Canadian could expect to achieve. This task is not easily accomplished given the dispersal of limited resources throughout Canada and the complexity of today's operational environment. The demands placed upon the CF H Svcs Gp at home can make the delivery of direct operational support challenging.

Given these challenges, the CF H Svcs Gp will be required to re-balance the support needed for deployed operations as part of the overall continuum of care for the Canadian Forces (CF). This effort will require the attention of the CF Transformation Team.

A 1999 Chief Review Services (CRS) evaluation of the CF medical system's continuity of patient care and other garrison support issues prompted a major renewal program within the CF medical services. Project Rx2000 is the most visible component of this renewal. Significant attention and resources have been invested in garrison-centred care portions of the health care continuum. There have also been changes in command and control relationships between the CF H Svcs Gp and the Environmental Chiefs of Staff (ECS) to enable a more responsive health care system for the CF. The impact on command and control and force generation of the new command structures flowing out of the CF Transformation initiatives has yet to be determined and needs to be monitored. The CF H Svcs Gp has strived to achieve an appropriately patient-centred focus; a challenge which persists. At the same time, we are concerned that there is an imbalance between medical support provided in-garrison and that which is provided to deployed operations.

### Learning from Others

Absorbing lessons since the Gulf War in 1991, Canada's closest allies—the United States, Great Britain, and Australia—have significantly restructured their military medical service operational support. This has reflected fifteen years of experience in both modern “mid-intensity” and asymmetric warfare, where advances in medical and military technology and doctrine, combined with changing threats and wounding patterns, have resulted in more mobile, effective and efficient organizations. Although the CF medical services have made some changes in training, and understand to a greater extent the needs of modern warfare, organizationally and doctrinally they have not kept pace with these developments.

Canada's allies have moved away from the traditional linear Role 1, Role 2, Role 3 patient flow patterns, with fixed formation and unit boundaries and a known “front line” and “rear area.” They have changed the whole medical dynamic. Now, a wounded service member is immediately subject to advanced life-saving treatment by either a “combat” medic, or specially trained non-medical member. Depending on the severity of the wound, and tactical situation, casualty evacuation by air normally follows. The patient will then be taken directly to the first available surgical facility—in the past only to be found in full-sized, relatively immobile field



hospitals. This surgical capability can now occur at an advanced surgical centre or field surgical team set up as part of a forward medical centre. If the patient has to stay more than 72 hours in a medical facility, he/she is moved out of theatre to a Level 4 (i.e., static) facility.

The CF medical services understand the concepts noted above and have changed internal processes with available resources to match some of this new way of doing business. They regularly deploy an *ad hoc* Health Services Support company formed from elements of a field ambulance unit, with an Advanced Surgical Centre from 1 Canadian Field Hospital in a centralized location to support CF deployed operations.

What has not happened, however, is the development of supporting medical and non-medical operational doctrine, along with a realignment of organizations, personnel and equipment establishments to meet the challenges of the modern battlefield.

## Equipment

The utility of CF land-based tactical casualty evacuation on international operations, either using unarmoured light wheeled ambulances or the slightly heavier Bison ambulance, is becoming more constrained by both the timeliness of treatment factor, and the risk factors associated with the vulnerability of these vehicles. Without a “front line” or a “rear area” on the modern battlefield, hostile forces are now specifically targeting military ambulances, and the protective convoy that must now accompany these vehicles is also at a much higher risk.<sup>1</sup>

Forward aeromedical evacuation (forward AE) is an area where the current state of CF capability is very limited. The CF lacks a dedicated forward AE capability and has in the past, working in lower threat theatres, accepted a certain degree of risk and has negotiated this support with allied or lead nations for every deployment. In these lower risk theatres, this has worked fairly well but relying on the negotiated evacuation capability introduces additional risk for CF personnel, since the CF could very well take second priority in any forward AE priority list.

The air force and CF H Svcs Gp are working in collaboration to address the new challenges in the AE realm. There are ongoing discussions between the air force and the CF medical services on the necessity of integral AE capabilities. Several options are being looked at from modifications of current aircraft oxygen systems, to procurement of patient support pallets, to a reconfiguration of designated aircraft. Also, the potential use of an aircraft for AE is taken into consideration and specified in the statement of requirements for new aircraft acquisition. This issue requires visibility and direction through CF Transformation activities.

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<sup>1</sup> Comd US CENTCOM Medical Services in Kuwait/Iraq Interview 3 March 2004.





## Personnel

One positive trend in modern warfare is the increased survival rate of wounded service members. This is due to a number of factors, not the least of which are increased personal ballistic protection and advanced medical intervention. The CF has responded quite effectively to many of the personal ballistic protection issues through its “Clothe the Soldier” program. The CF H Svcs Gp needs to remain attuned to the rapid advances in modern military medical training, tactics, techniques and equipment.

The CF medical services have, in recent years, sent uniformed physicians and surgeons to institutions or locations outside of Canada where advanced battlefield trauma treatment skills can be learned. Virtually all CF physicians and surgeons are trained and accredited to Canadian civilian health care and trauma treatment standards. While this provides a baseline of medical knowledge for treatments, it does not take full advantage of a number of advances in military combat medicine. Military medical specialists, and selected non-medical members, should be trained to treat complex blast injuries.

The current Reserve Occupation structure is not compatible with its Regular Force counterparts. Unlike our principal allies, the bulk of the CF medical reserves serving in the field force units are not capable of being deployed where ground combat operations are likely, particularly for a short-notice deployment. The CF medical reserves are still structured and organized to support a long lead-time conflict involving general mobilization. In such circumstances, shortfalls in training and experience could be overcome by an influx of trained medical personnel from the civilian community. This legacy posture can be useful in a no/low threat domestic operation for transport and *first aid* type assistance. However, with the current emphasis on managed readiness to support expeditionary warfare, the current structures do not lend themselves to an effective or efficient use of the medical reserves. They cannot be used to help offset the current personnel tempo (PERSTEMPO) issues, which have significantly affected the military medical community.

## Training

The training of medical and non-medical personnel must keep up with today’s wound patterns and treatment procedures. To that end, the medical services must continue with the enhanced medical technician and physician’s assistant (PA) training that is currently under way for both the Regular Force and Reserves, and continue to provide additional trauma training in Canadian institutions and with our allies whenever possible. Likewise, the delivery of a Tactical Combat Casualty Care Course to selected non-medical personnel must become standard operating procedure for all deploying forces, both Regular and Reserve. Although physician and nursing staff are exposed to trauma and trained on trauma management in Canada, the reality is that additional training in conjunction with our allies would enhance these specialized skills and better prepare deploying medical personnel.





## Future Capacity

Post-Cold War CF operational deployments have substantially demonstrated the CF's capability to conduct elements of what is now called the "Three Block War"; that is, simultaneous combat, civilian security support, and humanitarian and reconstruction operations. Thankfully, the CF medical services have not had to deal with any significant volume of combat injuries over the last fourteen years. At the same time, they have shown themselves to be very capable of providing support to humanitarian efforts and civilian outreach programs during operational deployments.

What has been lacking in respect of recent CF international deployments has been a timely and coherent policy for the provision of this humanitarian support from a medical perspective as part of the overall pre-deployment operational planning for humanitarian/civil affairs support effort.

## Overall Assessment

The proposed recommendations of this evaluation concentrate mainly on achieving an improved balance between medical support to deployed forces and that provided for in-garrison support. This requires a change of vision for the CF medical services. To support this change, recommendations are aimed at organizational change and renewal, plus a more focused and disciplined approach to training for both medical and non-medical personnel. There are a multitude of organizational options, training opportunities, and life-saving equipment accessible through our closest allies. Taking advantage of these changes and opportunities is key to ensuring modern and effective medical care to all CF personnel.

Overall, the CF H Svcs Gp has not structured or trained its field forces, Regular and Reserve, for modern managed-readiness expeditionary warfare, and cannot provide timely, effective medical support for many of the directed high-readiness tasks included in Defence Plan 2005/2006 within directed timelines. There is a need for a better understanding throughout the CF that operational support is more than direct support to operations, but also includes operational readiness care provided in-garrison.

## Organization and Doctrine

Without organizational and doctrinal change, the CF H Svcs Gp will not be capable of reaching a high enough readiness level to support CF Task Forces as envisioned in the new CF Defence Policy Statement.

There is a need to conduct a field force review for both Regular Force and Reserve Force and revise and standardize medical unit Tables of Organization and Equipment (TO&Es) to reflect new operational requirements.



Given that Canada wants to be able to take unilateral action or act as a lead nation, and the current defence policy framework retains a deployable brigade-level Joint Task Force option, a Role 3 capability remains essential.

There is a need to develop an integrated 1 Canadian Field Hospital/Health Services Support Battalion/Health Services Support Company concept to better provide initial surgery and short-term hospitalization support to Joint Task Forces.

Application of operational medical doctrine needs to be adapted to non-linear combat operations and the rising asymmetric threat.

### Training

There is a continuing need to provide enhanced combat trauma treatment training to both medical and non-medical personnel.

Although life-saving equipment such as Quick Clot dressings and one-handed tourniquets have recently been acquired, there remains a need to continually review first aid/medical standards and individual equipment to recognize the peculiarities of combat, i.e., emphasis on life-saving actions by both medical and non-medical personnel.

There is a need to develop the field operational command and control skills of medical leaders at all levels.

### Personnel

From a pure numbers perspective, if all positions were filled, current CF H Svcs Gp occupation strengths would still be inadequate to support the deployed operational capability envisioned in the new defence policy framework, while maintaining optimum in-garrison readiness. Some adjustments in health services skill sets are required to meet these demands.

The numbers of available specialist personnel are a limiting factor for operational deployments.

There is a particularly important need to develop an operationally focused, employable and deployable medical reserve component.

### Equipment and Logistics

Improved AE capabilities should be investigated as part of the force packages envisioned in the new defence policy framework.

There is a need to improve medical equipment procurement and life-cycle management processes for both Regular and Reserve Forces.



## MANAGEMENT ACTION PLAN

CRS RECOMMENDATION	OPI	MANAGEMENT ACTION
1. <b>Vision.</b> Ensure a vision statement for the CF H Svcs Gp that reflects the continuum of operational health care and the high priority of delivering a deployable medical support capability.	OPI: CMP OCI: VCDS	Agree. As part of the CF H Svcs Gp strategic planning process, the Gp leadership discussed at length the alignment of our mission, vision and value statements to ensure they reflect the operational focus of the CF. Command Council held in April 2006 was the start of a nine-month planning process to align all CF H Svcs Gp activities with the current operational imperatives in the CF H Svcs Gp Strategic Plan looking out 3-5 years.
2. <b>Structure.</b> Restructure the medical field forces to focus on managed-readiness expeditionary capabilities, including the capability of integrating restructured Role 2 units with a surgical support capability provided through 1 Canadian Field Hospital. Put in place standardized TO&Es for these reorganized units.	CMP	Agree. Due to the operational deployment of key personnel, the analysis for the restructure of the CF H Svcs Gp field forces was originally planned to begin in APS 06; however, this activity commenced effective 24 April 2006. Initial planning guidance for Operation Blueprint has been issued and it outlines the intended direction for the field force/doctrine review. The final outcome will be a comprehensive Health Services Field Force review which will include the Fd Hosp, Fd Ambs (Regular and Reserve), Medical Specialist establishments and Environment interoperabilities.
3. <b>Readiness.</b> Through a managed operational readiness posture, ensure appropriate medical field force elements at the unit and sub-unit level are capable of responding to the new 10-day Notice To Move (NTM) timeline to support high-readiness forces.	OPI: CMP OCI: VCDS	Agree. CF H Svcs Gp will comply with the overall CF operational readiness timelines as dictated in CF policy once it is clearly articulated.
4. <b>Field Hospital.</b> Retain a Role 3 capability needed to support any deployment where this level of support either cannot be assured in-theatre, or where Canada chooses to undertake this level of support for itself. This will require a Role 3 capability with increased mobility and modularity. Collective training should be focused at the Canadian Manoeuvre Training Centre (CMTC) Wainwright.	CMP	Agree. The CF H Svcs Gp Field Force review will recommend solutions to address the specific issues of specialist care, surgical and patient holding requirements, patient evacuation requirements plus increased mobility and modularity. Role 1 collective training for Op ATHENA/ARCHER has been conducted at CMTC Wainwright while Role 2/3 training completed in Petawawa. It is expected that all future collective training will continue to be conducted at CMTC as dictated by the operational requirements and the managed readiness policy.  A staff paper has been produced with recommendations to adjust upward the PML for specialist medical and dental officers. A follow-on evaluation of other critical specialist MOSIDs (e.g., BMET, etc.) is required.
5. <b>Training.</b> Provide enhanced combat medicine training for both medical and non-medical personnel with particular focus on combat life-saving techniques, advanced trauma treatment, and improved individual equipment. For Health Services personnel, continue to	OPI: CMP OCIs: CMS, CLS, CAS, ADM(Mat)	Agree. For medical officers (MO) and PAs, training includes Advanced Cardiac Life Support and Advanced Trauma Life Support training. There is also an on-going maintenance of clinical skills program with clinicians working in civilian health care facilities. Prior to deployment, MOs, critical care nursing officers, PAs and medical technicians have their trauma



CRS RECOMMENDATION	OPI	MANAGEMENT ACTION
make use of available real-world experience through both civilian health care facilities and temporary duty periods in the United States and abroad as opportunity arises.		treatment skills fine-tuned at the CF Trauma Training Centre in Vancouver, B.C. The CF H Svcs Gp will continue to pursue opportunities to train with our allies where it is feasible to do so.
6. <b>Reserves.</b> Focus ongoing medical Reserve Force restructuring on bringing Reserve occupation standards to Regular Force levels in order to make Reservists employable on deployed operations and help alleviate current PERSTEMPO sustainment issues for Regular Force personnel. Enlarge and strengthen the PML with a focus on MOSIDs in critical demand.	OPI: CMP OCI: VCDS	<p>Agree. The Health Services Primary Reserve List is being used to enrol clinicians who need a more flexible parading status (14 days/yr vice 70 days/yr for most Primary Reserve organizations) and who keep up their clinical skills through their civilian employment. The Health Services Primary Reserve field units are undergoing preliminary changes to their establishments to allow them to recruit, train and retain all those MOSIDs currently found in the Regular Force, effectively expanding the clinical complement past the traditional general duty MOs and medical assistants.</p> <p>All Reserve Health Services occupations are currently undergoing the MOSART process with the intended outcome of ensuring that the H Svcs Reserves significantly increase their capability to sustain through a fully aligned OS and greatly adjusted establishments.</p>
7. <b>Medical Lift.</b> To support the envisioned expeditionary force capability outlined in the new defence policy framework, ensure that all CF aircraft have an air evacuation capability. Identify deployed platforms that can be used for forward AE either as stand-alone platforms or as add-on packages to existing or proposed airframes. Acquire or ensure the capability to provide strategic evacuation, fixed-wing intra-theatre allowing “critical care in the air” and mass casualty movement capability.	OPI: CMP/CAS  OCIs: VCDS, ADM(Mat), CMS, CLS	<p>Agree. The Air Force is aware that any aircraft (rotary wing (RW) or fixed wing (FW)) can potentially be used for AE missions. Therefore, DAR includes AE capability in all new aircraft acquisition statement of requirement (SOR). DAR and CAS Med advisor work together to define the required AE capability to be included in the SOR. Potentially any CF aircraft (RW or FW), except fighter aircrafts, could be used as a platform of opportunity for AE. In the current deployed scenario, the CH 146 Griffon could be used for forward casualty evacuation. The CC 130 Hercules can be used for intra-theatre tactical AE. Currently, the CF uses the CC 150 (Airbus 310) and CC 144 (Challenger) for strategic AE. Both these aircraft can be used to repatriate critically ill or injured personnel. The CF has the medical equipment and personnel to look after a maximum of four critically ill casualties in the CC 150 and two aboard the CC 144, plus several more casualties of lesser degree of gravity of illness or injury. The rate-limiting factor in repatriation of critically ill/injured personnel is the availability of trained Intensive Care Unit (ICU)-level medical personnel (anaesthetists, surgeons, intensivist, ICU-trained nurses). The CC 150 has the potential to be totally reconfigured with stretcher litters for the repatriation of mass casualties. CAS Med Advisor and 1 Cdn Air Division Surgeon offices are looking at a plan similar to that of the German Air Force to adapt the former Boeing 707 stretcher litters into the CC 150 (Airbus). The CF has three CC 150 that could be configured in such a way.</p>



CRS RECOMMENDATION	OPI	MANAGEMENT ACTION
8. <b>Performance Indicators.</b> Implement and monitor, on an ongoing basis, a series of targeted performance indicators related to key operational measures. A series of draft performance measures are outlined at Annex A for consideration.	CMP	Agree. A performance management process, which is just being introduced to the CF H Svcs Gp, will accommodate the areas suggested.



## INTRODUCTION

In 1999, a CRS evaluation of CF medical services was conducted with a principal focus on issues of garrison care and the continuity of care for sick and injured CF members in Canada. The Project Rx2000 mandate was amended by the Canadian Forces Medical Group (now CF H Svcs Gp) to address the identified problems. Improving health care at home has a direct impact on operations in that it supports operational readiness. Neither the 1999 CRS evaluation, nor recent management initiatives, dealt specifically with medical deployed operational capability.

An October 2004 CRS report, *Perspectives on CF Vanguard Readiness and Sustainment*, presented the results of an evaluation of Vanguard/Main Contingency Force readiness and sustainment. The evaluation encountered issues pertaining to the CF H Svcs Gp's capacity to fully support the CF in operations on the modern battlefield. The concerns were in the areas of command and control associated with a reorganization of medical resources, modern non-linear battlefield "soldier skills requirements," the extent to which CF medical and non-medical doctrine dealt with risks of dramatic trauma injuries, as well as issues related to equipment and training.

As a result, Assistant Deputy Minister (Human Resources-Military) (ADM(HR-Mil)) requested a CRS evaluation of the capability of the CF medical services to support deployed operations.

### Methodology

To assess the medical support capability required to respond to Canada's international commitments and extending beyond continuous in-garrison medical care to CF members in Canada, the following steps were taken:

- A review of classified and open-source literature, internal documentation, policies and agreements;
- An examination of medical readiness and sustainment issues from the perspective of stakeholders, inside and outside the CF/DND;
- A comparison of the CF medical requirements for deployed operations with those of our America, Britain, Canada, Australia (ABCA) allies for similar tasks; and
- A risk assessment for CF medical capabilities to support deployed operations along with proposed readiness and sustainment performance indicators.

### Scope

The CF H Svcs Gp, in addition to providing garrison medical and dental support in Canada and at selected international locations, must be prepared to support the following directed high-readiness operational tasks, as per Defence Plan 2005/06:



- A Naval Task Group;
- An Army Brigade Group or two Battle Groups in different areas of operation;
- An Infantry Battalion Group as part of a sustained commitment;
- Several Air Force Vanguard/Main Contingency Forces (e.g., 6 X CF-18s);
- Disaster Assistance Response Team (DART) and response to a major air disaster (MAJAID); and
- Emergency medical support to civilians employed in support of operations.

In reviewing the medical support requirements for each of these tasks, it was considered that support to the land forces tasks has the potential to be the most demanding in terms of both manpower and equipment. Medical support to the land force tasks presents the largest readiness and sustainment challenge to the CF medical system and is therefore the principal focus of this evaluation. This readiness and sustainment challenge applies particularly to international deployments where a lack of infrastructure and host nation support (HNS) is often the case. This is unlike Canadian domestic deployments which, mobility and deployability issues aside, will normally require less stringent security and training requirements.

### CF Health Services Group Operational Support Structure

The CF H Svcs Gp is structured on a regional basis and provides both garrison and deployed operational medical and dental support to all CF personnel including Regular Force, Reserve Force (when on duty), bases and stations, and recruiting centres across Canada. The principal support structures are as per the table below:

Regular Force Army—Medical Support	1, 2 and 5 Field Ambulances, which remain affiliated with their respective Brigade Groups
Regular Force Navy—Medical Support	CF Health Services Centres Atlantic and Pacific
Regular Force Air Force—Medical Support	Wing clinics at each operational air base and station
All Regular Force—Dental Support	1 Dental Unit supports all three Environments in Canada and in Europe



All Regular Force	<p>All base clinics are tasked to support the local commanders in their operational readiness mission and are to be prepared to provide deployable personnel</p> <p>1 Canadian Field Hospital, with third-line equipment and support provided through the Central Medical Equipment Depot</p>
Reserve Field Ambulances	<p>11 (Vic), 12 (Van), 15 (Edm &amp; Cal), 16/17 (MB &amp; SK), 18 (TB), 23 (Ham), 25 (Tor), 28 (Ott), 51 (Mtl), 52 (Sher), 55 (QC), 33 (Hfx), and 35 (Syd) all provide health service support to their affiliated Reserve brigade</p>
CF H Svcs Primary Reserve List (PRL)	<p>Reserve clinicians and Class B workforce supporting all parts of the organization and providing a deployable capability at a higher degree of clinical readiness than the Reserve field ambulances</p>

## Command Structure

The CF H Svcs Gp has a centralized headquarters in the National Capital Region. The headquarters group functions in a similar manner to a “command” or “formation” level headquarters. In addition to providing strategic and operational advice, this hybrid headquarters manages a national-level health care system, which poses its own unique set of challenges and requirements. The headquarters has integral centralized “operational level” intelligence, operations, force health protection, plans and training, finance, human resources, health care delivery, and procurement and supply functions.

Excluding military pay, the CF H Svcs Gp budget allocation for FY 2005/06 includes \$196.8 million (78.4 percent) for operational readiness care, \$14.6 million (5.9 percent) for command and control, and \$36.3 million (14.7 percent) directly attributed to operations. This latter figure includes individual and collective training for the Regular and Reserve Forces plus force health protection. An additional \$44.4 million was spent on Rx2000 initiatives, some of which are related to enhancing operational support.

Role 1 and 2 medical and dental care in-garrison is provided through more than 120 units and detachments. Role 3 and 4 care in Canada is provided through contracted civilian facilities (definitions of role/level of care follow). The main stakeholders for medical and dental care are the three ECS and operational commanders as force employers for both domestic and international operations.



**Canadian Forces Definitions of “Role/Echelon” of Medical/Dental Care****Medical Support—Land/Air Medical Treatment Facilities**

- a. **Role 1.** This Role entails providing primary health care, locating casualties, providing first aid and emergency medical care, evacuating casualties from the point of injury/illness to a safer location, sorting patients according to treatment precedence, and stabilizing them in preparation for evacuation to another Role of care, as/if required.
- b. **Role 2.** This Role emphasizes efficient and rapid evacuation of stabilized patients from supported elements, and en route staging and sustaining care. Emergency life-saving procedures may be performed. Depending on the evacuation policy, patients who require minor care may be held for short periods and returned to duty. Medical re-supply may be provided to supported Role 1 facilities.
- c. **Role 3.** This Role provides resuscitation, initial surgery, post-operative care, and short-term medical and surgical in-patient care. Diagnostic services such as x-ray and laboratory, and limited scope internal medicine and psychiatric services are available. Reception and storage of medical supplies and blood, and distribution to supported units is provided, as well as repair of medical equipment within the area of operations. Other ancillary capabilities include national medical liaison teams for tracking Canadian patients in allied or host-nation facilities, intra-theatre evacuation and air medical evacuation staging.
- d. **Role 4.** This Role includes definitive care, re-constructive surgery, rehabilitation, storage and distribution of national medical stocks, and major repair or procurement of medical and dental equipment.

**Medical Support—Maritime Medical Treatment Facilities**

- a. **Echelon 1.** This Echelon provides basic integral primary health care in support of individual units. Capabilities are limited to resuscitation, stabilization and those described in Role 1. Where no medical staff are part of the unit, care is limited to self and buddy care, through to ships with medical personnel but no physician, to ships with medical officers and staff.
- b. **Echelon 2.** This Echelon provides emergency surgery. There is limited post-operative holding capacity and therefore evacuation is essential to sustain the recovery of patients.
- c. **Echelon 3.** This Echelon provides specialist surgical teams and more advanced medical support. Essentially, this Echelon is the equivalent of the Land Role 3.
- d. **Echelon 4.** This Echelon provides full and definitive medical treatment and is the same as the Land Role 4.

Deployed medical support for individual naval warships and a naval task group is normally limited to a PA aboard the City-class frigates and Upholder-class submarines, a medical staff with MO on board the Tribal-class destroyers, and an MO with PA on board the AORs. Care is limited to Role 1 and minimal Role 2. Allied/coalition resources provide any treatment beyond these levels either ashore or on other nations' vessels.

Deployed medical support for air force deployed contingents consists only of Role 1, including the presence of a flight surgeon (a general duty MO with specialized air-related Occupation Specialty Specification, not a “surgeon” in the specialist sense).

The most complex and resource-consuming effort required from CF H Svcs Gp is the provision of medical support to the land forces, which is the principal focus of this evaluation. Depending on location, task and troop numbers, land forces, and potentially a Canadian Joint Task Force, the full spectrum of medical care from Role 1 through to Role 3 in theatre, with Role 4 provided in Canada or at an allied medical facility, is required.



## KEY FINDINGS

The capabilities of the CF H Svcs Gp were evaluated against a number of areas. Key areas evaluated were equipment; manpower; collective performance issues, including doctrine and deployability; and sustainability issues.

### Equipment Issues

There is a need to rationalize the equipment used by the three Field Ambulances of the CF H Svcs Gp. There is no standardization of existing equipment scales as all three Field Ambulances have different sets of equipment. Equipment scales of issue have not been formally reviewed and revised since the end of the Cold War when the use of Canadian Field Force Equipment Tables (CFFETs) was discontinued in the early 1990s. On a number of CF operational deployments over the last 14 years, deployed specialist medical staffs have ordered items with which they are familiar in their civilian practice, but are not on any existing CF scale of issue and were therefore procured under either the Unforecasted Operational Requirement (UOR) or the Immediate Operational Requirement (IOR) processes.

Documentation indicates that the current CF Role 3 equipment necessary to support 1 Canadian Field Hospital for a brigade-sized Joint Task Force was purchased for “peace support operations” only. It is capable of modular deployments, but with a reduced patient holding capability compared to previous field hospital unit configurations. The 1980s/90s North Atlantic Treaty Organisation (NATO) estimate to support a brigade group in mid to high-intensity combat during the Cold War was a 400-bed field hospital. However, CF and allied experience in asymmetric warfare (albeit with less capable opponents than the former Soviet Union) over the past decade, along with revised medical practice and patient flow doctrine, has challenged the Cold War NATO casualty projection/patient holding estimates. Some of the equipment acquired for the CF Role 3 (in the Advanced Surgical Centre capacity) has been used successfully in the *ad hoc* medical organizations, which have been deployed on a number of CF operations since 1991.

Since Canada wants to maintain a certain level of autonomy to choose where and when it wishes to intervene militarily, a Role 3 capability must be maintained. However, the current field hospital equipment establishment that had been considered only suitable for peace support operations in the 1990s has actually proven itself capable of being adapted to a multitude of options for the CF in modern combat operations.

There is a concern with respect to the provision of rotary wing/fixed wing tactical casualty evacuation (forward AE), and to some extent fixed wing intra-theatre AE (tactical AE). The CF does not possess dedicated airframes for these roles and relies on aircrafts of opportunity. With the changing threats in modern warfare wherein opponents have specifically targeted medical personnel and their patients, the CF's lightly armoured/non-armoured ground ambulances are at far greater risk than in the past, and now need heavily armed and armoured security detachments to accompany them. Due to a lack of CF AE resources, there has been an ongoing need to establish forward AE guarantees with HNS/lead nation/third parties for Role 3 and beyond medical capabilities on all CF deployed



operations since 1991. To date, this has worked fairly well, but relying on the negotiated evacuation capability introduces additional risk for CF personnel, particularly in the event that evacuation priorities become an issue. Since AE is a joint air force and CF H Svcs Gp responsibility, each must be willing to contribute resources for the successful outcome of this capability. The CF H Svcs Gp recognizes that it is responsible for force generation of trained AE personnel and purchase and maintenance of medical equipment, while the air force is responsible for providing airlift capability for completion of the missions.

Speed of evacuation of patients distinguishes military medicine in modern conflicts. To do this successfully, the CF needs an assured capability for casualty evacuation and the determination and publication of modern, standardized equipment scales of issue for its field forces.

## Manpower Issues

### Personnel Shortages

Critical shortages in the CF H Svcs Gp are found in certain key areas, in particular:

- **Medical Officers.** There are shortages of general duty medical officers at the captain/major levels (there exists only 57 of the authorized 99 as of January 2005). As these are the principal medical “working ranks” for doctors on deployed operations, these shortages affect both individual and collective readiness, and sustainment capabilities.
- **Specialists.** Surgeons (both general and orthopaedic), anaesthetists, and ICU nurses are in critical short supply to the point where sustainment beyond one year in an operational deployment has been questioned by the CF H Svcs Gp. There are ongoing difficulties in recruiting, employing, and retaining these specialists.
- **Medical Technicians.** Total overall non-commissioned member (NCM) med tech numbers indicate that there is no personnel shortfall in this occupation (1,280 all ranks and specialties as of April 2005). What has been found to be lacking are the experienced personnel at the TQ5A/B (Corporal/Master Corporal with 5-8+ years service) and TQ6A levels (Sergeant with 8-12+ years service) who can be relied upon to operate with minimal supervision on deployed operations.
- **Physician’s Assistant.** There are current shortfalls in the TQ6B/TQ7 PA category (Warrant Officer and Master Warrant Officer) that will take several years to remediate under the new comprehensive PA training program now under way.



## Human Resource Management

- A coordinated approach to medical human resource management is hindered by the lack of a centralized function within the CF H Svcs Gp.

## Reserve Forces

- The Medical Reserve Force occupation structure is not aligned with the Regular Force occupation structure. Reserve Forces are not trained to the same standards as their Regular Force counterparts and are therefore not readily employable on deployed international operations, particularly for short notice deployments in a combat setting.

## Tables of Organization & Equipment

- The often unpredictable *ad hoc* nature of TO&E development for each deployed operation makes human resource planning and tasking extremely difficult for the CF H Svcs Gp both within the Regular Force clinicians and the Reserve Force augmentees.

## Personnel Readiness

- Out of necessity, multi-tasking of scarce health support resources occurs on a regular basis. The unfortunate result is that multi-tasking of the same resources makes individual managed-readiness unpredictable. For example, the same individuals may be simultaneously assigned to garrison and field support to resident formations and units for their Army Training and Operations Framework cycle, plus MAJAID/DART high readiness tasks, and *ad hoc* sub-unit Role 2 and initial surgery and short-term hospitalization international deployments. Those medical and non-medical support personnel assigned to augment an operation from outside the field formation, which is providing the bulk of a deployed force, are less likely to be trained to an appropriate readiness level for a deployment upon arrival.

## Individual Training

- The focus of CF medical training is presently oriented toward gaining and maintaining the best possible skills to meet the operational requirements of the CF. Within the construct of the Canadian health system, civilian accreditation and meeting civilian hospital or emergency services trauma treatment standards is a requirement to attain and maintain these skills. Although not directly attributable to advanced combat medicine, this is the reality of training in Canada. Additional training and experience as being practised by the other ABCA nations would enhance the skills of CF H Svcs Gp personnel.



- Acquiring enhanced combat medical skills, including advanced trauma treatment training, at all ranks both inside and outside of the health services occupations is not easily attained. Exposure to civilian trauma and simulation training at unit level, plus the Vancouver and Valcartier training centres remain proxies for the real experience. Efforts to provide more training should be undertaken where possible.
- Despite conducting a pilot Tactical Combat Casualty Care course, there is currently a lack of institutionalized formal first-responder/combat life-saver type advance trauma training for non-medical personnel.

The CF H Svcs Gp has little exposure to foreign militaries in that there are very few exchange, liaison or Advanced Training List positions filled by CF medical personnel. Those positions that do exist, and are filled, only provide limited value to the rest of the CF in that few transferable modern military medical skills are acquired, or operational experience gained.

The new defence policy framework includes the need to meet the NATO Response Force High Readiness timeline of 10 days' NTM for a number of operational deployment options including special forces and conventional force tasks. This will necessitate that all high-readiness medical personnel be ready to deploy and be current in advanced combat medicine, combat life-saving and trauma treatment—and this is not presently the case. Unlike past deployments and Cold War planning scenarios where there was significant time available for pre-deployment training, meeting the 10-day or less NATO Response Force High Readiness requirements will not allow training time prior to departure.

The CF H Svcs Gp is facing recruitment and retention issues with a number of occupations experiencing shortfalls. There is also a less-than-ideal level of advanced military medical skills training for both medical and non-medical personnel. This is compounded by the lack of a coordinated human resource approach at the Group headquarters level. This will impact the planning for, and training of, personnel to meet the higher readiness requirements of the new defence policy framework.

## Collective Performance Issues

### Maintenance of Collective Skills

- 1 Canadian Field Hospital and the three field ambulances have conducted a degree of formal collective training over the past seven years.
- Those medical unit and sub-unit organizations that have undertaken routine training have often not deployed in the same organizational configurations in which they had trained, which has impacted on overall unit/sub-unit readiness. Health services support (HSS) elements are task-tailored to provide the appropriate support for each task force. Pre-deployment training is routinely conducted to ensure that HSS elements are certified as operationally ready prior to deployment.



## Pre-deployment Training

- Synchronicity of training requirements between medical units/sub-units and units from the same base/formation preparing for a deployment has been achieved, in spite of ongoing garrison support plus the requirement to provide medical support to other units preparing for operations. The CF H Svcs Gp chain of command ensures that each individual who is tasked to deploy is clinically ready prior to the operational readiness exercise.
- Both collective and individual training of augmentees for operational deployments has been a problem area. This includes medical and non-medical NCMs, and specialist and non-specialist medical officers and NCMs. This area has seen improvements now that the CF H Svcs Gp can oversee this training.
- The ongoing training focus for most CF H Svcs Gp personnel is oriented to maintaining militarily relevant clinical skill sets. For MOs and PAs this includes Advanced Cardiac Life Support and Advanced Trauma Life Support training. There is also an ongoing maintenance of clinical skills program with clinicians working in civilian health care facilities. Prior to deployment, the MOs, critical care nursing officers, PAs and medical technicians have their trauma treatment skills “fine-tuned” at the CF Trauma Treatment Centre in Vancouver, B.C. This specialized training has been successful in enhancing the collective skills readiness of the CF H Svcs teams. The value of this training has been demonstrated in current operational deployments, particularly in a combat setting with the potential for multiple trauma injuries.

## Operational Performance

- Both medical services clients and commanders have noted that the clinical skills exhibited by medical personnel while on deployments have been of a high standard. Commanders have commented positively in response to the high quality of medical care provided to casualties, including those from mine strikes, improvised explosive devices and gunshot wounds over the past four years in Afghanistan. The treated casualties have included Canadian, coalition military personnel as well as Afghani civilians.
- The “soldier skills” of CF medical personnel are evolving to meet the increased threats to medical personnel and assets commonly encountered in modern warfare, which now feature HSS personnel as integral parts of mounted and dismounted patrols and convoy escorts.





## Doctrine

- The draft CF H Svcs medical doctrine (B-GJ-005-410/FP-000 Health Services Support to Canadian Forces Operations Ratification Draft 2 2006-xx-xx) is an extensive and flexible joint doctrine publication. It offers nationally approved guidance for planning and delivering health services support at strategic and operational levels. It is consistent with allied joint medical support doctrine. The development of the health services concept of operations for each deployment is derived from this doctrine.
- Command and control of CF medical personnel, both in garrison and on deployed operations, has been seen to be effective by the commanders and staffs concerned.

HSS elements are task-tailored to provide the appropriate support required for each operational deployment. Vertical integration of the CF H Svcs Gp has allowed the flexibility to source personnel from any of its units to achieve this result. The downside has been that the integration of augmentees can require extensive pre-deployment training to ensure they are operationally ready to deploy. This will be addressed by a formal review of Health Services field force units, which will be conducted starting APS 06. The goal of this review is the reorganization of these units to better align them with CF Transformation and with the requirements of current operational deployments.

## Deployability Issues

- The *ad hoc* initial surgery and short-term hospitalization Health Services Support Company, which has become the standard organization to support up to a Joint Task Force (-) during Op ATHENA in South-West Asia, has proven deployable for the full range of recent tasks, given enough prior warning. This deployment (from the initial Rotation (Roto) 0 through subsequent Rotos) was undertaken with significant advance warning that enabled the CF H Svcs Gp to train appropriate numbers of personnel, and gather the necessary resources for this specific mission. If required, the present HSS initial surgery and short-term hospitalization units/sub-units, as structured, are also capable of holding sufficient stores in an operational theatre for a reasonable period of time before an air/sea bridge is established.
- Looking to the future, without changes to current practices, units will not be able to deploy within the 10-day NTM timeline, with appropriately trained personnel and necessary stocks to support the expected kinds of operations envisaged in the new defence policy framework. There are a number of reasons for this situation, including:



- The availability of personnel at high readiness with adequate training at the individual and collective levels, and screened for deployments. The field units, as presently structured and manned, cannot meet the current 21-day NTM timelines for deployment of properly trained units or sub-units. This situation will only become exacerbated by the move to the NATO Response Force 10-day NTM requirement. Personnel will not have been able to undertake soldier skills/Theatre Mission Specific Training (TMST) within the NTM windows.
- The Field Ambulances currently do not possess Role 3 equipment at their unit locations for an initial surgery and short-term hospitalization HSS Company. Advanced Surgical Centre equipment is held in Petawawa as it is an integral part of 1 Canadian Field Hospital. This is highly technical and scarce equipment which cannot easily be effectively decentralized to the Role 2 units. However, if the field force is going to restructure to better represent the way HSS functions on deployment, then some capability to train with this equipment on a regular basis needs to be devised. Technical support and spare parts along with some training requirements will likely mandate the maintenance of some centralization with 1 Canadian Field Hospital in Petawawa. A workable solution will take some creative thinking but should be possible. In addition, internal mobility at the Role 2, the initial surgery and short-term hospitalization, and Role 3 levels is problematic and is dependent on outside resources. There are not enough lift resources, material handling equipment and support personnel in the current establishments to ensure independence of action.

The current structure and organization of CF H Svcs Gp field units negatively impacts on the ability of the Group to train, resource and deploy necessary medical support as envisioned in the new defence policy framework within the proposed NTM timeline.

## Sustainability Issues

### Personnel

- Personnel sustainment is the principal issue affecting the CF H Svcs Gp's ability to support operational missions at an initial surgery and short-term hospitalization level beyond a Roto 1 (12 months in theatre). Personnel shortages and operational tempo have taken a toll in some areas, particularly the Role 3 specialists, who are now being frequently employed in initial surgery and short-term hospitalization sub-units on operational deployments. The use of these specialists at this level is a reflection of modern military medicine practised across the ABCA/NATO military community and is not unique to the CF.
- Of particular concern for sustainability is the lack of utility of Reserve Force medical personnel. Without matching occupation qualifications, the Reserves cannot be exploited to their fullest, unlike the Reserve forces of the rest of the ABCA nations who are significant participants on deployed operations.



## Logistics

- There is a need to standardize specialized equipment and to discipline the users to work with that equipment. Because of lacking approved TO&E and standardized equipment sets, there has been a heavy reliance on the UOR/IOR process for unique medical items during deployed operations. Health services specialists need increased involvement in this process. Pharmaceutical support to operations works effectively.
- The delivery of some specialized perishable medical supplies (vaccines, blood products, etc.,) has been a challenge, on occasion, due to storage, temperature control and transportation issues.

The ability of the CF H Svcs Gp to sustain an operational mission beyond one year would be enhanced by addressing key personnel and logistical issues.

The effectiveness of the CF H Svcs Gp should be evaluated based upon its ability to sustain an operational mission at least at the initial surgery and short-term hospitalization level for as long as the deployment is required. The key elements of sustainability are personnel and logistics.



## RECOMMENDATIONS

- Restate the vision of the CF H Svcs Gp to reflect the continuum of operational health care and the high priority of delivering a deployable medical support capability. (OPI: CMP; OCI: VCDS)
- Restructure the medical field forces to focus on managed readiness expeditionary capabilities including the capability of integrating restructured Role 2 units with surgical support capability provided through the 1 Canadian Field Hospital. Put in place standardized TO&Es for these reorganized units. (OPI: CMP)
- Through a managed operational readiness posture, ensure that appropriate medical field force elements at the unit and sub-unit level are capable of responding to the new 10-day NTM timeline to support high readiness forces. (OPI: CMP; OCI: VCDS)
- Retain a Role 3 capability needed for independent action or for lead nation undertaking but with a reduced patient holding capacity and with increased mobility and modularity. Collective training should be focused at CMTC Wainwright. (OPI: CMP)
- Provide enhanced combat medicine training for both medical and non-medical personnel with particular focus on combat life-saving techniques, advanced multiple trauma treatment, and improved individual equipment. (OPI: CMP; OCI: CMS, CLS, CAS, ADM(Mat))
- Continue to focus ongoing medical Reserve Force restructuring with the intent of bringing Reserve occupation standards to Regular Force levels to make Reservists employable on deployed operations to help alleviate current PERSTEMPO sustainment issues for Regular Force personnel. The current recruiting and military training of civilian clinicians must also be streamlined in order to make these resources more readily available, particularly for short-term deployments in support of CF operations. Consideration should be given to making the Health Services PRL “hybrid status” and enable force generation activities for generating appropriate clinicians for operational deployments. (OPI: CMP; OCI: VCDS)
- Define the requirements (human resource, training, equipment, aircraft requirement and configuration), ensuring the commitment of both CF H Svcs Gp and the air force, to provide the necessary rapid casualty evacuation support to deployed CF personnel, in particular to the high readiness task forces. (OPI: CAS/CMP; OCI: VCDS, ADM(Mat), CMS, CLS)
- Implement and monitor, on an ongoing basis, a series of targeted performance indicators related to key operational measures. A series of draft performance measures are outlined at Annex A for consideration. (OPI: CMP)



## ANNEX A—PERFORMANCE INDICATORS

### Personnel

Monitoring the Shortfall in Personnel	Performance Indicator	Target
<p>Establish a 2006/07 baseline and monitor on an ongoing basis the gap (by specialty or occupation) of medical personnel needed to support operations outlined in the Defence Plan. Reflect the total trained strength of the CF H Svcs Gp by specialty and occupation, and take into account the personnel unavailable through existing deployments or other reasons.</p> <p>Assess the impact on the overall capability by identifying those specialties and occupations where manning levels are at or below the critical threshold at which the ability to mount or sustain further operations is significantly impaired.</p>	<p>The gap between numbers required and those available in each specialty or occupation.</p> <p>The number of specialties and occupations at or below the critical threshold.</p>	<p>Progressively reduced as a result of other measures.</p> <p>Zero.</p>
Meeting Operational Manpower Requirements	Performance Indicator	Target
<p>Meet 100% of the operational requirements for medical and dental manpower to support operations, exercises and collective training by drawing, as appropriate, on Regular Force, Reserve Force, and contractors.</p> <p>Based on the Defence Plan tasks, derive the manpower requirements and develop and implement a manpower strategy (with associated policies) detailing how the medical manpower operational requirements of the future will be met through the appropriate balanced use of Regular Force, Reserve Force, contractors, and other civilian medical organizations.</p>	<p>Extent of the requirement met.</p> <p>Endorsement of the strategy by DGHS, CMP and VCDS.</p>	<p>100%.</p> <p>Completed by TBC.</p>
Recruitment and Retention	Performance Indicator	Target
<p>Meet the defined targets in each specialty/occupation for the recruitment and retention of personnel in the CF H Svcs Gp.</p> <p>Numbers recruited who are already medically qualified to undertake deployments without requiring direct supervision.</p> <p>The numbers of CF H Svcs Gp personnel in key specialties/occupations that leave prematurely before the end of their planned length of service.</p>	<p>The numbers recruited per 3-month period as a percentage of the overall annual target for each grouping stated in the manpower strategy.</p> <p>The numbers recruited per 3-month period as a percentage of the overall annual target for each grouping stated in the manpower strategy.</p> <p>A reduction of “X” percent per year.</p>	<p>Meet predetermined numbers.</p> <p>Meet predetermined numbers.</p> <p>Meet target.</p>



## ANNEX A

## Training

Training to Initial Deployability	Performance Indicator	Target
Provide initial professional training that meets the requirements and standards defined by the professional bodies and the ECSs, which enable medical personnel to meet the policy criteria for operational deployability.	The percentage of personnel completing training and reaching the required standard within the planned timescale.	95% or better.
Continuation Training (Individual Military)	Performance Indicator	Target
Ensure that all CF H Svcs Gp personnel are militarily qualified for operational duties by the appropriate provision of individual continuation training that meets the ECS requirements.	Achievement of annual, individual and mandatory military training.	80% of operational field personnel and related specialists warned for deployment achieve the CF H Svcs Gp and ECS annual, individual and mandatory military training.
Continuation Training (Professional)	Performance Indicator	Target
Ensure that all CF H Svcs Gp personnel are professionally qualified for operational duties by the appropriate provision of professional continuation training that meets CF standards.	Percentage of CF H Svcs Gp personnel unavailable for operational duties due to lack of appropriate training.	Zero.
Medical Training Opportunities	Performance Indicator	Target
Ensure that the required numbers of personnel are made available to attend training courses and exchange and liaison postings detailed in annual statement of requirement.	Numbers of training positions filled as a percentage of those identified in the annual statement of requirement.	95% or better.



## ANNEX A

## Medical Equipment and Materiel

Procurement of Medical Equipment and Materiel	Performance Indicator	Target
Develop and implement a strategy to address medical equipment and materiel shortfalls identified in TO&E development, through procurement and/or other mechanisms as appropriate in accordance with key priorities set by DGHS.	Gap in equipment and materiel identified using new TO&E as a baseline.	30% reduction of the 2006/07 baseline shortfalls per year over the next three years with concomitant reduction in IORs/UORs.
Monitoring the Shortfall in Medical Equipment and Materiel	Performance Indicator	Target
Establish a 2006/07 baseline and monitor on an ongoing basis the shortfall between the medical equipment and materiel (including infrastructure) available to support operations and that required by the Defence Plan tasks, setting priorities for improvements.	The gap between capability required and available by category.  The number of areas at or below the critical threshold at which the ability to mount or sustain operations is significantly impaired.	To progressively reduce as a result of other measures.  Zero.
Meeting Operational Medical Equipment and Materiel Requirements	Performance Indicator	Target
Meet 100% of the operational requirements for authorized medical equipment and materiel in support of operations, exercises and collective training.	Extent of requirement met.	100%.
Roles and Responsibilities for Medical Equipment and Materiel Procurement	Performance Indicator	Target
Define clearly the roles and responsibilities for procurement of all medical equipment and materiel.	Endorsement by DGHS and VCDS.	Completed by TBC.





## ANNEX A

## Military Medicine

Development of Military Clinical Doctrine and Policies	Performance Indicator	Target
Continuously improve the delivery of military medical care and support through a rolling program of review which includes lessons identified from operations, and the updating of military clinical doctrine, policies, standards, and the application of clinical governance precepts in operational settings with particular emphasis on advanced trauma treatment and advanced combat life saving.	Review operational and tactical medical policy as set out in a rolling review program.	100% of policy reviewed to Surgeon General satisfaction against each rolling review requirement.
Program of Research, Academic Development and Exchange/Liaison	Performance Indicator	Target
Establish a coordinated and prioritized program of academic development, exchange/liaison and research in CF H Svcs Gp in order to develop new and improved ways of providing healthcare in operational settings that meets appropriately the various threats posed by modern warfare and operational environments.	Increase the number of surgeons, physicians, critical care nurses and associated NCM occupations on exchange, liaison or one-way exchanges with ABCA partners to a pre-determined level.	TBD.
Clinical Working Practices	Performance Indicator	Target
Define and develop new deployed clinical working practices that make optimum use of technology, best practices from both the Canadian civilian, allied military communities and elsewhere and the skills and competencies of the CF H Svcs Gp personnel.	CF H Svcs Gp senior staff to undertake an annual review of working practices.	100% as per annual report to be prepared for DGHS.

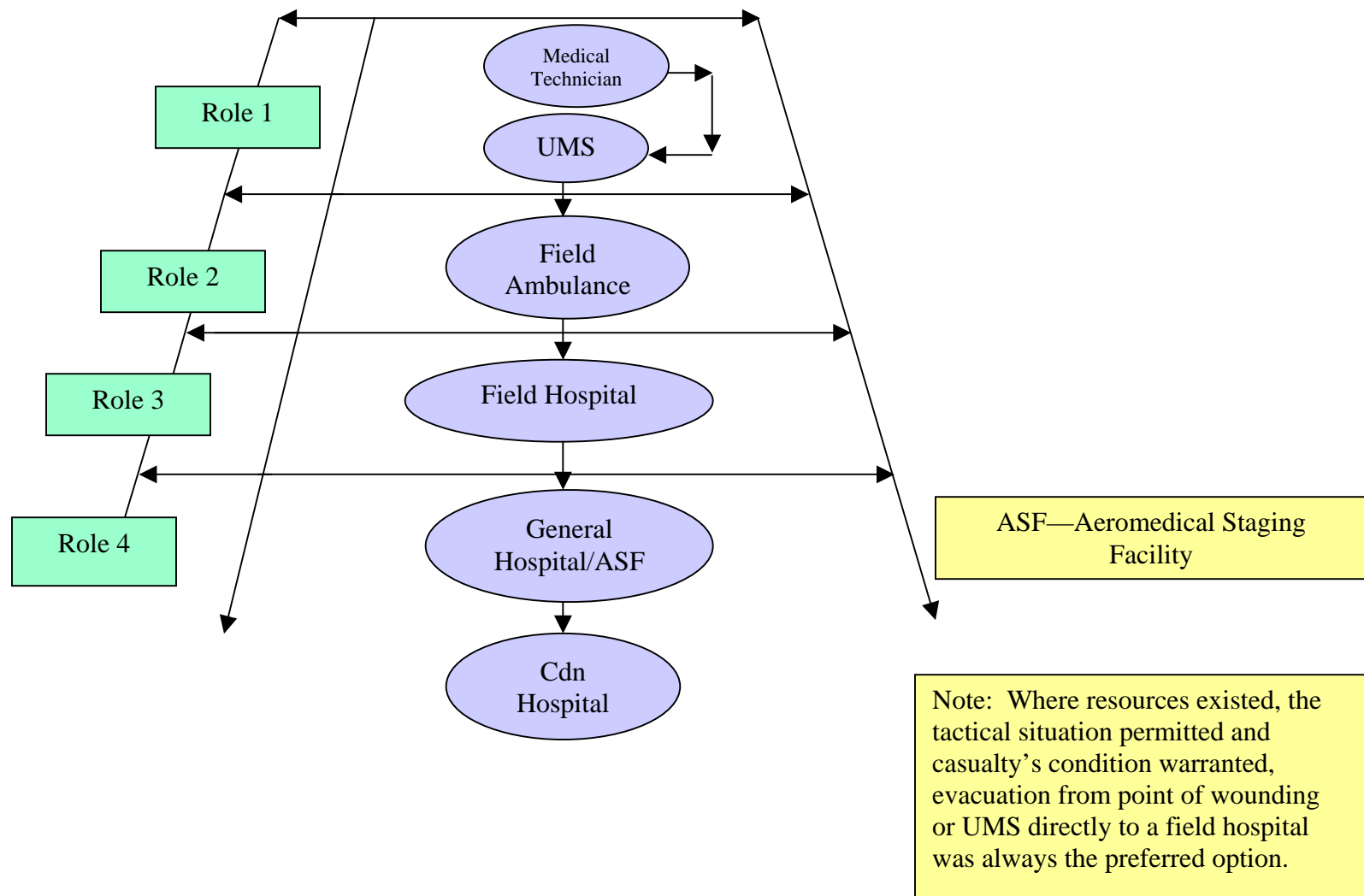


**ANNEX B—CRITICAL RISK REGISTER**

<b>Risk</b>	<b>Impact</b>	<b>Likelihood</b>	<b>Comment</b>
<b>Financial Resources</b> Lack of sufficient resources to fund existing program.	High	Medium	
<b>Manpower to Support Operations</b> Failure to provide medical personnel to meet operational requirements.	High	High	
<b>Management</b> Failure to develop effective management including personnel management.	High	High	
<b>Availability to Deliver the CF Health Services Program</b> Inability to provide sufficient personnel with appropriate skills and qualifications to deliver the CF Health Services Program.	High	Medium	



## ANNEX C—CF AND NATO DOCTRINAL PATIENT FLOW – PRIOR TO 1991



**ANNEX D—CF PATIENT FLOW DIAGRAM – OPERATIONS SINCE 1991**