



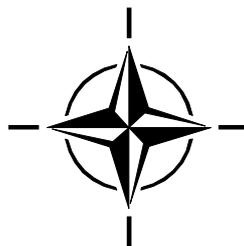
STO TECHNICAL REPORT

TR-HFM-213

Factors Affecting Attraction, Recruitment, and Retention of NATO Military Medical Professionals

(Facteurs d'influence sur l'attraction, le recrutement
et la fidélisation des professionnels de
santé militaires de l'OTAN)

HFM-213 has undertaken a social scientific assessment of personnel situations in the military medical services of contributing Nations, including existing or expected shortfalls and measures already taken or initiated to overcome those. The results of this assessment of measures of recruitment and retention are reported in this Technical Report.



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by

Dr. Gregor Richter and COL. Dr. Norbert Hanhart

The NATO Science and Technology Organization

Science & Technology (S&T) in the NATO context is defined as the selective and rigorous generation and application of state-of-the-art, validated knowledge for defence and security purposes. S&T activities embrace scientific research, technology development, transition, application and field-testing, experimentation and a range of related scientific activities that include systems engineering, operational research and analysis, synthesis, integration and validation of knowledge derived through the scientific method.

In NATO, S&T is addressed using different business models, namely a collaborative business model where NATO provides a forum where NATO Nations and partner Nations elect to use their national resources to define, conduct and promote cooperative research and information exchange, and secondly an in-house delivery business model where S&T activities are conducted in a NATO dedicated executive body, having its own personnel, capabilities and infrastructure.

The mission of the NATO Science & Technology Organization (STO) is to help position the Nations' and NATO's S&T investments as a strategic enabler of the knowledge and technology advantage for the defence and security posture of NATO Nations and partner Nations, by conducting and promoting S&T activities that augment and leverage the capabilities and programmes of the Alliance, of the NATO Nations and the partner Nations, in support of NATO's objectives, and contributing to NATO's ability to enable and influence security and defence related capability development and threat mitigation in NATO Nations and partner Nations, in accordance with NATO policies.

The total spectrum of this collaborative effort is addressed by six Technical Panels who manage a wide range of scientific research activities, a Group specialising in modelling and simulation, plus a Committee dedicated to supporting the information management needs of the organization.

- AVT Applied Vehicle Technology Panel
- HFM Human Factors and Medicine Panel
- IST Information Systems Technology Panel
- NMSG NATO Modelling and Simulation Group
- SAS System Analysis and Studies Panel
- SCI Systems Concepts and Integration Panel
- SET Sensors and Electronics Technology Panel

These Panels and Group are the power-house of the collaborative model and are made up of national representatives as well as recognised world-class scientists, engineers and information specialists. In addition to providing critical technical oversight, they also provide a communication link to military users and other NATO bodies.

The scientific and technological work is carried out by Technical Teams, created under one or more of these eight bodies, for specific research activities which have a defined duration. These research activities can take a variety of forms, including Task Groups, Workshops, Symposia, Specialists' Meetings, Lecture Series and Technical Courses

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Factors Affecting Attraction, Recruitment, and Retention of NATO Military Medical Professionals (STO-TR-HFM-213)

Executive Summary

As requested by COMEDS in 2010, the NATO RTO Human Factors and Medicine Panel (HFM) established a Research and Technology Group (HFM-213) on Factors Affecting Attraction, Recruitment, and Retention of NATO Military Medical Professionals.

HFM-213 has undertaken a social scientific assessment of personnel situations in the military medical services of contributing Nations, including existing or expected shortfalls and measures already taken or initiated to overcome those.

The study was conducted mainly on the basis of questionnaires presented to participating Nations' specialists for the recruitment and retention of medical personnel. This way, all NATO members and PfP countries were invited to support the work of HFM-213. HFM-213 was supported by the German Bundeswehr Institute of Social Sciences (BISS).

The findings can be grouped into seven basic measures of recruitment and retention:

- Financial incentives;
- Flexible forms of service and employment status;
- Compatibility of career and family;
- Career planning and professional development;
- Training measures;
- Advertising; and
- Other measures.

The main findings are:

- **Financial incentives** are adequate to attract and to some degree retain specialists, but will not be sufficient when it comes to keeping personnel in the services. HFM-213 recommends the use of salary components on top of the basic salary.
- **Flexible forms of service and employment status** are a suitable type of measure; HFM-213 recommends their use.
- In most of the cases **compatibility of career and family** is not a measure specific to the military. HFM-213 considers this a suitable measure.
- **Career planning and professional development** are suitable means but they cannot be implemented without costs and in some regards not without de-emphasising the standing of military doctors as an integral part of the military. HFM-213 favours career planning and professional development on the basis of ranks corresponding to experience and level of training.

- **Basic training** is above all a measure of recruitment, **advanced training** is above all a measure of retention. The biggest variation between nations can be identified in the area of basic medical training.
- **Advertising** is a suitable measure for recruitment. It is recommended to place particular emphasis on advertising by word of mouth, which in the view of HFM-213 is both a very effective and a very efficient measure.

The study shows clearly that countries that take a variety of measures encounter fewer problems in recruitment and retention of military medical personnel.

Facteurs d'influence sur l'attraction, le recrutement et la fidélisation des professionnels de santé militaires de l'OTAN

(STO-TR-HFM-213)

Synthèse

Comme l'a demandé le COMEDS (Comité des chefs de services de santé militaires au sein de l'OTAN) en 2010, la commission Facteurs humains et médecine (HFM) de la RTO (Organisation OTAN pour la Recherche et la Technologie) a créé un Groupe de travail (HFM-213) concernant les Facteurs d'influence sur l'attraction, le recrutement et la fidélisation des professionnels de santé militaires de l'OTAN.

Le HFM-213 a entrepris une évaluation scientifique et sociale de la situation des personnels dans les services de santé militaires des pays membres, incluant les insuffisances existantes ou prévues ainsi que les mesures déjà mises en œuvre ou initiées en vue de les surmonter.

L'étude a été menée principalement sur la base de questionnaires présentés aux spécialistes des pays participants en charge de recrutement et fidélisation du personnel de santé. De cette manière tous les membres de l'OTAN et pays adhérents au PpP étaient invités à soutenir les travaux du HFM-213. Le HFM-213 a reçu le soutien de l'Institut des Sciences Sociales des Armées Allemand (BISS).

Les conclusions peuvent être classées en sept catégories de mesures de base de recrutement et de fidélisation :

- Incitations financières ;
- Formes de service et statuts professionnels flexibles ;
- Compatibilité de la carrière avec la vie de famille ;
- Plan de carrière et perfectionnement professionnel ;
- Mesures de formation ;
- Publicité ; et
- Autres mesures.

Les principales conclusions sont les suivantes :

- **Les incitations financières** conviennent pour attirer et, dans une certaine mesure, fidéliser certains spécialistes, mais elles seront insuffisantes pour maintenir le personnel dans les services. Le HFM-213 recommande d'avoir recours à des composantes de salaire en plus du traitement de base.
- **Les formes de service et les statuts professionnels flexibles** constituent un type de mesures pertinentes ; le HFM-213 recommande leur utilisation.
- Dans la plupart des cas la **compatibilité de la carrière avec la vie de famille** ne constitue pas une mesure spécifique pour le militaire. Le HFM-213 considère cette mesure comme pertinente.
- **Le plan de carrière et le perfectionnement professionnel** sont des mesures pertinentes, mais elles ne peuvent être mises en œuvre sans occasionner des dépenses et, à certains égards, sans réduire le

prestige des médecins militaires faisant partie intégrante de l'armée. Le HFM-213 encourage le plan de carrière et le perfectionnement professionnel sur la base des grades correspondant à l'expérience et au niveau de formation.

- **La formation de base** constitue avant tout une mesure de recrutement, le **perfectionnement** constitue avant tout une mesure de fidélisation. Les différences les plus importantes entre les pays peuvent être identifiées dans le domaine de la formation médicale de base.
- **La publicité** constitue une mesure pertinente pour le recrutement. Il est recommandé d'insister particulièrement sur la publicité par le bouche à oreille, qui de l'avis du HFM-213 est à la fois une mesure très concrète et très efficace.

L'étude montre clairement que les pays qui adoptent diverses mesures rencontrent moins de problèmes pour recruter et fidéliser le personnel de santé militaire.

FACTORS AFFECTING ATTRACTION, RECRUITMENT, AND RETENTION OF NATO MILITARY MEDICAL PROFESSIONALS

1.0 INTRODUCTION

For several years now, available medical capabilities have been considered insufficient to meet NATO's level of ambition. Multi-national Medical Support, Aeromedevac and Deployable Medical Facilities were identified as medical shortfall areas. Efforts and plans are in progress to mitigate these shortfalls, and Nations are encouraged to implement the proposed steps.

A key factor in the provision of such capabilities is the availability of suitably qualified medical personnel, and at the informal defence ministers' meeting in February 2010 the issue of recruitment and retention of specialised medical personnel was addressed as a pressing concern for several Nations. Military medical services have to recruit their qualified personnel from their national civilian health systems just as civilian health providers do. For that reason the attractiveness of service for medical officers or NCOs is a key requirement for meeting NATO's level of ambition.

As the lack of medical specialists is a common factor in almost all Nations and most of them are also confronted with a migration of qualified personnel pursuing better payment or work-life-balance options, most Nations are familiar with personnel shortages in their medical services resulting in a limited ability to support national or multi-national operations, as well as with the development of measures to increase the attractiveness of service for military medical specialists.

Against the background of this shared lack of military medical specialists, an exchange of lessons learned and mitigation strategies between Nations as well as the development of applicable recruitment and retention instruments are sound and pragmatic ways of addressing and overcoming one of the Alliance's most critical shortfall areas as identified by the NATO defence ministers.

2.0 THE HFM-213 WORK PROGRAMME

As requested by COMEDS in 2010, the NATO RTO¹ / Human Factors and Medicine Panel (HFM) established a Research and Technology Group (HFM-213) on "Factors Affecting Attraction, Recruitment, and Retention of NATO Military Medical Professionals".

HFM-213 has undertaken a social scientific assessment of personnel situations in the military medical services of contributing Nations, including existing or expected shortfalls and measures already taken or initiated to overcome those.

The task of HFM-213 was to develop an applicable toolbox of potential measures for military medical services to improve the recruitment and retention of specialised medical personnel in competition with civilian health systems.

Participating and contributing Nations were to provide expertise in establishing and meeting personnel requirements for their medical services. All Nations were invited to join HFM-213, and the following Nations confirmed their participation:

- Germany (DEU) (Chair), Col. Dr. Hanhart;
- Belgium (BEL), Dr. (Psy) Bertrand;
- Canada (CAN), LtCol Hearn;

¹ From 1 July 2012 the RTO/RTA has been reorganized into the STO/CSO (NATO Science and Technology Organization).

- Czech Republic (CZE), Col. Dr. Majovsky;
- Denmark (DNK), LtCol Biehl;
- France (FRA) (*intermittently*);
- Netherlands (NLD), LtCol Koning; and
- United States of America (USA), Col. Harris.

HFM-213 held four meetings, where experiences with different measures to improve the personnel situation in medical services were discussed and analysed, formats for the collection of data and information were developed, and interim results were presented:

- Kick-off meeting in Paris, 25-26 November 2010;
- Meeting in Cologne, 15-16 June 2011;
- Meeting in Brussels, 19-21 October 2011; and
- Final meeting in Prague, 27 February – 1 March 2012.

The study was conducted mainly on the basis of questionnaires presented to participating Nations' specialists for the recruitment and retention of medical personnel. This way, all NATO members and PfP countries were invited to support the work of HFM-213.

HFM-213 was supported by Dr. Richter of the German Bundeswehr Institute of Social Sciences (BISS)², who carried out most of the scientific work in the project.

3.0 APPLIED METHODS

This study relies mainly on two questionnaires, a short questionnaire to NATO members and PfP countries (= quantitative approach) and a questionnaire with open answers (= qualitative approach). The first questionnaire was distributed by RTO in April 2011 to national POCs. Its aims were to:

- Collect background information on the personnel situation in the medical services of NATO members and PfP countries;
- Map the current situation of available medical capabilities within these Nations;
- Find out which Nations face shortfalls in providing sufficient medical capabilities on missions abroad;
- Determine a POC in the national MoDs/agencies responsible for the recruitment and retention of medical personnel for further enquiries by HFM-213; and
- Compile the accounts, expertise and research in this subject area that had already been done by the Nations (knowledge management).

An interim result of this preliminary survey was that many NATO members and PfP countries already possessed experiences, expertise or research results from that subject area in a wider sense.³ Unfortunately in nearly all cases the respondents did not send the requested documents to HFM-213 for further enquiries. Only the data of the two questionnaires could thus be utilised for the evaluation of measures.

² For further information see: www.sowi.bundeswehr.de.

³ 11 of the 20 Nations stated that within the last five years, a national (ministerial) task force had been working on the question of how to increase the attractiveness of the medical service; 10 out of 20 had conducted their own studies and obtained research results about the attractiveness of their medical service, and 7 of 20 had studies and research results about the attractiveness of their medical service done by external institutes. It had been guaranteed that the documents would be analysed by HFM-213 solely for the purpose of developing the toolbox and would not be submitted to other parties.

At the beginning of its work, HFM-213 intended to conduct interviews with specialists for the recruitment and retention of medical personnel from participating Nations. Because of the impossibility of financing the fieldwork, HFM-213 decided instead to distribute a second questionnaire in December 2011 to those Nations who had answered the first questionnaire. The results as detailed in Section 4.3 are mainly based on the responses of the Nations to this second questionnaire, which contains open and more detailed questions.

Table 1 itemises the responses of the Nations to the HFM-213 questionnaires.

Table 1: Responses of the Nations to the HFM-213 Questionnaires.

Country Code	Short Questionnaire	“Interview” Questionnaire
ALB		
BEL	x	x
BGR		
CAN	x	x
CZE	x	x
DEU	x	x
DNK	x	x
ESP	x	x
EST	x	x
FRA	x	
GBR	x	x
GRC		
HUN	x	
HVR		
(ISL)		
ITA		
LTU	x	x
LUX	x	x
LVA	x	x
NLD	x	x
NOR	x	x
POL		
PRT	x	
ROU		
SVK	x	
SVN		
TUR		
USA	x	x
AUS	x	x
IRL	x	x
n	20	16

4.0 RESEARCH RESULTS

4.1 Military Medical Services in NATO – High Diversity

The data of the first survey showed very clearly that there is a high diversity among NATO members in the way they organise the medical service of their Armed Forces, the way they recruit and train medical personnel, and the way the civilian health care system is related to the military health care system. The following results should be highlighted (Table 2 to Table 5).

Table 2: Recruitment of Military Medical Personnel.

In most of the countries the medical personnel is recruited after having finished their medical education in external civil institutions.

Question: Please select, which statement (A, B or C) mostly applies to the basic medical education of your Armed Forces' medical personnel? (absolute numbers)
(Remark: Some respondents chose two or three answers, which was not intended.)

	Physicians	Nurses	Paramedics
A) The qualified medical personnel gets its basic medical education at own military institutions (military universities, academies, technical schools, etc.) and is already in the status of soldier during the education.	2	2	9
B) The qualified medical personnel gets its basic medical education in external educational institutions (civilian universities, technical schools, etc.) and already is in the status of soldier during the education.	8	6	5
C) The qualified medical personnel gets its medical education in external educational institutions (civilian universities, technical schools, etc.) and is recruited for the Armed Forces after that education.	15	16	8

Database: HFM-213-survey April 2011.

Table 3: Training of Military Medical Personnel.

In most of the countries the Armed Forces' medical personnel gets its advanced medical training predominantly in external civilian institutions.

Question: Please select, which statement (A or B) mostly applies to the advanced medical training and education of your Armed Forces' medical personnel? (absolute numbers)
(Remarks: Paramedics: 1 missing answer; one respondent chose two or three answers, which was not intended)

	Physicians	Nurses	Paramedics
A) The qualified medical personnel gets its advanced medical training and education predominantly at own military institutions (military universities, academies, technical schools, etc.).	5	5	10
B) The qualified medical personnel gets its advanced medical training and education predominantly at external educational institutions (civilian universities, technical schools, etc.).	15	16	9

Database: HFM-213-survey April 2011.

Table 4: Medical Support of Soldiers (Basic Service).

The situation of medical support of soldiers at their home country (basic duty) is diverse within the NATO.

Question: Please select, which statement below (A, B, C or D) applies to the medical support of your countries soldiers in peacetime at home, when they are not deployed?
(Remark: Some nations have a mix in the medical support of soldiers at their home country, so they chose more than one option)

	n
A) All medical support for our soldiers is free of charge and preferably ensured by our own military medical service.	12
B) Soldiers are members of a statutory health fund and are medically treated in private doctor's practices or civilian hospitals.	10
C) Soldiers receive medical treatment in private doctor's practices and civilian hospitals. Expenses are covered by the Armed Forces.	4
D) In our nation all health related treatments are free of charge. This applies for all citizens including our soldiers.	2

Database: HFM-213-survey April 2011.

Table 5: The Military Medical Service and the Civil Health Care System.

In many countries the military medical system plays a role in the civil national health care system, too.

Question: Do your Armed Forces operate own domestic military hospitals?	n	Countries
Yes	12	BEL, NLD, PRT, USA, ESP, CZE, SVK, DEU, FRA, HUN, AUS, IRL
No	8	DNK, GBR, CAN, LUX, NOR, LVA, LTU, EST

Question: Do your military health facilities provide inpatient and/or outpatient services for patients, who are not active service members?	n	Countries
Yes	9	BEL, PRT, USA, ESP, CZE, SVK, DEU, FRA, HUN
No	11	DNK, GBR, CAN, LUX, NLD, NOR, LVA, LTU, EST, AUS, IRL

Database: HFM-213-survey April 2011.

4.2 Shortfalls of Qualified Medical Personnel – Differentiation

Not all NATO members and PfP countries face shortfalls of qualified medical personnel to the same extent. One indicator is the situation of medical personnel for missions abroad. All Nations were currently involved in UN, NATO or EU deployments abroad at the time the survey was conducted.

Out of 20 Nations that participated in the first survey, 7 answered that they were in general not able to provide the required numbers of physicians / medical officers with the qualifications needed for their mission contingents. The remaining 13 Nations stated that they had no problems in this area. Similarly, only 4 Nations were not able in general to provide the required numbers of medical NCOs (nurses, paramedics, etc.) and enlisted medical personnel for their missions abroad; 16 Nations do not have shortfalls in this area.

How has the situation developed in the last years and what will the situation presumably be in the near future? Table 6 to Table 8 give the answer to these questions. The results show that there is much inconsistency in the field of recruitment and retention of medical personnel among NATO members. And – a fact that could not be seen in the data because of anonymisation – Nations that have problems recruiting medical officers do not necessarily face problems with other military medical personnel. Usually, the recruitment situation for the professions of medical NCO and civilian jobs within the armed forces' medical services is better than the situation regarding medical officers.

Table 6: Development of the Manning Situation in the Last Years.

Among NATO members the development of the situation of medical services personnel has been quite diverse during the last ten years.

Question: How did the percentage of effectively manned posts for medical personnel develop throughout the last ten years until today?	
	n
A) The manning situation improved, the percentage increased.	6
B) The manning situation remains mainly unchanged.	6
C) The manning situation deteriorated, the percentage decreased.	8

Database: HFM-213-survey April 2011.

Table 7: Development of the Manning Situation in the Near Future.

Among NATO members the development of the situation of medical services personnel will be presumably quite diverse in the near future.

Question: How will the percentage of effectively manned posts for medical personnel presumably develop within the next five years?	
	n
A) The manning situation will improve, the percentage will presumably increase.	8
B) The manning situation will presumably remain unchanged.	7
C) The manning situation will deteriorate, the percentage will presumably decrease.	5

Database: HFM-213-survey April 2011.

Table 8: Applicant and Retention Situation.

The situation (recruitment and retention) is critical especially with the group of medical officers .

Question: Please assess the following statements on personnel recruitment and retention for your own medical service. (missing values included)					
	Fully applies	Mainly applies	Partly applies / partly not	Does mainly not apply	Does not apply at all
A) The applicant situation is good. We have enough adequate candidates for the profession of <i>medical officer</i> .	2	6	3	3	5
B) The applicant situation is good. We have enough adequate candidates for the profession of <i>medical NCO</i> .	4	8	4	3	1
C) The applicant situation is good. We have enough adequate candidates for <i>civilian jobs</i> within the Armed Forces Medical Service	3	8	5	1	1
D) The <i>retention</i> of qualified personnel within our service is good, so that we dispose of sufficient numbers of qualified medical personnel	1	6	5	5	2

Database: HFM-213-survey April 2011.

4.3 Suitability of Measures for Improving the Personnel Situation in Military Medical Services

The preliminary survey showed very clearly that Nations that have taken measures to increase the attractiveness of military service and to improve personnel recruitment and retention in the past have fewer problems to reach their level of ambition today.

As an introduction to the detailed evaluation and discussion of these measures based on the qualitative approach of the study, Table 9 shows some figures on the current use of measures in participating Nations. From these figures alone no conclusions can be drawn on how effective and efficient the measures are.

Table 9: Measures Applied to Increase Attractiveness.

Overview of the measures to improve the personnel situation in the medical services.

Question: In which areas did your medical service apply specific measures to increase the attractiveness and to improve personnel recruitment and retention? (Multiple answers are permitted)

	n
Financial incentives (higher salaries, allowances, etc.)	12
Flexible design of service and employment status (i.e. license for private practice, teaching, etc.)	11
Measures to increase compatibility of profession and family	11
Career design and professional progression	10
Human Resources Management	6
Further educational measures	10
Intensification of advertising strategies	7
Other measures	1

Database: HFM-213-survey April 2011.

Health care personnel in military medical services comprise three groups:

- Medical doctors (primarily officers);
- Paramedics (primarily NCOs); and
- Nurses (officers, NCOs or civilian personnel).

The findings of the first questionnaire indicated that – all in all – shortages of medical personnel exist mainly in the group of medical doctors. Therefore the following measures focus on this group. To some extent the measures can be applied to the two other groups, i.e. paramedics and nurses.

In the following, the gist of the answers to the second questionnaire is outlined and commented. For reasons of illustration, direct quotes from the interview material (slightly adapted, with typing errors corrected and proofread) are placed in inverted commas.

4.3.1 Financial Incentives

In general, military medical doctors are paid according to their military rank – this is the case in almost all participating Nations. Many different systems of additional salaries, bonuses and so on are common to diminish the gap between the higher payment received by a doctor/medical specialist within the civilian health care system and the lower payment in the military medical system.

Nearly all Nations emphasise that the general income development of medical professions in their civilian health care system was better than in the military medical system. As a consequence, the military is forced to offer additional financial incentives to remain competitive.

As a rule of thumb, basic salaries plus additional salary components of military medical specialists should be comparable to salaries within the civilian health system. There are four types of financial incentives to be mentioned:

1) Salary components on top of the basic salary

The following additional components are conceivable:

- Enlistment bonus;
- Special payments;
- Board certified special pay;
- Incentive special pay;
- Retention bonuses;
- Additional funding for medical occupational specialties (aviation, hyperbaric, aerospace, preventative, occupational health or industrial medicine);
- Additional funding allocations for physicians who assume additional administrative responsibilities and duties; and
- Different levels of salary based on experience.

In the case of the USA, for instance, “the financial incentives have generally been successful in the recruitment and retention of medical providers and for those HPO (= Health Professional Officers) in critically short specialties. However, there is generally a shortage of providers in certain areas.”

In NLD, the following financial incentives are offered to physicians and medical specialists:

- “Allowance: On top of the salary physicians and medical specialists receive an additional allowance. The amount of this allowance depends on rank and seniority.
- Appointment bonus: At the time of appointment physicians and medical specialists receive a bonus. The amount of this bonus depends on the length of contract.
- Commitment/bond bonus: The bonus that will be provided if the Netherlands armed forces want to extend an ending contract (medical personnel).”

NLD has had positive experiences with these measures: “By way of these financial incentives the Netherlands Armed Forces remained attractive for medical staff. This concerns in particular the financial equalization between civilian and military salaries.”

A new bill is being drafted by BEL for the same reasons. The aim of the bill is to grant a qualification-based remuneration to medical personnel in accordance with their specialty, function, experience, and skills. Therefore, BEL will offer a market level salary paid by the defence ministry by supplementing the basic salary with payments that vary according to market value. These payments are subject to different criteria such as the maintenance of skills required by the ministry and sufficient availability. Earnings for activities outside the military are refunded to the defence ministry.

Although salary components in addition to the basic salary are an applicable measure, it has to be mentioned that some Nations report the creation of tensions inside the armed forces – such as, for instance, EST.

2) Payment not based on rank

Payment not based on rank means alternative payment systems for medical doctors.

AUS reports: “Following a major review by the Defence Force Remuneration Tribunal, Defence implemented a new salary and career structure for ADF (= Australian Defence Forces) Medical Officers in 2010. The increased remuneration recognises changes in the skills and responsibilities of Medical

Officers and the specialised nature of their work. Broadly the review included benchmarking against comparable parts of state health awards.” Unfortunately, AUS does not report on their experience with this approach. The reason might be the short period between the implementation of the new salary and career structure and the time that the HFM-213 study was conducted.

DNK has installed a rank-independent system for specialists. Medical specialists are even deployed without rank, something that does not work well in a multi-national environment.

3) Earlier promotion as a payment and career incentive

IRL uses this type of measure: “Accelerated promotion prospects with resultant improved salary scale (Capt to Comdt in three rather than nine years)”. IRL states that this type of measure was not very successful.

CZE employs a similar measure: “The Czech Republic Armed Forces physicians are usually promoted one rank higher than officers from other military services as a compensation for the loss of income.”

In BEL, the new bill that is being worked on aims at allowing medical personnel to be promoted to OF-4 more swiftly, provided they have passed a language test.

Besides this, some Nations that have considered introducing this type of measure or are already applying it caution against possible tensions in the armed forces because of an unequal treatment of medical and other military officers. There is another risk to be mentioned: unequal treatment may affect acceptance of the rank of medical military personnel.

4) Negative financial incentives

Negative financial incentives are not a measure of recruitment but a conceivable measure of retention. Specialists leaving the service may for instance be forced to pay back the money for their training and subsidies they received for university studies. While in some cases, this would have an effect on an individual’s decision to stay in service, it will presumably not contribute to a high level of motivation and commitment to the work of a military doctor. HFM-213 does not recommend the use of this type of measure.

Conclusion – Financial incentives are adequate to attract and to some degree retain specialists, but will not be sufficient when it comes to keeping personnel in the services. Bonuses to attract personnel work well, but are not enough to retain them. HFM-213 recommends the use of type (1) of the listed measures, i.e. salary components on top of the basic salary. Positive experiences are reported by some Nations. An additional advantage of this type of measure is its flexibility, whereas measures of type (2) and (3) will lose their incentive function once they have been applied to a medical officer. All in all, the armed forces have to find ways to deal with the balancing act between paying doctors in the military like doctors in the civilian system on the one hand and payment in accordance with rank on the other.

4.3.2 Flexible Forms of Service and Employment Status

Flexible forms of service and employment status are not easily distinguished from the measures in Section 4.3.1, because in principle they imply financial incentives, too.

DEU reports that measures of this kind are being realised at the moment:

- “1) Expanding the possibility of private billing; and
- 2) Improving compensation for on-call and stand-by duty in Bundeswehr hospitals (currently in the process of legislation).

These measures have only been implemented in recent years. It remains to be seen whether they have a long-term effect on attractiveness.”

NOR responds to the second questionnaire with this statement: “There are different forms for employment statuses, especially for physicians. There are arrangements where they work a limited amount of hours per week within the Armed Forces, and work the remaining hours of the week within a civil health care institution (private or governmental) approved by the Armed Forces as their main employer. This is to ensure that they maintain/improve their medical competencies. The Armed Forces do have no specific limit to how much they are allowed to earn, or how many hours they work outside the Armed Forces, as long as this does not interfere with their engagement within the Armed Forces.”

In some Nations, flexible forms of service are quite usual, for instance in GBR: “The opportunity for military medical professionals to work privately has always been present, but permission from the individual’s chain of command and assurance that additional work would not be to the detriment of the DMS has always been the qualifying criteria.”

Permission to earn extra money, the licence to practise privately, and teaching opportunities (for instance to do scientific research and become associate professors in academic facilities) are considered to be suitable measures to improve both the recruitment and the retention of medical officers. Provided they do not interfere with duties, these measures are basically a powerful tool without any additional costs. They are possible in most countries, but not in all.

The permission to earn extra money is not only a measure without any cost for the Armed Forces, it also has positive effects on the work experience of medical personnel. LVA puts it like this: “Medical staff has the opportunity to work in civil health care system in addition to military service in order to earn extra money and to maintain and improve the practical skills in speciality.”

Private practice and private teaching have to conform to some requirements: flexible working hours on duty, “good time management” of medical doctors and a high ability to withstand stress. In some cases it is doubtful that a doctor will stand this double burden of work. Another critical point is the interference with military duties. CZE, for instance, points out: “However, these measures keep medical personnel in the military but on the other hand, it may distract them from a deployment.”

This may be the reason that in some Nations private practice is not permitted, for instance in NDL and LUX. NDL for instance has strict regulations: “In the Dutch Armed Forces it’s not allowed to conduct a private (medical) practice alongside the military function. However, exceptions exist. If someone insists to conduct a private practice alongside the military function, the allowance of the person in question will be cut down.”

Conclusion – Flexible forms of service and employment status are a suitable type of measure; HFM-213 recommends their use. All in all, the armed forces have to find ways to deal with the balancing act between the demands of service as a medical doctor (above all: deployments) on the one hand and the “liberty” of private practice and teaching besides these primary tasks on the other. A prerequisite is that private practice and teaching by medical officers be approved by commanders beforehand.

4.3.3 Compatibility of Career and Family

The situation in NLD is representative of the situation in nearly all Nations that contributed to this study: “Compatibility of profession and family are included in the general employment conditions for military personnel. For the medical service, these measures like part time work, parental leave and flexible working hours, do not differ from the general employment conditions for the Netherlands Armed Forces.”

In most Nations there are not even special regulations for the armed forces; in general regulations follow the standards of statutory requirements to be used in other branches and working environments. Of course,

that does not necessarily imply uniform application of measures in the different civilian and military organisations. All in all, compatibility of career and family is particularly useful in the retention, but less in the recruitment of personnel.

Typical measures of compatibility of career and family are, according to the collected data:

- Working from home (if possible);
- Flexible working hours;
- Part-time work for uniformed personnel (part-time workers may also be deployed);
- Maternity leave;
- Parental leave;
- Provision of childcare places at kindergartens, etc. (normally not free of charge); and
- Supplying other types of childcare (in some cases at the military facility).

Most Nations support the work-life balance of their soldiers. For example AUS is going to step up efforts: The ADF (= Australian Defence Force) is committed to enhancing attractiveness and personnel retention through effective policies that will assist all ADF members to achieve a work-life balance. These broad, targeted ADF initiatives are not medical service specific. Flexible work practices aim to achieve the best possible match between the needs of the ADF and those of individual members.

Conclusion – In most of the cases compatibility of career and family is not a measure specific to the military. HFM-213 considers this a suitable measure. The effectiveness of the measure is dependent on local circumstances and on the willingness of superiors to encourage and support their medical personnel in this realm. All in all, the armed forces have to find ways to deal with the balancing act between the demands of service as a medical doctor on the one hand and the work-life balance of their medical personnel on the other.

4.3.4 Career Planning and Professional Development

Efforts in the realm of career planning and professional development differ very strongly among participating Nations. Some do not place any emphasis on the development and restructuring of career planning of their medical personnel, some emphasise the centrality of this measure.

CAN reports very positive experiences with this type of measure:

- Reimbursement of annual licensing fees;
- Reimbursement of annual membership in professional associations;
- Specialty pay projects for clinicians (i.e. Physician Assistants, Medical Technicians, Pharmacists, Social Workers);
- Granting of degrees for military professional programmes (physician assistants);
- Succession planning; and
- Mentorship programmes.

BEL also provides “age related career planning”. This means that the second part of a career is less active and the work is more sedentary (occupational physicians, specialists).

These measures have been successfully implemented and have met the intended performance measurement indicators.

Measures of career planning and professional development are closely connected to financial incentives and training measures. Three types of measures can be distinguished based on the collected data:

1) Career planning and professional development on the basis of ranks corresponding to experience and level of training

In this case professional development is a result of individual efforts to improve one's skills and level of training. The armed forces have to free up space for training programmes with a wide range of specialist training options for their medical staff to implement that measure. A suitable means to support this is succession planning, for instance through an assessment once a year or every two years where the potential to work at the next level is evaluated.

2) Career planning and professional development on the basis of generally higher ranks or higher pay-grades than corresponding non-medical officers

This measure may have an impact on recruitment and personnel retention, but it comes with some limitations. BEL, for instance, points out: "The amount of officers with a particular rank is fixed by law. It is therefore not possible to get more high ranked officers than in other domains of the armed forces." However, BEL plans to find a way around the legal framework in order to offer a more straightforward career path to level OF-4. This is assumed to be the case in other Nations, too, so that measure is rather limited. As with financial measures, tensions within the armed forces are to be expected as described above (see Section 4.3.1).

3) Career planning and professional development through decreasing the effect of rank on professional status

AUS will move in this direction in the near future: "Measures in the field of career design and professional progression include embedding and refining competency based pay (de-emphasizing the effect of rank) and the introduction of the pilot program for medical specialist pay."

A far-reaching consequence of this approach would be the abolition of the military rank system for medical military personnel and the implementation of a special professional development system for military doctors.

Conclusion – Career planning and professional development are suitable means but they cannot be implemented without cost and in some regards not without de-emphasising the identity of military doctors as an integral part of the military. HFM-213 favours career planning and professional development on the basis of ranks corresponding to experience and level of training. Measures of type (1) have the advantage that the individual efforts and commitment of medical officers are rewarded and the doctors remain an integral part of the military in terms of their self-image and identity, which is needed to strengthen cohesion between military medical and other military services (army, air force, navy).

4.3.5 Training Measures

Life-long learning and staying up to date in medicine and medical science is indispensable especially in the profession of a medical doctor. This requirement exists in other professions, too, but characterises the medical profession in a particular way: continuous training and skill improvement – not automatically resulting in higher payment – is typical for medical professions. Patients expect the best level of and state-of-the-art medical treatment. This applies especially to soldiers completing their basic service or on missions abroad.

The following measures are conceivable or already applied:

1) Basic Training

Subsidisation for the time of study is one possible measure. There exist two types of subsidisation:

- a) Medical personnel receive basic medical training at national military institutions (military universities, academies, technical schools, etc.), already have military status during training, and are paid according to rank.
- b) Medical personnel receive basic medical training at external educational institutions (civilian universities, technical schools, etc.), already have military status during training, and are paid according to rank.

Nearly 50 percent of the Nations subsidise their future military medical doctors in these two ways (see Table 2). Typically, the students of medicine have to commit to a certain service period afterwards. This is the case in many Nations, for instance in NOR and DEU.

USA reports on good experiences with type a): “In addition the US Armed Services provides opportunities for medical education through the Uniformed Services University of the Health Sciences (USUHS) and graduate medical education and continuing education through civilian agencies throughout a Service member’s career. USUHS is very effective in recruiting and training top quality medical students and in providing specialty training which contributes to overall positive retention rates.”

According to BEL, recruitment schemes that select personnel on the basis of degrees have not been very fruitful. Those targeted as candidates for a job in the Belgian army do not have an entrepreneurial mind-set (they do not fit into the organisational culture) and joining the military service was not their initial choice. They resign more quickly, disappointed as they are by the (working) conditions they were unaware of in advance.

2) Advanced Training

LTU supports the advanced training of its military personnel in the following manner:

- “Possibility for seeking the higher qualification during the Military Service, i.e.: additional vacation for education process is supported by Army for those who are doing it for the first time.
- Sub-specialization courses are proposed according to the individual requests.
- Basic educational or advanced medical courses are steadily organized at the local Medical Military Service Military Medical Training Center.”

Other conceivable or already applied measures are:

- Specialisation. ESP, for instance, highlights the importance of this measure: “Physicians can be trained and become specialists in all kind of medical specialities, all sponsored by the Armed Forces. Nevertheless, this system is not new. It has been working since 1908.”
- Specialist training abroad in interesting places.
- Life-long learning to improve medical skills.
- Annual grants for advanced medical training of own forces.
- Refund of cost of seminars and courses.
- Earlier offer of residency.
- Development of training plans.
- Coaching for medical trainees.
- Leadership development (which is a prerequisite for promotion to some special functions in the military medical organisation).

Advanced training is not only a measure of retention, it is a prerequisite for the work of a medical officer, especially in areas that are connected with deployments: NOR summarises its efforts in the following way: “The Armed Forces provide possibilities for medical personnel to obtain specialist qualification and to participate in further education by participation in courses and conferences nationally and internationally (expenses covered by the Armed Forces). Main focus for these activities is to maintain or improve competencies within trauma treatment and other relevant specialities for the Armed Forces.”

Conclusion – Basic training is above all a measure of recruitment, advanced training is above all a measure of retention. The biggest variation between Nations can be identified in the area of basic medical training. If a complete medical degree course is subsidised by the armed forces, this measure is – without any doubt – a strong argument for enlisting. Therefore it is an effective measure of recruitment. But is it an efficient measure, too? This could be doubted given the immense costs of subsidising a study course of 5 or 6 years. If the costs for a degree were externalised, additional financial incentives for civilian, trained doctors to become a military doctor could be offered, and a higher salary could be paid with the money saved. From the data of the present study, however, no sound conclusions can be drawn on the efficiency of measures. This question is reserved for future research.

4.3.6 Advertising

Advertising is a measure of recruitment. The following measures are conceivable or already applied:

- Advertisements in specialised magazines and medical journals;
- Advertising on the internet / on TV;
- Advertising in print media (newspapers, etc.);
- Advertising by word of mouth;
- Promotional events at universities and teaching hospitals of universities;
- Scholarship programmes for students to present a variety of job options in the military health service system (for instance “internships”, see below);
- Professionalisation of the military recruiting process through the establishment of a health service advertising section and training of full-time recruiters (which must have experience in both different military areas and in the profession of a military doctor);
- Representation at expert conferences, professional trade and career conventions; and
- “Open days” at military (medical) academies, military hospitals and other military institutions.

BEL, for instance, installed a system of local recruiters (“word of mouth”) in which military students look for acquaintances who might want to enter the Belgian armed forces. They are coached by a team of specialists.

HFM-213 recommends measures where potential applicants come into face-to-face contact with medical officers: “medical specialists speaking to medical specialists” is very successful because of the personal contact. Experienced military doctors who recruit, with knowledge of the military and deployed operations, should appear in uniform. NOR puts it like this: “However it seems that the most efficient recruiting method is active use of the ‘medical grapevine’, where doctors talk to new doctors, nurses talk to nurses, etc.”

A good example for what is referred to as “internships” (see the list of measures above) – a measure which follows the philosophy of direct and face-to-face contacts – is described by NDL: “For medical students, the Netherlands Armed Forces make appointments with civilian medical faculties for “internships” within the Netherlands Armed Forces. These internships are completed at health centres of barracks, aboard ships

and air bases. In general, medical students are very positive about this possibility and describe these internships as attractive because in a military setting there is always a direct, practical (and challenging) relevance. In addition, this facilitates contact between the military and students, which may result in a contract after completion of medical training.”

Conclusion – Advertising is a suitable measure for recruitment. It is recommended to place particular emphasis on advertising by word of mouth, which in the view of HFM-213 is both a very effective and a very efficient measure. To enhance credibility, the information conveyed by the medical doctors to potential applicants should not be exclusively positive.

4.3.7 Other Measures

Many Nations are increasingly closing ranks with private medical institutions, personnel agencies, universities, and civilian hospitals to improve their personnel situation and to fill gaps in their military medical services. The other measures referred to here are not measures of recruitment and retention in the narrow sense of the word, but are measures designed to meet medical needs.

Collaborations range from loose affiliations between military medical personnel and the personnel of partner organisations to contracts between the armed forces and civilian organisations based on ‘public private partnerships’. Cooperative work can be distinguished into three types:

- a) Cooperation for the purpose of training, which was in the past and is still today quite common for basic and advanced training of military medical personnel.
- b) Contracts with individual civilian doctors for a definite period (in peacetime and on deployed operations).
- c) Institutional cooperation between the armed forces and private health care organisations over a longer period.

AUS describes an example for a cooperation of type a): “JHC have developed a strategic alliance with Queensland Health, this alliance will provide skills enhancement and training opportunities in a variety of clinical areas keeping ADF health professionals prepared, ready and available to support Defence operations. This is the first of a number of alliances which will be managed around the country and so provide this type of training opportunities and clinical experience to a greater number of ADF health personnel. In conjunction with the Alliance with Queensland Health, JHC have also signed a Strategic Alliance with the University of Queensland. This has seen the establishment of a chair of Military Surgery in the Faculty of Health Sciences. This position will provide academic scrutiny and rigour to the resuscitative and emergency care on the battlefield, focussing on the unique requirements of Defence in pre-hospital care, trauma, burns, damage control, resuscitation and surgery.”

NOR reports a cooperation of type b): “In 2008 the Norwegian Armed Forces engaged surgeons (general surgeons, orthopaedists and anaesthetists). They have contracts of five years duration. It is possible to prolong and/or renew the contracts into another five year period. This personnel work half time within the Armed Forces (in national and/or international operations) and half time within dedicated civil health care institutions / University Hospitals. The Armed Forces have agreements of co-operation with these institutions /University Hospitals.” Quite similarly, DEU describes “raising the quota of physicians with civilian professional qualifications who can be hired (‘career changers’).”

NLD reports a cooperation of type c): “Another measure is the initiative of The Institute for Cooperation with partner Hospitals (IDR). The IDR coordinates the cooperation between the Armed Forces and the participating civilian hospitals in the Netherlands. The IDR is responsible for selection, training and pre-deployment preparations down to the post deployment responsibilities and care for all medical specialists who take part in a mission be it a deployment or exercise within the Netherlands or abroad. The core of the

IDR formula is the positioning of additional surgical teams in civilian hospitals. These teams are on top of the regular hospital staff and financed by the MOD. The service in return from a civilian hospital is the formation of a reciprocal team. This team belongs to the regular staff of the hospital and is not financed by the MOD. The status of personnel is either military (active duty) employed by the Armed Forces on regular duty in civil hospital or civilian (officer in reserve) employed by the Armed Forces or the hospital and also on regular duty in civil hospital. The main advantage for the participating hospitals is additional staff free of charge and variation of work for their own staff during activities for the MOD (deployment, training and exercise). For the MOD the main advantages are a guaranteed capacity of deployable surgical teams and a guaranteed quality all for a reasonable price. In total 12 civilian hospitals, all major regional trauma centres, some of which also specialized in burns have a contractual relation with the Netherlands Armed Forces. This initiative proved to be an unorthodox and unique idea:

- Successful (no shortages);
- Original (prize winner Department of Internal Affairs);
- In future also other categories (e.g. IC nurse); and
- Recent developments: negotiations underway to reduce reaction time”.

In BEL similar measures will be taken as a result of the new law. More specifically, a team of coaches closely works together (in order to determine study plans) with internship coordinators from different Belgian universities. These two entities are working together to place pools of military personnel in specialised civilian services. This is a win-win cooperation because it helps specialists maintain their skills in key services (which leads to more job satisfaction as well) while they remain available for operations at the same time.

Conclusion – Cooperation with civilian hospitals or personnel agencies are suitable means, especially the measures of type a) – i.e. cooperation for training purposes – can be evaluated as not problematic at all and have a long tradition in military health care systems. There is, however, a difference between health care in peacetime and on deployed operations: measures of type b) and c) – i.e. individual and organisational contracting – should only be utilised as supplementary means to meet needs and to fill temporary gaps; there should always remain a basic supply of military medical personnel in the armed forces that is not beyond their control. HFM-213 does not recommend an overall outsourcing strategy in this strategically important area of military medical services and health care.

5.0 OUTLOOK AND CONCLUDING REMARKS

Most of the participating Nations’ civilian health systems are confronted with shortfalls of qualified medical personnel, mostly highly specialised medical officers, such as radiologists or anaesthesiologists, and nurses with special qualifications. Especially rural regions are affected. Therefore military medical services have to compete with civilian employers for qualified medical staff.

Some of the Nations’ military medical services have governmental approval to follow the market, whereas others lack adequate instruments to compete with the offers of civilian hospital operators or other health service providers to medical specialists.

There are fundamental differences in the employment of medical specialists in terms of different approaches, but also of the size of the respective medical services. Those Nations without military hospitals of their own finance medical teams to be trained in civilian hospitals or offer attractive training programmes that increase the qualification for the civilian health market for civilian physicians with the aim to send them on deployments. Others have a two-part approach with military personnel in military clinics as well as military personnel employed at civilian hospitals as an ensured available reserve for planned deployments. The larger

medical services rely on their own personnel in military hospitals – mainly for training reasons in times of increasing sub-specialisation in civilian life – with recruitment mainly through medical cadetship.

Owing to the fact that the personnel situation on civilian health markets is deteriorating, qualified personnel in most Nations earn much higher salaries now than during the last decade. To remain competitive military medical services attempt to close the gap between the income of civilian and military medical specialists. To fill the income gaps – if they exist, as some Nations pay the same as civilian employers – allowances corresponding to skills and experience, as well as special bonuses have been implemented. Different payment systems have been installed as effective measures to increase attractiveness and retention.

There are also differences in the field of flexible work arrangements. Not all Nations allow private practice besides the military job, but those that do require the approval of the commanding officer as a side job should be of benefit to the service. Private practice finds its limits where it collides with military tasks. Some Nations use the permission to engage in private practice as a financial incentive to close the payment gap to the civilian market with effects on the availability of medical specialists for the military occupation.

Whereas most Nations allow paid maternal leave – just differing in the duration, but corresponding to civilian regulations – part time work is only possible in some Nations. Others have completely adapted civilian regulations in order to conform to national law or to remain competitive.

As regards career planning, some Nations have linked ranks to the grade of qualification, whereas in others this is hampered by legal constraints. In some Nations, medical officers are one rank ahead of comparable non-medical officers. Some Nations offer – depending on the service – career broadening opportunities in the form of scientific research or postgraduate master studies including scholarship programmes for nurses. Almost all Nations ensure that medical personnel have civilian qualifications as re-entry options into the health care market after the end of their contracts.

There are different very successful training programmes in place, which mark a major factor of attractiveness and retention for the military medical services. For some Nations this starts with fully paid university studies for medical cadets and covers specialisation as well as qualification programmes for officers and NCOs including master degrees and PhDs. Maintenance of clinical skills programmes for medical personnel in staff functions completes this system of life-long learning, which is a special trade mark of the military in comparison with the civilian sector.

Advertising strategies differ a lot. There are Nations that are in the lucky position not to depend upon special advertisements, as information about the attractiveness of military service is carried by word of mouth within the medical communities. In these Nations even deployment is an attractive factor because of the unique medical experience and the adventure, and a wish to serve one's country is prevalent. Other countries use different media such as specialised medical journals, congresses, television and the internet. Another important recruitment measure is to make doctors and nurses from the military available for communication with interested civilian doctors and nurses, as they have similar backgrounds.

As a first conclusion, most Nations find financial incentives to be extremely valuable, but not sufficient to win and retain personnel. Training and ensuring a good work-life balance contribute to the effort – especially with increasing numbers of female personnel in the medical services. Depending on the standing of the military in the home country, military service itself may also be an important factor. All in all, the armed forces have to find ways to deal with the balancing act between the occupational and private interests of military doctors on the one hand and the interests of the armed forces and the demands of service on the other.

The task of HFM-213 was to develop a toolbox of measures for recruitment and retention of personnel. HFM-213 decided during its last working session to end the study with a general assessment presented to STO. This has the following reasons:

- Not all questionnaires (quantitative and qualitative approach) include information on (scientific) evaluations of the measures mentioned. This may be due to one or more of the following three factors: Nations did not submit their evaluation results (reports, studies, working papers and so on) to HFM-213 or Nations have implemented new measures recently, so that an evaluation could not be rendered yet or the implementation of measures is not accompanied by evaluation studies at all. In consequence, no real evaluation of the connection between measure and result, i.e. the effectiveness and the efficiency (input-output ratio) of measures, is possible. The report is basically an assessment of opinions. Based on the delivered material, no applicable toolbox, but only a general assessment can be presented.
- Not all measures apply to every country in the same way because of a different public support of the military within the countries and other framework conditions. The report of HFM-213 nevertheless is a suitable basis for the development of toolboxes in NATO member and PfP states, which must then be tailored to local requirements.

Nations are invited to adapt the findings of HFM-213 to their military medical system. They are encouraged to implement the proposed steps, because the study showed clearly that countries that take a lot of measures encounter fewer problems in the recruitment and retention of military medical personnel.

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Medical officers	Retention												
Military medical personnel	Training measures												
Military medical services													
14. Abstract	<p>For several years now, available medical capabilities have been considered insufficient to meet NATO's level of ambition. Multinational Medical Support, AirMEDEVAC capabilities and Deployable Medical Facilities were identified as medical shortfall areas, not only caused by deficiencies of specified material as MEDEVAC helicopters, but especially by the lack of qualified medical personnel. Efforts and plans are in progress to mitigate these personnel shortfalls, and nations are encouraged to implement the proposed steps.</p> <p>HFM-213 has undertaken a social scientific assessment of personnel situations in the military medical services of contributing nations, including existing or expected shortfalls and measures already taken or initiated to overcome those. The results of this assessment of measures of recruitment and retention are documented in this report.</p>												





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