



The Military Veterinarian

Its position and function in the Royal Netherlands Army

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Summary

As the military veterinary capacity has been very limited in the Royal Netherlands Army (RNLA) for the past 40 years, an academic study was done from a civilian viewpoint on the different areas of expertise to which a military veterinarian could contribute. Starting point was the position of the military veterinarian in the Swiss and French armed forces as an alternative to the English or US model. This study has resulted in various suggestions on how to apply veterinary expertise within the RNLA, which are also further discussed in the light of the current situation.

"The evolution of the concept of engaging troops is characterized by the necessity for deploying forces to be able to intervene abroad in different state of affairs, such as preservation of vital national interest, fighting against terrorism, authorized law enforcement and assistance in humanitarian emergencies.

(...)

From reality and facts, the Armed Forces should understand that it is in their own interest to have professional military veterinarians, well trained and able to be sent abroad to support forces during operations¹."

Introduction

"Coming out of the barracks, and showing the people what the army does for society" is one of the aims of the Open Army Day 2014. Research showed that the exact work of the Armed Forces is unknown to most of the Dutch population. It was therefore surprising (and most welcomed) that already in 2011 a young academic from a well-known University showed interest in the work of the army and more specifically in that of the military veterinarian.

As part of the Bachelor's programme in Veterinary Medicine at Utrecht University, each student is required to write a thesis, as a desk-top literature study.

Ms Judith Gooijer, who had no military background whatsoever, chose the subject *"The multi-faceted role of the modern Army veterinarian"* and transformed it into her thesis entitled *"The Military Veterinarian; its future position within Dutch Armed Forces"*. This is the more surprising given the fact that at that time the Royal Netherlands Army (RNLA) seemed to have little or no veterinary capacity. Despite the fact that there is a great abundance of relevant material from the English speaking countries, Ms Gooijer chose to analyse the position of the military veterinarian from its position in the Swiss and in the French army. Starting her thesis with

a historical background of the military veterinarian, she analysed the French and Swiss Army veterinary capabilities, describing their current tasks. Based on these findings a function profile was developed, with relevance to the Dutch Military Veterinarian.

This paper is based on the thesis finalised by Ms Gooijer in early 2012. The text has been revised to prevent overlap with other papers in this journal's edition and more recent information has been added. The original thesis is available on request.

A short history on military veterinary service

"The veterinarians have proved, charging with sabre in hand each time the occasion presented itself, that they are horsemen and fighters. We demand that they treat men or animals indiscriminately, to carry orders under fire, to assure the provisioning of the assault troops, to command the porters or the evacuation convoy after the injured, to be an officer of topography or a professor of agriculture. It is not my place to judge their work but I must point out that not even the unfavourable conditions in which their practitioners found themselves could prevent these men from penetrating and shining light on the mysterious ensemble of tropical diseases which they did with the power of their patient labour and intelligent research²."

Over the centuries horses as well as other animals have been used for a great variety of tasks. As charger for knights in armour or light hussars relaying messages. As pack animal for ammunition, food and forage. For transporting artillery, soldiers, engineering material and a thousand other reasons. In these earlier days the medical care for the horses was mostly in the hands of farriers, saddlers and skinners.

As medical science developed a more scientific basis during the early 1700s

and forced by several disastrous outbreaks of cattle plague or Rinderpest in Europe, the need for a science-based veterinary education was felt. This led to the opening of the first veterinary college in Lyon, France by Mr Claude Bourgelat in January 1762³.

When Napoleon marched his army into Russia, it suffered great losses; many soldiers died of famine, exposure to the elements and on the battlefield. Many horses died too, for the same reasons. A Dutch cavalry officer in French service, C.A. Geisweit van der Netten, wrote in his journal (1815):

"The various campaigns we witnessed, in particular the one in Russia, provided us a lot to think about related to the means that can be used to maintain the health of the war horses. That is because the poor condition of the cavalry and the great loss of horses can largely, if not entirely, be attributed to a failure in keeping the horses healthy. This took place in the French armed forces and had a decisive influence on the success of war (...)⁴."

As a result of the disastrous Russian campaign in 1812, Napoleon decided there should be five veterinary schools, of which one was to be established in the Netherlands.

After a difficult start, in which various riding schools were established in different cities teaching equine care, finally in 1821, the Imperial Veterinary College ("Rijks Veeartsenijschool") was established at Utrecht.

Although one of the main reasons for its foundation was the cattle plague from which the Netherlands suffered a great deal, the Army was quick to benefit as well.

Prior to 1821 a start was made by hiring foreign veterinarians into its service. For example, in 1815, the German equine veterinarian F.H.S. Dehne was brought to the Netherlands.

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Earlier that year, he had graduated in Berlin. After passing his exams before the Leiden Committee, he became the first equine veterinarian commissioned in the Netherlands Armed Forces.

1816 can therefore be regarded as the year in which the Dutch Military Veterinary Service was officially established⁵.

The Military Veterinary Service (Militair Diergeneeskundige Dienst / MDD) was part of the Military Medical Service and was under its command, which meant that any Health Officer could nullify a useful or necessary treatment ordered by a military veterinarian. In 1856, the MDD was segregated from the Medical Service and the Health Officer no longer could influence the activities of a military veterinarian. However, only 6 years later this decision was revoked and once again the MDD was under supervision of the Military Medical Service. Not until 1914 did the MDD become functionally independent. A decision that was formalised in 1923 and lasted until 1940 after which the army was fully mechanised and the MDD disbanded. With the retirement in 1973 of Colonel-Veterinarian A.J. Braak the last original equine veterinarian left the army. One of his last assignments was Commanding Officer of the Military School for Hygiene and Preventive Medicine at Neerijnen, which was closed after his retirement^{5,6,7}.

France

The French Armed Forces

France has a long military history, next to its long history of colonialism and nationalism, requiring an important role for the French Armed Forces in maintaining its position as a global power⁸. For decades, the French vision of Europe was founded on three principles: inter-governmentalism that minimizes the infringement on French sovereignty, French leadership, and a European Europe that is not influenced by the United States. For a while, France therefore saw the European Union as a "force multiplier", a means to exert and increase influence on the world stage. Due to the French ambitions at the political level, there was always a great preparedness to intervene, not only through diplomatic means, but also in the military field. Before France joined NATO, it had some military collaborations with other countries, ranging from technical support to the obligation of giving military assistance. French leaders have used global deployment and possible intervention

by the French Armed Forces as one of their most important instruments in their foreign policy.

However, since Operation Desert Storm (1991), the command structure has been changed to facilitate such expeditionary operations. During the last years the organisation and execution of national operations has also been modified extensively, mainly due to a high level of unpredictability on international levels, being a continuous source of risks and possible threats. Although after the Gulf War its nuclear defence budget has been reduced by 80%, France still derives its status from its nuclear deterrence, a cornerstone of its Defence and Security Management. In 2008, President Sarkozy announced that the French Armed Forces had to become smaller, more mobile and better equipped in the fight against terrorism. Identification and destruction of terrorist networks is at present one of the main tasks of the French Armed Forces. In 2009, the French Parliament agreed with a full return of France in the NATO's military command structure, after it had left this organisation in 1967. Due to these new developments, the general goal of the Ministry of Defence is to protect the French territory, its population and interests. This corresponds to other missions in the framework of international agreements (NATO) and European defence. Besides maintaining the peace and national cohesion, French Armed Forces are also involved in maintaining global stability. Clear examples are the recent deployment to Afghanistan and current EU maritime missions off the African coast and mission to Mali^{9,10,11,12}.

The French Military Veterinarian

Also in France, the image and perception of the role of military veterinarians are frequently connected with veterinarians treating only horses. This association stems from the dominant presence of horses during the wars until the First World War and the necessity to have veterinarians to care for them. In the beginning of the XXI century, there are still military horses present, but the role of the military veterinarians is now completely different. This is mainly due to operational changes (fewer horses) of the Armed Forces and different deployment strategies which include foreign intervention and NATO / UN cooperation⁹. The French Armed Forces have a professional Military Veterinary Corps, which participates in several overseas

operations. Military veterinarians are able to join the Armed Forces in all theatres of operation. Yearly, 10 - 20 veterinarians are deployed in various missions, lasting 2 - 6 months. In all, a fulltime equivalent of 50 months per year is provided. The military veterinary activities are under supervision of the Medical Service. Veterinary support is given to the entire French Armed Forces; each military region is able to use veterinarians. The Military Veterinary Corps includes 75 veterinary officers, in direct support, in military research institutes and studying at the military medical training facilities. In addition, 35 veterinary technicians, both military and civilian, and 50 veterinarians from the operational reserve (part-time work or short duration missions) are available. The French Military Medical Service consists of 6 regional management authorities and each of them has a veterinary office with 2 officers. These veterinarians are responsible for coordinating veterinary activities in 18 veterinary sectors (each veterinary sector is in charge of supporting forces in its own territory) and 5 veterinary services in specific military units, which are specialised in providing veterinary support to the units using military animals. Five veterinarians are posted overseas. They are under the command of the French military medical authorities of overseas departments and territories (Figure 1).

The two main objectives in the field are to support military personnel and protect their health, requiring extensive safety and quality checks of food and water. In addition, military veterinarians are appointed to conduct official food inspections for units and services under the authority of the Ministry of Defence. The Ministry of Defence and the Ministry of Agriculture also signed an agreement for cooperation between military veterinarians and civilian veterinary inspectors. Besides food safety, the veterinary tasks include animal health care, curative and preventive animal medicine. Furthermore, they keep an eye on animal welfare and laboratory animal protection.

New ideas and perspectives are developed for veterinarians due to new objectives of the French Armed Forces, such as combating terrorism. A recent subject has been to provide veterinary support for military animals, by training dog handlers on first-aid. Additionally, military veterinarians have been receiving training in epidemiology and veterinary public health to support

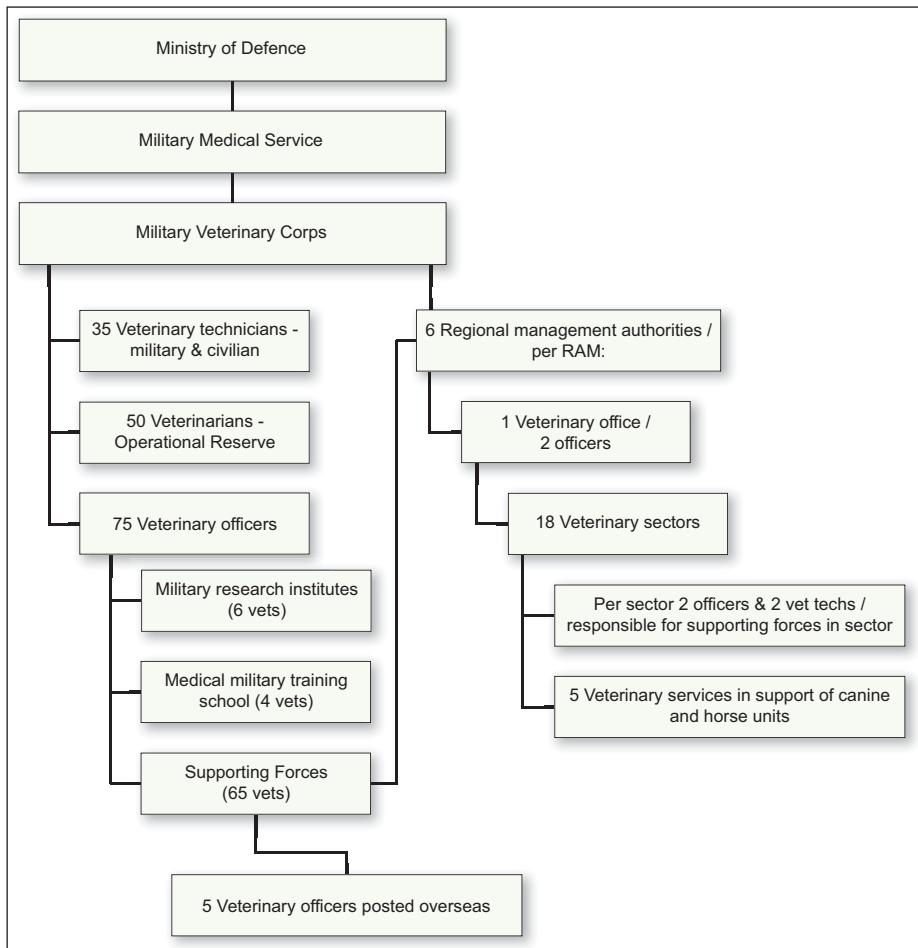


Figure 1: Organogram of the French Veterinary Corps¹.

tactical forces deployed in foreign operations. In conclusion: closely linked to the deployment of Armed Forces, the French military veterinarians contribute to the risk management related to food safety, water quality, prevention of epizootics and zoonoses and protecting animal health¹.

Switzerland

The Swiss Armed Forces

Switzerland has a standing policy of active neutrality, and will therefore not be involved in conflicts abroad, nor can it join NATO as a member. However, NATO members and Switzerland share some key values, such as international humanitarian law. In line and within the limits of its neutrality, Switzerland can participate in peace-supporting operations under UN or OSCE mandate¹³.

Art. 54 (Bundesverfassung der Schweizerischen Eidgenossenschaft): "The Confederation shall ensure that the independence of Switzerland and its welfare is safeguarded; it shall in particular assist in the alleviation of need and poverty in the world and promote respect for human rights and democracy, the peaceful co-existence of peoples as well as the conservation of natural resources¹⁴."

Art. 58: "Switzerland shall have armed forces. In principle, the armed forces shall be organised as a militia. The armed forces shall serve to prevent war and to maintain peace; they shall defend the country and its population. They shall support the civilian authorities in safeguarding the country against serious threats to internal security and in dealing with exceptional situations. Further duties may be provided for by law. The deployment of the armed forces shall be the responsibility of the Confederation^{8,15}..."

Having a militia army, Switzerland requires every able-bodied male in the age of 19 to 26, to serve for at least 260 days. They receive 18 weeks of mandatory training, followed by seven 3-week intermittent recalls for training during the next 10 years¹⁶.

Membership of the European Union would be an option as the EU has no military basis. Although Switzerland is not a member, it has a special trade agreement with the EU. Switzerland is a country with many cultures and religions, presenting the origin for its opinion that if a country is not externally neutral, it cannot be internally cohesive.

Since 1996 Switzerland participates in the NATO programme: Partnership for Peace (PfP). This partnership seeks to intensify security policy and military cooperation in Europe. The Swiss participation in the PfP is compatible with neutrality as there is no requirement for NATO membership and no obligation to provide military support in the event of armed conflict¹⁷. Recent developments like globalisation and innovation create a whole new geo-political situation. In 1993, the Swiss Federal Council set out to determine how it intends to continue its neutrality under the changed circumstances. According to the report, neutrality alone cannot protect their country against new dangers such as terrorism, organised crime and destruction of the environment. In 2001, the Swiss revised their Military Act, which now regulates Swiss participation in peace support operations of the UN and provides the basis for arming Swiss peace support forces abroad for self-protection. Operational support is compatible to neutrality if it is based on a UN Security Council mandate.

Switzerland "will exercise its neutrality in a way that allows it to take the necessary military precautions for its own defence, also with respect to new threats. Depending on the threat, this could also entail international cooperation in the preparation of defensive measures¹⁷."

The Swiss Military Veterinarian

The primary task of graduated veterinarians in the Swiss Armed Forces is to secure the health of men and animal. This includes curative veterinary medicine of military animals (horses, mules and dogs), but also training and educating kitchen personnel on food safety and strict civil food legislation¹⁸.

The Swiss Armed Forces have many animals serving in the army, first of all the military working dogs (MWD). These dogs are trained for surveillance and protection, as rescue dogs and as sniffer dogs for explosives and drugs¹⁹. Horses and mules are also used, for patrols and transport of material on tracks impassable for motorized traffic. These animals are used mainly in the Alps and other mountainous areas⁴. Horses and mules are also used in "national operations", such as clearing away wood after storms and avalanches²⁰.

For training and working with these animals different personnel is used, such as dog handlers, veterinarians,

farriers and the “veterinärsoldat” or military veterinary assistant / nurse practitioner²¹. To become an army veterinarian, special training is required. After graduation as veterinarian an additional course of 16 weeks is required¹⁶ to become “Veterinärarzt/offizier” or Veterinary Officer. Veterinarians can complete their compulsory army service in this capacity¹⁸. During the 16 week course, the candidate army veterinarians are trained on the following subjects: curative medicine and deployment of military dogs and horses, horse shoeing, food safety, working in the mobile animal clinic, dental surgery of horses, feeding and day-to-day care. In addition the candidates also receive a military training, including shooting and navigation, horsemanship and their

military driving license¹⁸. In the “Kompetenzzentrum Veterinärdienst und Armeetiere” (Army Command Competence Centre Veterinary and Animal Centre) there is one fulltime veterinarian²². The other veterinary officers have a part-time position, as they work in private practice. In total 600 days are served in this capacity as part of their compulsory army service, which includes the 16 week course of extra training. Each year army veterinarians are recalled for training, and for this purpose are assigned to different units: Army food hygiene inspection team, a veterinary company or a working dog company^{23,24}. The inspection team is tasked with food inspection, hygiene (measures and compliance), training of army kitchen personnel and development of documents and procedures on food

hygiene & safety (Figure 2)²³. In case of national emergencies involving animals, the army can provide support to civilian areas, especially in the field of the veterinary service²⁵.

The Netherlands

The Royal Netherlands Army (RNLA)

Article 97 of the Dutch Constitution reads as follows:

“There shall be Armed Forces for the defence and protection of the interests of the Kingdom, as well as to maintain and promote the international legal order”²⁶.

The RNLA can be deployed for national security reasons, both at home and abroad. National security is at stake when vital interests of the Dutch Government and/or society are threatened or when there is

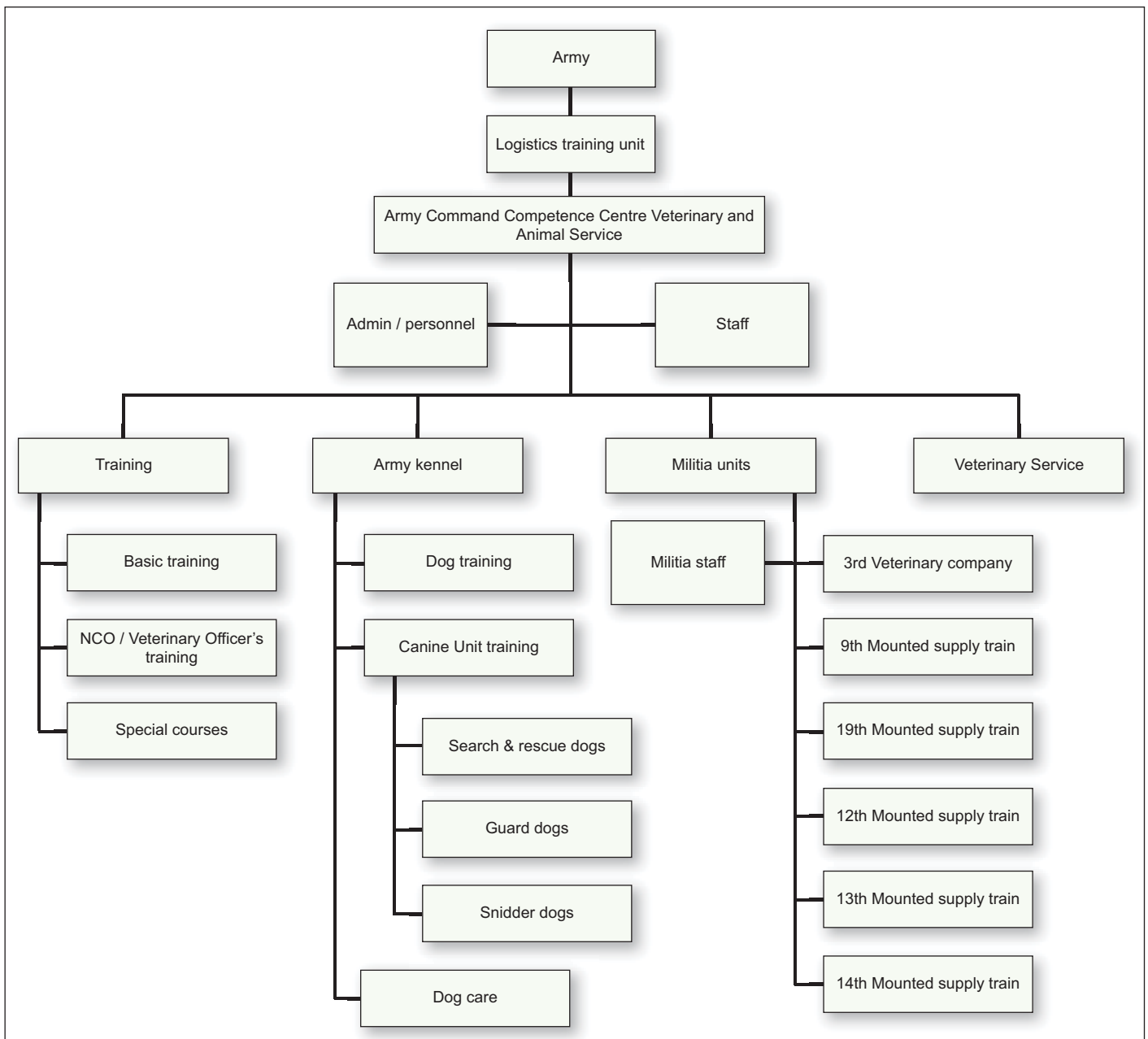


Figure 2: Organogram of the Swiss Veterinary Corps (assisted by Mr Suter of the Army Command Competence Centre Veterinary and Animal Service).

a potential social disruption. Interests are: territorial security, economic and ecological safety, physical safety (including public health) and social and political stability. The task of the government is to ensure and promote this national security, by preventing disasters and crises. However, in case of crisis, military support can be provided to the Dutch civil authorities as special knowledge and capacity (e.g. mobile field hospitals) are readily available in response to the situation²⁷.

By stimulating global security, the core reason for international crime and migration diminishes. The main tasks therefore of the RNLA focusses on intelligence gathering (MIVD), security, protection and deployment of Special Forces. This usually results in taking part in an international joined combined effort for crisis management and disaster relief, mostly under NATO or UN command^{28,29,30}.

At this moment, the Armed Forces are deployed in several missions, for example in Mali. Recently in Afghanistan, The ISAF (International

Security Assistance Forces) supported the Afghan government in maintaining peace³¹. When deployed in a mission, military personnel can also be deployed in reconstructing a post-conflict area³². To this end the so-called "1 CMI Command" exists (Civil Military Interaction Command), interacting with local key players and non-governmental organisations (NGOs). The CMI unit has the specific task to support a military mission or assignment with non-kinetic expertise, advising the Commander.

1 CMI Command (1 CMI Co) is part of the LOSC (Land Operation Support Command / OOCL) and consists of, apart from a small staff, fulltime military personnel organised in CMI support units (CSU) and reserve officers organised in different network groups according to the PMESII structure (Political, Military, Economic, Social, Infrastructure and Information). These reserve officers consist of so-called functional specialists: People with a civil position requiring specific expertise and skills³¹. In the past, several veterinary specialists have been deployed in

crisis management and national disasters. They have also served in Iraq and Afghanistan, for example tending to local livestock^{32,33}.

The military veterinarian: organisation, expertise and skills

The position of a veterinarian in military service has developed from an equine practitioner to a multi-disciplined professional, covering preventive and curative veterinary medicine, epidemiology, food safety, hygiene and (veterinary) public health. Many countries have responded to this broadened scope by giving the military veterinarian a clear basis within the Armed Forces. Although the RNLA still do not have a full-time position for a military veterinarian, a substantial veterinary capacity is under construction by using reserve officers. These officers are recruited and trained by 1 CMI Co, but functionally embedded with the combat brigades and the LOSC (Figure 3). They work closely with the preventive medicine (PM) specialists, the medical specialists, the staff veterinarian and with the experts from CEAG (Expertise Centre for Force Health Protection).

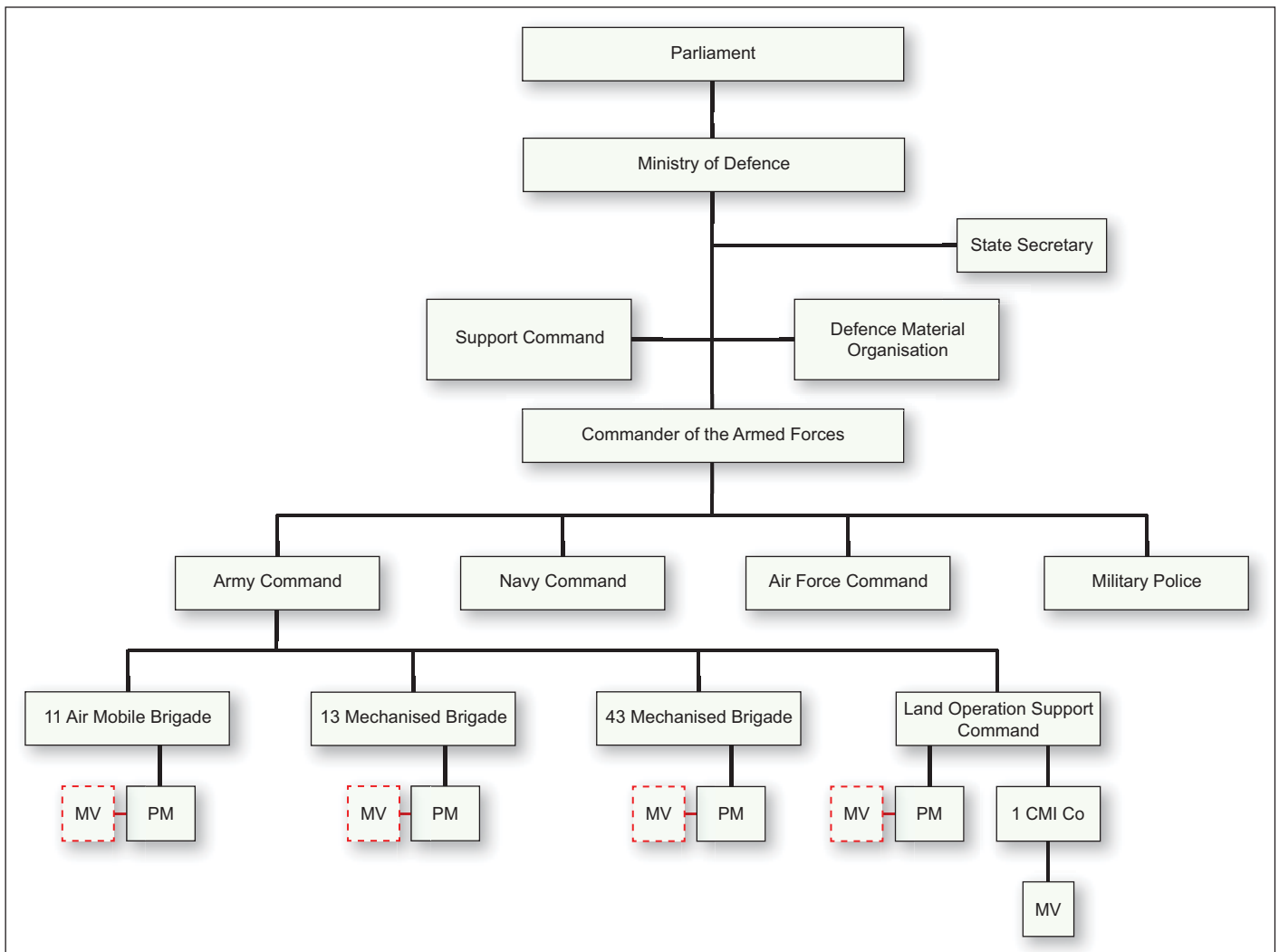


Figure 3: Organogram Dutch veterinary capacity. Based on: www.defensie.nl/landmacht/eenheden

Since 1996, PM specialists are permanently deployed in all missions. Their tasks are executive, but also initiating inquiries and providing advice to the medical staff and operational command³⁴. Many tasks are closely linked to the areas of expertise of the military veterinarian³⁵. The way these tasks can be further integrated will be clarified later on in this chapter.

Though not exclusive, the following areas of expertise have been identified in which the military veterinarian can be useful for the RNLA: Animal Medicine, Emerging Diseases, Disaster Control, Public Health and Hygiene and Development Projects³⁶. These areas will be addressed in more detail below, underlining their importance and operational structure.

Animal Medicine

The first traditional area of expertise for the military veterinarian is Animal Medicine. Military animals, including horses and dogs are used for a variety of tasks. For example Military Working Dogs (MWDs) are a valuable asset in today's missions³⁷. They are used in detecting roadside bombs (EIDs), hidden caches of weapons or ammunition, outdoors, indoors or in vehicles, protecting the compound and equipment and to explore landing strips. In addition MWDs are used as so-called "Less Lethal Weapons", in crowd control. These MWDs go out with their handler on patrol, where they serve as early warning system against ambushes or for identification of armed terrorist groups. Because of their unique and versatile skills and their expensive and difficult training, these MWDs are regarded as high-value assets to the Armed Forces^{37,38,39}.

Prior to deployment, a disease risk assessment should be made regarding the theatre of operation in which the animal will be serving⁴⁰. Prior to and during the mission the animals will be checked for any diseases and other disorders, the appropriate vaccination scheme and parasite control will be applied and the animals will receive any required treatment for injuries sustained during operations^{38,40}. Besides direct assistance, veterinarians can make this assessment, they can instruct the handlers on general care and treatment and give specific geographical information relevant for the acclimatisation of the animals to (extreme) warm or cold conditions^{1,40}. When the MWDs go on patrol with their handler, there is no Dutch military veterinarian present who can provide

medical care. In case of injuries, for example after an attack, it is the responsibility of the handler to be able to administer first-aid. Veterinarians will need to be in a position to train the handlers for this important task.

During military deployment, there will not only be the animals of the Armed Forces for which the veterinarian may be called upon. Animal Medicine can also apply to local farm animals or local wildlife surrounding the compound³⁸. Pest control (the extermination or removal of any unwanted animal from the compound) is done by the PM specialists. A veterinarian can assist them on policies and procedures, while the executive tasks lie with the PM specialists. This is mostly done using baited traps (e.g. rodents) or specific actions to localise, catch and remove the targeted animal from the compound. PM specialists may apply deadly force to neutralise a specific threat (e.g. rabid dog)³⁵.

It is not uncommon that military personnel adopt local stray dogs or other animals and bring these into the compound. These animals are promoted to mascot status and treated like pets. Seemingly quite harmless, these animals, wildlife and domesticated pets, can be a real nuisance and more importantly, they can be a potential carrier of animal diseases, zoonotic pathogens, creating a potential health risk to all military personnel (men and animal!)¹. Although it is a standing order that all pets in any shape or form are strictly forbidden within the compound, exceptions to this rule can be made by the Commander, consulting a PM specialist or military veterinarian. For example cats can be used to suppress a possible rodent infestation of the compound or dogs can be used as controlled animals to occupy the natural territory within / surrounding the compound, keeping out unwanted stray animals. In all such cases each requirement concerning the animal's health and welfare must be met.

Emerging Diseases

About 75% of the human emerging diseases in appear to be zoonotic⁴¹. A wide variety of animal species, both domestic and wild, can act as reservoir or vector for these pathogens, which may be viruses, bacteria or parasites³⁸. These pathogens can be a threat for military personnel deployed, for the health of the local people and local farm animals. People can become infected through contacts with live animals, products of animal origin (e.g.

meat, milk), excreta or mediated by airborne vectors such as flies and mosquitoes⁴². Pathogens can also enter the Netherlands using different pathways, which also include all returning military equipment and vehicles used during the operations, with pathogens embedded in mud, manure or any form of dirt attached to its surfaces^{34,43}.

During their deployment, military personnel come into contact with different cultures and are exposed to other environments, climatic conditions and (un)known diseases, including zoonoses. Rabies is a clear example of an animal and zoonotic disease which can be contracted via saliva (bites) from e.g. bats, foxes, dogs and cats⁴⁴.

Officially the Netherlands is free of rabies since 1923 (though some incidents caused by illegal import of dogs make this status questionable), but in parts of Africa, in Eastern Europe, India and Asia rabies is endemic⁴⁵. Veterinarians can train and inform military personnel about these diseases and underline the health risks of certain ill-informed actions like adopting local stray dogs as pets or consuming locally produced foods of unclear origin^{1,37}.

Military veterinarians can therefore act as gatekeepers, in the context of food safety (discussed later) and the exposure to diseases. Prevention, detection and control of diseases are clear parts of the main tasks of a military veterinarian, also in the context of repatriation. The transmission of (zoonotic) pathogens from the theatre of operation to the homeland (e.g. foot-and-mouth disease or avian influenza), is a real threat which must be minimized due to its massive impact on animal and public health, economic damage and possible negative public opinion for the mission itself^{1,42}. Leading example is rabies: When the English soldiers returned home after World War I, there was a clear increase of animals infected in England with rabies. Although a direct link could not be established, a realistic scenario shows how rabies was carried over by the returning soldiers¹. Various NATO Standardization Agreements (STANAGS)⁴² are already in place or are in the process of being finalised, covering these issues. In addition, in the operational planning phase of missions and exercises these risks are now being considered, supported by assessments drafted by CEAG to which the military veterinarian and other specialists can contribute.

Interestingly, these assessments can also apply when material and personnel are shipped to a third country which has specific requirements on reception from the Netherlands. The system therefore works two ways.

Disaster control

The RNLA can provide aid and assistance in the case of (natural) disasters or national emergencies, e.g. large-scale outbreaks of animal diseases, forest fires or floods. Recent emergencies where assistance was provided are the foot-and-mouth disease outbreak in 2001, the EL AL plane crash in the Bijlmer (Amsterdam) in 1992, the great floods in Zeeland province in 1953 and even in 2012 in Friesland and Groningen province when the water levels exceeded the critical limits.

The 2010 brochure published by the Dutch Ministry of Defence on National Operations clearly describes how the Armed Forces can provide support to civil emergency response units in case of large-scale emergencies. It also describes how separate entities can merge into fast acting response teams with regular military personnel supported by reservists and other functional specialists^{46,47}. In addition to the National Operations, Dutch military personnel can be deployed to disaster areas in other parts of the world or provide humanitarian support in areas under UN supervision. In these cases, the deployment of military veterinarians is of vital importance in matters concerning water and food safety and zoonotic disease risks.

Large-scale natural disasters (tsunami's, forest fires or droughts) may also result in massive loss of animal life (livestock and wild life), which can turn into a serious health risk for both men and animals surviving in the same area due to the presence of decomposing carcasses polluting the environment. Pre-existing emergency protocols and on-the-spot assessments can be drafted by military veterinarians, working closely together with local authorities and other NGOs deployed, to reduce or avert further health risks and loss of life^{48,49}.

Public Health and Hygiene

Over the years the objective of the RNLA has developed into primarily peace-keeping, stabilising and rebuilding missions abroad. This adapted scope has also changed the circumstances and potential risks that should be taken into account. At first glance public health does not appear to

be in the veterinarian's field of operations, but as both water and food safety & quality fall under public health it becomes apparent that the military veterinarian has an important responsibility towards operational readiness and personal health. Already not a simple task in the Netherlands by maintaining high levels of microbiological safety and even more challenging when facing the sometimes harsh operational conditions under which good hygiene and food safety need to be managed.

As climatological conditions in mission areas abroad can differ dramatically to the domestic situation, a local infrastructure is often non-existent (destroyed, never developed) with little sanitary resources and sewerage in working condition. Local businesses and markets are often low in hygienic conditions and in all, there are many microbial risks that face the military personnel deployed in these areas^{34,49,50}.

In addition, when military personnel is deployed to such inhospitable areas for strategic or relief missions, fatigue and operational stress may make them more susceptible to increased pathogen levels than intensive training can prepare them for. Subsequently, an increase in non-battle injuries may result in reduced fighting strength and operational capabilities. Therefore it is of vital importance that all factors involved are well known and fully covered to ensure the success of the mission at hand, requiring a high degree of professionalism³⁵.

Several areas in which PM specialists and military veterinarians can cooperate closely range from assessing bioterrorism risks (CBRN threats) to water and food safety management in mission areas^{1,49,51}. Again, the PM specialists have a more executive role in acquiring local data, by doing for example microbiological checks on water and food supply or collecting insects for further entomological determination^{52,53}. The role of the military veterinarian will be to assist on the interpretation of the data and development or amendment of protocols aimed to reduce the exposure risks of military personnel. For these tasks liaising with local competent authorities, veterinarians or available laboratory facilities is of vital importance to ensure the required assessment and management of identified (potential) risks in the mission areas.

Development Projects

The fifth area of expertise of the military veterinarian is herd management, animal health care and husbandry (e.g. breeding, feeding, housing) in host nation countries. Healthy animals deliver safe food, a better quality of life for the local families and also impact on the economies of those countries, as these healthy animals can also be applied as means of transport or in agriculture^{37,54}.

As described earlier, the RNLA include the 1 CMI Co, consisting of military staff and functional specialists, which can be deployed as part of a Provincial Reconstruction Team (PRT). Within the PRT, military personnel, civil personnel (from e.g. the Ministry of Foreign Affairs) and NGOs work together to establish projects in the mission area aiming to improve the quality of life of the local population and acquiring a level of self-sufficiency after the PRT mission is terminated^{50,55,56,57,58}. A very important task dedicated to the hearts and minds of the people who have suffered long and hard.

In conclusion

It is quite clear that the role of the military veterinarian has evolved dramatically from a dedicated equine practitioner to a "Jack-of-all-trades", being a well-trained professional with a practical mind-set focussed to tackle and overcome any problem he or she will encounter. The position of the military veterinarian is well established in most NATO partners and other countries, whereas the military veterinary capacity has been minimal in the Netherlands Armed Forces for several decades. However, the organisational role of the PM units with their specific tasks and embedded in the operational units, provides an excellent framework to re-incorporate the military veterinarian and his knowledge in The Netherlands Armed Forces. Using the Swiss and French Veterinary Services as possible examples, the Dutch military veterinarians are now becoming organised in such a way to maximise efficiency and synergy. The close cooperation of these reserve officers with other military and civil professionals (e.g. PM, CEAG and the Institute for Risk Assessment Sciences) is a key element in their current role. With their presence and using these respective networks, a broad scope of knowledge comes easily available for the soldier in the field. Although much remains to be done, a clear start has been made to create an optimal veterinary mix and

cost effectiveness for today's Armed Forces.

After much effort by Colonel (R) Veterinarian Bas Steltenpool and Professor Frans van Knapen (IRAS Division Veterinary Public Health, University of Utrecht) the military veterinarian is now on its way back to full operational status. Linked to the PM units, 1 CMI Co and CEAG, they are ready to go wherever the job takes them.

SAMENVATTING

DE MILITAIRE DIERENARTS Zijn positie en functie in de Koninklijke Landmacht

Gezien het feit dat de rol van de militaire dierenarts vrij beperkt was in het Nederlandse leger gedurende de afgelopen 40 jaar, is er gekeken naar een mogelijke invulling van taken en structuur. Vanuit een historisch perspectief, met de Franse en Zwitserse militaire veterinaire korpsen als Europese voorbeelden en de wijze waarop het Nederlandse leger thans opereert, wordt een overzicht gegeven van de aandachtsvelden waaraan de veterinaire (reserve-)officier kan bijdragen. Op het organisatorische vlak is er over de afgelopen twee jaar veel vordering gemaakt om de militaire dierenarts weer in actieve dienst te hebben.

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