



March 2017

DEPARTMENT OF DEFENSE

Medical Conditions and Care for End-of- Service Military Working Dogs

GAO Highlights

Highlights of [GAO-17-358](#), a report to the Committee on Armed Services, House of Representatives

Why GAO Did This Study

DOD has used MWDs since World War II to assist and protect servicemembers at installations within the United States and at deployment sites worldwide. As of October 2016, about 1,800 MWDs were in service. The Air Force is responsible for procuring and assigning all MWDs for the military. The Army is responsible for the medical care of all military animals, including MWDs. Questions have been raised as to whether MWDs' experiences during deployment may result in conditions that pose future health challenges. Based on those questions, a House Report accompanying the proposed version of the National Defense Authorization Act for Fiscal Year 2017 included a provision for GAO to assess end-of-service veterinary care for MWDs.

This report examines (1) how DOD tracks information about MWDs, and how many MWDs were adopted, transferred, or euthanized over the past 5 years (2011-2015); (2) prevalent medical conditions of adopted MWDs for 2014 and 2015; and (3) what assistance is available for individuals who adopt MWDs.

GAO obtained and analyzed data from the three systems used to track information on MWDs, observed system demonstrations, interviewed Air Force and Army officials, and reviewed related documentation. GAO also interviewed relevant nonprofit organizations that provide assistance to individuals who adopt MWDs.

DOD concurred with the report and provided technical comments, which GAO incorporated as appropriate.

View [GAO-17-358](#). For more information, contact Debra A. Draper at (202) 512-7114 or draperd@gao.gov.

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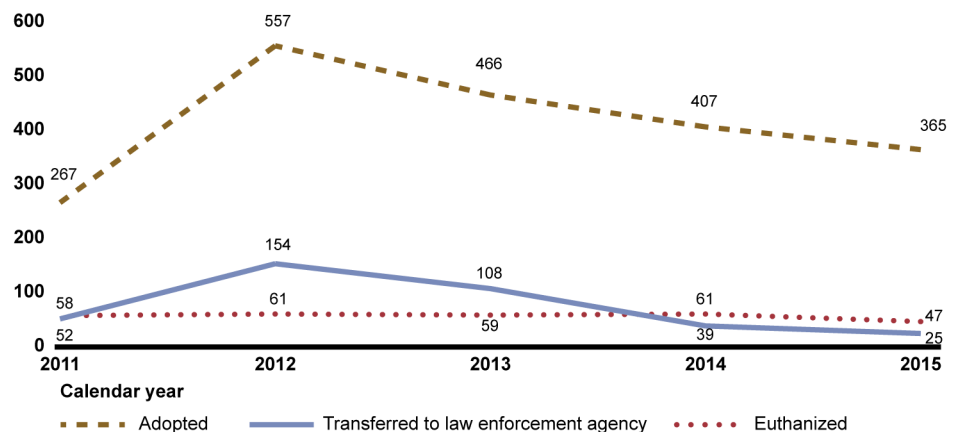
Medical Conditions and Care for End-of-Service Military Working Dogs

What GAO Found

The Department of Defense (DOD) uses three systems to track information about Military Working Dogs (MWDs), including information related to their removal from service at which time they can be put up for adoption, transferred to a law enforcement agency, or euthanized for health or behavioral reasons. According to an Air Force official, the number of MWDs adopted or transferred over the past 5 years (2011 through 2015) varied based on changes in deployment needs. The number of euthanized MWDs varied to a lesser extent.

Number of Military Working Dogs (MWDs) Adopted, Transferred, or Euthanized from 2011 through 2015

Number of military working dogs



Sources: Working Dog Management System (WDMS), Central Repository, and 2011-2012 Military Working Dog Disposition Reports.
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Based on medical data available for 421 of 772 MWDs adopted during 2014 and 2015, GAO found that the most prevalent medical conditions included skin and dental issues. An Army veterinarian told GAO that these medical conditions are unlikely to result in MWDs' removal from service as these conditions generally can be treated or resolved. Other prevalent medical conditions, such as arthritis, are associated with musculoskeletal issues, which are more likely to result in MWDs' removal from service. The veterinarian told us these types of musculoskeletal issues are common in breeds maintained by the MWD program, which include Labrador Retrievers, Belgian Malinois, and German Shepherd dogs.

While owners of adopted MWDs are responsible for the costs of veterinary care, some assistance with these costs is available through nonprofit organizations, such as the U.S. War Dogs Association. Individuals with access to DOD medical care—such as active-duty servicemembers and their dependents—may also purchase care for their adopted MWDs at veterinary clinics located at military installations. However, the types of veterinary services vary by installation, and some installations do not offer any veterinary services.

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Abbreviations

DOD	Department of Defense
FY	fiscal year
MRI	magnetic resonance imaging
MWD	Military Working Dog
NDAA	National Defense Authorization Act
ROVR	Remote Online Veterinary Record
VCO	Veterinary Corps Officer
WDMS	Working Dog Management System

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March 10, 2017

The Honorable Mac Thornberry
Chairman
The Honorable Adam Smith
Ranking Member
Committee on Armed Services
House of Representatives

The Department of Defense (DOD) has used Military Working Dogs (MWDs) since World War II to assist and protect servicemembers at installations within the United States, and at deployment sites worldwide. Currently, MWDs serve as extensions of military law enforcement, and assist with the detection and tracking of drugs, explosives, and physical threats to servicemembers. The Air Force's 341st Training Squadron at Joint Base San Antonio, Texas is responsible for procuring and assigning all MWDs for the military and transporting them to military installations. The Air Force also trains a majority of the MWDs, although the other military services—Army, Navy, and Marine Corps—may also provide training for the MWDs assigned to them. The U.S. Army Medical Command's Public Health Command Regions and subordinate Public Health Activities are responsible for the veterinary care of all military-owned animals, including MWDs.¹ As of October 2016, about 1,800 MWDs were in service.²

MWDs may be removed from service when they can no longer perform their duties due to medical or behavior problems, are no longer needed by the military, or under other circumstances.³ When MWDs are removed from service, they can be placed for adoption, either to a private party, such as a former handler, or by transfer to a law enforcement agency, or euthanized for health or behavior reasons.⁴ Once MWDs have been

¹The Army is responsible for providing veterinary service personnel in support of all DOD components. The Army fulfills that responsibility through the Army Surgeon General, Commanding General, U.S. Army Medical Command.

²This number of MWDs does not include approximately 500 dogs located at the Air Force 341st Training Squadron for training or medical purposes, as of January 2017.

³In unusual or extraordinary circumstances, MWDs can be removed from service before the end of their useful life, such as when the handler dies in action.

⁴In this report, we use the term "transfer" to refer to MWDs adopted by law enforcement agencies as opposed to private parties.

adopted or transferred, DOD is no longer responsible for them, including their medical care.

Questions have been raised as to whether the environments or situations that MWDs are exposed to during deployment may result in conditions that pose future health challenges once the MWD is removed from service. Based on those questions, House Report 114-537, accompanying the proposed version of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2017, included a provision for us to assess end-of-service veterinary care for MWDs. This report examines (1) how DOD tracks information about MWDs, and how many MWDs were adopted, transferred, or euthanized over the past 5 years (2011-2015); (2) prevalent medical conditions of adopted MWDs for 2014 and 2015; and (3) what assistance is available for individuals who adopt MWDs.

To determine how DOD tracks information about MWDs, and how many were adopted, transferred, or euthanized over the past 5 years (2011-2015), we interviewed relevant Air Force and Army officials, reviewed data from the systems used to track information about MWDs, and reviewed relevant documentation related to these systems. Additionally, we visited Joint Base San Antonio, Texas and observed demonstrations of the following three systems: 1) the Working Dog Management System (WDMS)—the computer system used to manage the full life cycle of MWDs, 2) the Central Repository—paper copies of records for MWDs that have been removed from service, and 3) the Remote Online Veterinary Record (ROVR)—the electronic medical record system for all military animals that have been treated by a military veterinarian.⁵ We also reviewed data on the number of MWDs that were adopted, transferred, or euthanized over the past 5 years and interviewed Air Force officials about how reports with these data for 2011 and 2012 were compiled for Congress, and how data for 2013-2015 were obtained from WDMS and verified.⁶ Based on our review of the data, relevant

⁵ROVR is also the electronic medical record system for privately owned animals seen by military veterinarians.

⁶From 2001 through 2011, the Secretary of Defense was required to submit annual reports to Congress with MWD disposition data based on a compilation of the disposition records received by the Air Force. A 2012 report to Congress with MWD data was prepared, but was not submitted because Congress repealed the requirement to submit these reports.

documentation, and interviews with relevant officials, we determined the data to be sufficiently reliable for the purposes of our reporting objective.

To describe prevalent medical conditions of adopted MWDs for 2014 and 2015, we obtained and analyzed available medical information for these MWDs from ROVR.⁷ To do this, we obtained identification numbers for the MWDs that were adopted during this time from WDMS and used this information to identify electronic medical records in ROVR. We specifically focused on electronic medical records that had “master problem lists,” which are lists of diagnosed medical conditions. We obtained electronic medical records with master problem lists as available for MWDs that were adopted in 2014 and 2015.⁸ According to Army officials who maintain the database, while all MWDs had hard-copy medical records with master problem lists prior to the implementation of ROVR, some MWDs adopted in 2014 and 2015 may not have had electronic medical records or master problem lists for the following reasons:

1. According to Army officials, only active MWDs had their hard copy medical records scanned into ROVR when it was initially implemented. As a result, MWDs that had been designated for adoption at that time do not have electronic medical records.
2. When hard-copy medical records were scanned into ROVR, certain types of information, such as master problem lists, had to be manually transcribed. However, according to Army officials, this did not always occur, and as a result, some of the MWDs that were adopted in 2014 and 2015 had electronic medical records that did not include master problem lists.

Our analysis is not generalizable to all MWDs that were adopted during this time because we did not have electronic medical records with master problem lists for all of the MWDs adopted in 2014 and 2015.⁹ However, based on our review of ROVR, verification of the data, and interviews with

⁷We examined medical conditions for 2014 and 2015 because the military implemented electronic medical records with ROVR in 2014, and these two years of data were the most recently available at the time of our review. The use of electronic medical records facilitated our ability to obtain these data more systematically and efficiently.

⁸Electronic health records with master problem lists were available for 421 of 772 MWDs that were adopted in 2014 and 2015.

⁹Army officials told us that their veterinarians are required to review ROVR records monthly.

Army officials, we determined that the data on medical conditions that we obtained from the electronic medical files with master problem lists were sufficiently reliable for the purposes of our reporting objective. We also interviewed the chief of staff of a network of private veterinary hospitals in New Jersey, as well as representatives from a national network of private veterinary hospitals to discuss the potential costs for treating MWDs for the prevalent medical conditions we identified.¹⁰ The chief of staff from the network of private veterinary hospitals in New Jersey also provided us with estimated costs of preventative care needed for older MWDs.

In order to determine what assistance is available for individuals who adopt MWDs, we interviewed relevant nonprofit organizations that provide assistance for adopted MWDs. To identify what types of veterinary services are available through the military, we interviewed officials with the Army's Public Health Center and the DOD MWD Veterinary Services Office at Joint Base San Antonio, Texas and reviewed relevant documentation about the availability of veterinary services for privately owned animals, including adopted MWDs.

We conducted this performance audit from July 2016 to March 2017 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

DOD defines an MWD as any canine bred, procured, or acquired to meet DOD's requirements to support operations in the protection of installations, resources, and personnel. These requirements include explosive and illegal narcotic detection capabilities, patrol, tracking, and other requirements. As part of their duties, MWDs can be deployed to assist in operations outside of their assigned military installation. MWDs are removed from service when they can no longer perform their duties due to medical or behavior problems, when they are no longer needed by

¹⁰The network of private veterinary hospitals is the Red Bank Veterinary Hospital in New Jersey, and the national network of private veterinary hospitals is Banfield Pet Hospital. Both entities work with nonprofit organizations to help provide medical care to adopted MWDs.

the military, or in other circumstances, such as when a handler dies in action.

Legislation Related to Adoption of MWDs

In 2000, a law commonly known as “Robby’s Law” was enacted to promote the adoption of MWDs after their military service.¹¹ According to this law, the military shall make an MWD that is suitable for adoption available for adoption at the end of the dog’s “useful life” or when the dog is no longer needed by the department.¹²

Robby’s Law has been amended a number of times since first enacted. Most recently, the NDAA for FY 2016 established priorities among the authorized recipients of MWDs that are removed from service. The amendment generally requires that MWDs be made available first to former handlers, who care for and train the MWDs.¹³ The amendment gives second priority to others capable of humanely caring for the MWD, and, finally, it gives the lowest priority to law enforcement agencies.¹⁴

After an MWD is adopted, Robby’s Law provides that “the United States shall not be liable for any veterinary expense associated with (an adopted MWD) for a condition of the military animal before transfer” regardless of whether the condition is known at the time of adoption.¹⁵ While DOD is

¹¹Act of Nov. 6, 2000, Pub. L. No. 106-446, 114 Stat. 1932 (2000) (codified as amended at 10 U.S.C. § 2583).

¹²10 U.S.C. § 2583(a)(1), (a)(3). In unusual or extraordinary circumstances, Robby’s Law permits the military to place an MWD for adoption before the end of its useful life, such as when the dog’s handler is wounded or killed in action. In such cases, the MWD may only be made available for adoption to the wounded handler or to certain members of the deceased handler’s family, respectively. See 10 U.S.C. § 2583(a)(2), (c)(2).

¹³National Defense Authorization Act for Fiscal Year 2016, Pub. L. No. 114-92, Division A, Title III, Subtitle E, § 342, 129 Stat. 726, 793 (2015) (codified at 10 U.S.C. § 2583(c), (g)). A military service may override the former handler’s preference if it determines that such an adoption would not be in the dog’s best interest. 10 U.S.C. § 2583(g)(1). In the event a dog had multiple former handlers, the military service shall consider the best interests of the dog and its former handlers, in consultation with the kennel master of the unit, in determining which former handler shall adopt the dog. 10 U.S.C. § 2583(g)(2).

¹⁴Air Force Instruction 31-126, dated June 1, 2015, which includes the policies and procedures for the MWD program, does not reflect the amended priority list enacted in November 2015 by the National Defense Authorization Act for Fiscal Year 2016. Cf. 10 U.S.C. § 2583(c)(1). Air Force officials told us they expect to issue an update to the Air Force Instruction to reflect the updated statutory requirement in the spring of 2017.

¹⁵10 U.S.C. § 2583(e)(2).

authorized to establish and maintain a veterinary care system for adopted MWDs, no federal funds may be used for this purpose.¹⁶

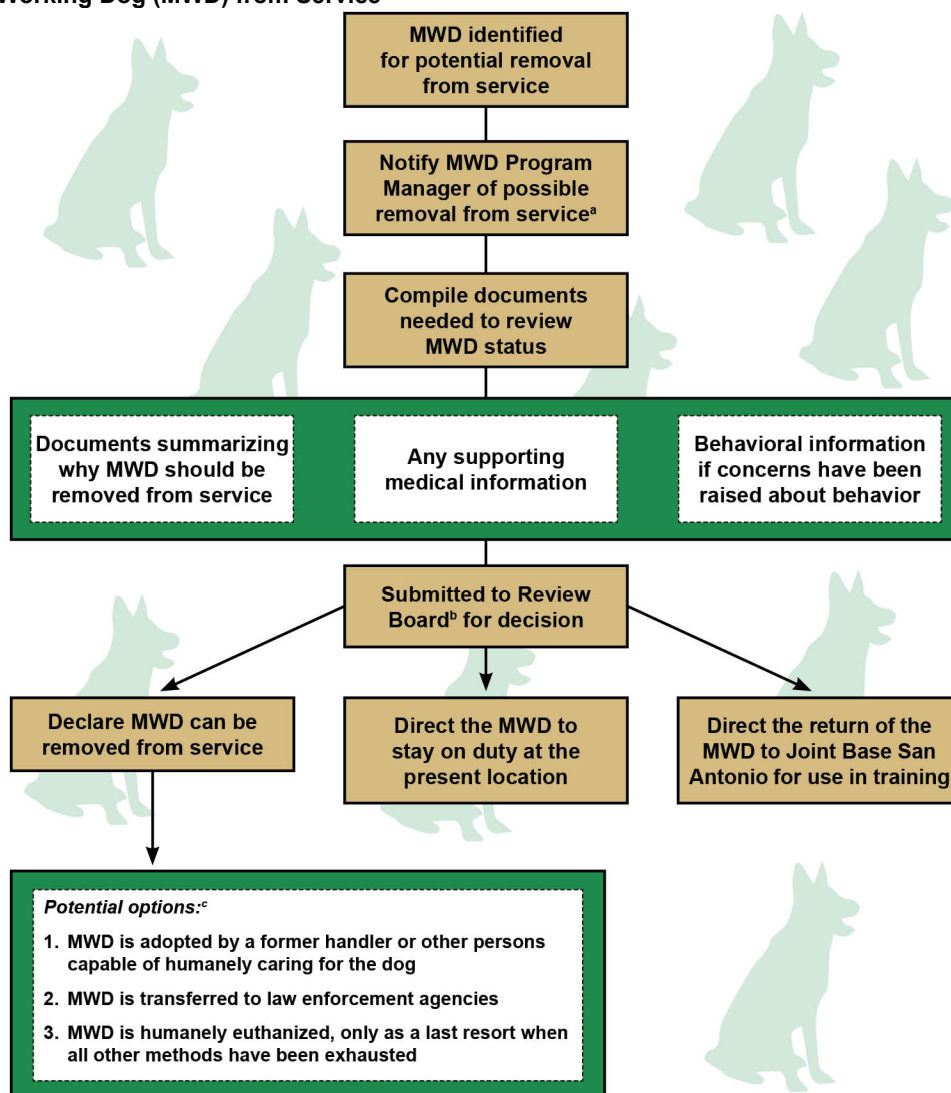
Process for Removing MWDs from Service

DOD uses the term “disposition” to describe the process of removing MWDs from service. Disposition of MWDs can be initiated at any military location that has an MWD program. All the military services follow the same process outlined in Air Force Instruction 31-126, which includes the policies and procedures for the MWD program.¹⁷ (See fig. 1.)

¹⁶10 U.S.C. § 994.

¹⁷Air Force Instruction 31-126 is also Army Regulation 700-81, OPNAVINST 5585.2C, and MCO 5585.6.

Figure 1: Process of Removing a Military Working Dog (MWD) from Service



Source: GAO analysis of 10 U.S.C. § 2583 and Air Force Instruction 31-126 (June 1, 2015). | GAO-17-358

^aThe MWD program manager is the individual within each military service—Army, Navy, Air Force, and Marine Corps—who is responsible for the logistics of that military service's MWD program.

^bOfficials on the Review Board include the Commander of the Air Force 341st Training Squadron (the entity responsible for the MWD program), a representative of the 341st Training Squadron or designee, a Veterinary Corps Officer (Army veterinarian), and a Veterinary Corps Officer behavioral representative (an Army veterinarian who is trained in animal behavior).

^cAir Force Instruction 31-126, dated June 1, 2015, which includes the policies and procedures for the MWD program, does not reflect the amended priority list enacted in November 2015 by the National Defense Authorization Act for Fiscal Year 2016. Cf. 10 U.S.C. § 2583(c)(1). Air Force officials told us they expect to issue an update to the Air Force Instruction to reflect the updated statutory requirement in the spring of 2017.

All decisions regarding the removal of MWDs from service are made by a review board, which includes the Commander of the Air Force's 341st Training Squadron, a representative of the 341st Training Squadron or designee, a Veterinary Corps Officer (Army veterinarian), and a Veterinary Corps Officer behavioral representative (an Army veterinarian who is trained in animal behavior).¹⁸ Air Force officials told us that the review board may also consult with the Kennel Master, who manages the kennel at the military installation where the MWD is located, as well as the veterinary staff at Joint Base San Antonio, Texas, when making decisions about removing an MWD from service.

Air Force officials told us that handlers who are interested in adopting an MWD must communicate their interest to the Kennel Master where the MWD is located. The Kennel Master is responsible for annotating WDMS to show the handler's interest in adoption, including adding the handler's name and contact information. The handler is responsible for maintaining contact with the Kennel Master and updating this contact information, if needed. In the event that multiple handlers are interested in adopting the MWD, the Unit Commander of the entity that owns the MWD is responsible for determining which handler is in the best interest of the MWD. Air Force officials told us that in these cases, the most recent handler would typically adopt the MWD.

Air Force officials told us that they are in the process of updating their adoption policy. For example, the new policy outlines a method for recording whether or not the MWD was adopted by a former handler. They also told us they plan to update the MWD service record to include a checkbox to indicate whether the MWD was adopted by a handler, and that these service records will be scanned into WDMS. Officials have told us that these procedures will be implemented when the updated Air Force Instruction becomes effective, likely in the spring of 2017.

Medical Care for MWDs

The Army Veterinary Service has the lead responsibility for the medical care of all DOD-owned animals, including MWDs. Specifically, the Army provides medical care for MWDs through its Public Health Command Regions and Activities and the DOD MWD Veterinary Service at Joint Base San Antonio, Texas. During the MWD disposition process, Army

¹⁸The Veterinary Corps Officer behavioral representative has remained the same for the past 15 years, which has helped ensure consistency with the Review Board's decisions.

Veterinary Corps Officers are responsible for providing a recommendation letter and a consultation/referral form that describes each MWD's medical condition and suitability for adoption.

The Army also maintains a veterinary care system that provides medical care to privately owned animals of individuals with access to medical services at a military installation, including adopted MWDs.¹⁹ The Army charges individuals with privately owned animals for the medical care of their pets. According to Army officials, the charges for veterinary care were developed based on a review of supply costs, estimated manpower costs, historical costs for services, and recommended guidance on cost considerations established by the American Animal Hospital Association.

DOD Uses Three Systems to Track Information on MWDs; the Number of Adopted, Transferred, or Euthanized MWDs Has Varied over Time

DOD uses three systems to track different types of information about MWDs, including information related to their removal from service. The number of MWDs that have been adopted, transferred, or euthanized has varied over the past 5 years.

Systems to Track MWD Information

Officials from the Air Force and Army use three separate systems to track information on MWDs. Two of the systems—WDMS and the Central Repository—are maintained by the Air Force, while ROVR, the electronic medical record system, is maintained by the Army. (See table 1.) Each of these systems has a different role in documenting information related to an MWD's removal from service. WDMS documents the MWD's status

¹⁹According to an Army policy, medical care for privately owned animals is authorized for animals owned by individuals who are eligible to receive DOD medical care. Specifically, the individual must be enrolled in the Defense Enrollment Eligibility Reporting System, which is a database of individuals who are entitled to DOD medical benefits. According to an Army official, this would generally include active duty servicemembers, their dependents, retirees and their dependents, as well as reservists on active orders. This would generally not include civilians, DOD-employed civilians, or former active duty (unless retirement eligible) unless they are also dependents of authorized beneficiaries.

when it is removed from service, including whether the MWD is adopted, transferred, or euthanized. This status of the MWD can be verified using documents maintained in the Central Repository, which is used to store copies of records for MWDs that have been removed from service—most of which are not contained in WDMS. Lastly, ROVR is used to provide medical information for consideration of an MWD’s removal from service and to document an MWD’s euthanization, if needed.

Table 1: U.S. Air Force and Army Systems Used to Track Information on Military Working Dogs (MWDs)

	Working Dog Management System (WDMS)	Central Repository	Remote Online Veterinary Record (ROVR)
Responsible service	Air Force	Air Force	Army ^a
Type of system	Web-based	Hard-copy or electronic files	Web-based
Purpose	Used for full life-cycle management of MWDs (acquisition, training, assignments, status when removed from service)	Used to store copies of records for MWDs that have been removed from service, including the MWDs’ service records, ^b indemnity agreements, ^c and death certificates, if needed.	Used to document veterinary appointments, diagnoses, service price plans, and medical records.
Animals supported	MWDs	MWDs	All animals owned by DOD and privately owned animals treated by a military veterinarian.

Source: GAO analysis of U.S. Air Force and Army information. | GAO-17-358

^aDOD allocates funding for ROVR and is responsible for the development and sustainment of its information technology.

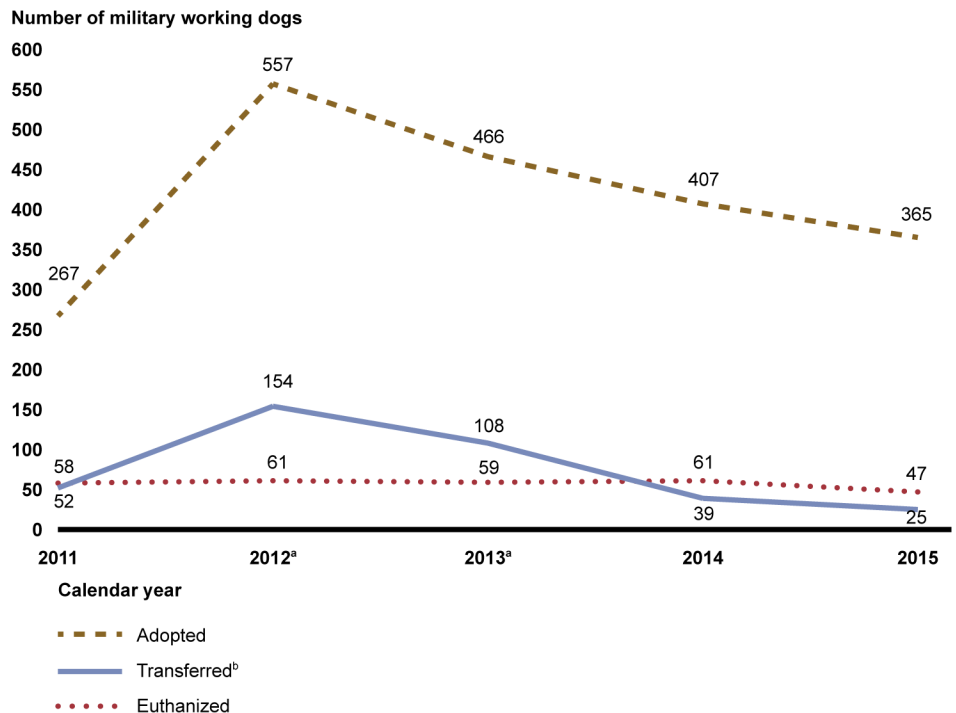
^bThe MWD service record is a record of each MWD’s training and assignments.

^cThe individual adopting an MWD signs and receives a copy of the indemnity form stating that the United States shall not be subject to any suit, claim, demand or action, liability, judgment, cost, or other fee arising out of any claim for personal injury or property damage (including death, illness, or loss of or damage to property or other economic loss) that results from, or is in any manner predicated upon, the act or omission of a former military animal adopted or transferred, including any training provided to the animal while a military animal.

Number of MWDs Adopted, Transferred, or Euthanized

Based on our review of data from these systems and related documentation, the number of MWDs adopted or transferred during 2011 through 2015 varied, with the highest numbers in 2012 and 2013.²⁰ An Air Force official explained that these higher numbers of adoptions and transfers in 2012 and 2013 were due to a decreased need for MWDs during deployments. The number of euthanized MWDs varied to a lesser extent. (See figure 2.)

Figure 2: Number of Military Working Dogs (MWDs) Adopted, Transferred, or Euthanized from 2011 through 2015



Sources: Working Dog Management System (WDMS), Central Repository, and 2011-2012 Military Working Dog Disposition Reports.
| GAO-17-358

²⁰Air Force officials told us that they have recently updated their disposition procedures to ensure that MWD status data is current in WDMS. Previously, officials at the location of an MWD being removed from service were responsible for changing the MWD's status in WDMS. Air Force officials at Joint Base San Antonio, Texas told us that this process is being centralized, and they will now sign the required adoption, transfer, or euthanization forms and change the status within WDMS even if the MWD is located elsewhere. Air Force officials will then ensure that the appropriate forms are submitted to the Central Repository.

Note: Air Force officials verified the accuracy of the status of all MWDs in WDMS with records from the Central Repository for 2013 through 2015. From 2001 through 2011, the Secretary of Defense was required to submit annual reports to Congress with MWD disposition data based on a compilation of the disposition records received by the Air Force. A 2012 report to Congress with MWD data was prepared, but was not submitted because Congress repealed the requirement to submit these reports.

^aAn Air Force official told us that the higher numbers of adopted and transferred MWDs in 2012 and 2013 are related to a decreased need for MWDs during deployments.

^bIn this report, we use the term “transfer” to refer to MWDs adopted by law enforcement agencies.

Some of the adopted MWDs included in these data were likely never deployed outside of their assigned military installations. According to Air Force officials, some MWDs may have been acquired by the military but then did not qualify for enrollment in the MWD program due to performance or medical reasons. Other MWDs were enrolled in the program but were removed from service for similar reasons before they were 3 years old. According to Air Force officials, these dogs were also likely never deployed into service. (See table 2.)

Table 2: Adopted Dogs That May Not Have Deployed

	2011	2012	2013	2014	2015
Never enrolled in the Military Working Dog (MWD) Program	32	50	49	8 ^a	51
Removed from MWD Program for training or medical reasons up to 3 years old	26	50	24	32	23
Total	58	100	73	40	74

Source: 2011 and 2012 Military Working Dog Disposition Report and the Working Dog Management System. | GAO-17-358

Note: These dogs were either never enrolled in the MWD program, or were removed from service for performance or medical reasons before they were 3 years old. According to Air Force officials, these dogs were likely never deployed. In addition, the total number of dogs listed in this table for each year are a subset of total MWDs adopted during that same year. For example, 365 MWDs were adopted in 2015, and 74 of them may not have been deployed.

^aAn Air Force official told us that this number is low because the military acquired fewer puppies in 2013 due to budget limitations.

Available Data Indicate That Prevalent Medical Conditions for MWDs Adopted in 2014 and 2015 Included Skin, Dental, and Musculoskeletal Issues

Available data for 55 percent of the MWDs adopted in 2014 and 2015 indicate that prevalent medical conditions included skin, dental, and musculoskeletal issues. The potential costs for treating these prevalent medical conditions are difficult to determine due to variations in potential courses of treatment and other factors. However, we did obtain information on recommended preventative care and estimated costs for older breeds used by the MWD program from the chief of staff of a network of private veterinary hospitals.

Prevalent Medical Conditions

Based on our analysis of electronic medical records with master problem lists—available for approximately 55 percent (421 of 772) of the MWDs adopted in 2014 and 2015—we found that the most prevalent medical conditions were as follows:

- skin conditions or ear infections,
- dental disease or injury,
- arthritis or degenerative joint disease,
- lameness, and
- degenerative lumbo-sacral stenosis.

Some MWDs had more than one medical condition, and as a result, they may have been included in more than one category. (See table 3.)

Table 3: Prevalent Medical Conditions and Potential Courses of Treatment Based on Available Data for Military Working Dogs (MWDs) Adopted in 2014 and 2015

Prevalent medical conditions	Number of MWDs	Potential courses of treatment ^a
1. Skin conditions or ear infections (conditions of allergic/environmental skin disease, bacterial skin infection, or external ear canal infections)	386	Course of treatment may include • 1-2 veterinary visits per year, • diagnostic testing (skin scraping, ear swab, culture), and • continual or intermittent medical management with shampoos, rinses, various topical medications and various medications injected directly into the body.
2. Dental disease or injury (disease or injury with teeth or oral health)	211	Course of treatment may include • anesthesia/exam/cleaning, • dental x-rays if required, • pre-anesthesia blood work if required, • tooth extraction if required, and/or • root canal if required.
3. Arthritis or degenerative joint disease (conditions that have progressive and permanent long-term deterioration of the cartilage surrounding the joints or inflammation of the cartilage)	155	Course of treatment may include • 2 veterinary visits per year, • annual x-rays or other diagnostic imaging (such as an MRI),^b • medications, • annual blood work to ensure medications are not causing problems, and • potential surgery.^c
4. Lameness (a condition that may be a clinical sign of a more severe disorder that results in difficulties with movement, typically in response to pain, injury, or growth abnormalities)	132	Course of treatment is similar to arthritis or degenerative joint disease. ^d
5. Degenerative lumbo-sacral stenosis (condition of the lower back that causes pinching of nerves and associated pain/weakness in the rear legs)	132	Course of treatment is similar to arthritis or degenerative joint disease. ^d

Source: GAO Analysis of Army Medical Command Information and Information Reported by Army Officials. | GAO-17-358

Notes: This table contains available information for the 421 of the 772 adopted MWDs from 2014 and 2015 with electronic medical records that have master problem lists—lists of diagnosed medical conditions—from the Remote Online Veterinary Record (ROVR) system, which was implemented in 2014. As a result, the information presented in this table is not generalizable to all of the 772 MWDs that were adopted during this time. The total number of MWDs in the table is greater than 421 because each MWD may have more than one diagnosed medical condition in its master problem list.

Some MWDs adopted during this time may not have electronic medical records with master problem lists for the following reasons: (1) according to officials, only active MWDs had their hard-copy medical records scanned into ROVR when it was initially implemented and as a result MWDs that were designated for adoption at that time do not have electronic medical records or (2) when hard-copy medical records were scanned into ROVR, master problem lists had to be manually transcribed,

and according to Army officials, this did not always occur. As a result, some of the MWDs had electronic medical records that did not include master problem lists.

^aPotential courses of treatment were obtained from two Army officials, who are licensed veterinarians and have served various roles in caring for MWDs. One of these officials is the Director of the DOD MWD Veterinary Hospital at Joint Base San Antonio, Texas.

^bMagnetic resonance imaging (MRI) is a technique that uses a magnetic field and radio waves to create detailed images of the organs and tissues within the body.

^cAn Army veterinarian told us that the decision to conduct surgery for an MWD would be dependent on age and chances for rehabilitation.

^dThe chief of staff of a network of private veterinary hospitals in New Jersey that provides free specialty care to adopted MWDs in its area stated that the course of treatment for lameness and degenerative lumbo-sacral stenosis may require more testing and potential surgery.

An Army veterinarian told us that “skin conditions or ear infections” and “dental disease or injury”—the two most prevalent medical conditions we identified—are unlikely to result in removal from service as these conditions generally can be treated or resolved.²¹ (See prevalent medical conditions 1 and 2 in table 3.) The remaining three prevalent medical conditions we identified are associated with musculoskeletal issues and are more likely to result in MWDs’ removal from service. (See prevalent medical conditions 3, 4, and 5 in table 3.) According to an Army veterinarian, these conditions are common in breeds maintained by the MWD program. For example, degenerative lumbo-sacral stenosis is common in German Shepherd dogs, one of the preferred breeds for the MWD program.

Potential Costs for Treating Prevalent Medical Conditions

The potential costs for treating these prevalent medical conditions may vary based on a number of factors, including the course of treatment, the underlying cause for the condition, and geographic location. According to an Army official and representatives from a national network of private veterinary hospitals, there are no standardized medical treatment protocols for animals that would dictate particular courses of treatment for specific medical conditions. Therefore, costs for these conditions would vary. Furthermore, the chief of staff of a network of private veterinary hospitals in New Jersey, which provides free specialty care to adopted MWDs in its area, told us that it would be difficult to estimate treatment costs because some of the prevalent health conditions we identified for MWDs could have different underlying causes, which would serve as the basis for treatment options and costs. For example, lameness could have

²¹According to an Army veterinarian, some skin conditions may be chronic but can be treated and stabilized with creams or medications.

different root causes, so it would be difficult to estimate treatment costs for this condition without knowing the contributing factors.

Potential Costs for Preventative Care

Adopted MWDs need preventative care regardless of their medical conditions. Based on our analysis, the average age of most MWDs that had electronic medical records with master problem lists in ROVR and were adopted during 2014 and 2015 was about 9 years old, with a range from 1 to 14 years.²² The chief of staff of a private network of veterinary hospitals in New Jersey provided us with the types of preventative care they recommend for 9-year old Labrador Retrievers, Belgian Malinois, and German Shepherd dogs—the most common breeds used by the MWD program. The chief of staff also provided estimated costs for these procedures, which are specific to this private network of veterinary hospitals. (See table 4.) An Army veterinarian reviewed the information provided by the chief of staff and concurred that the identified procedures and costs were reasonable.

Table 4: Procedures, Estimated Costs, and Recommended Frequency of Preventative Care for 9-Year-Old Labrador Retrievers, Belgian Malinois, and German Shepherd Dogs, as of December 2016

Procedures	Estimated costs	Recommended frequency of procedure		
		Every 6 months	Every 1 year	Every 3 years
Routine exam	\$82	√		
Heartworm test ^a	\$47		√	
Fecal exam	\$41		√	
Kennel cough vaccine ^b	\$35		√	
Rabies vaccine	\$33			√
Vaccination for 3 canine viruses ^c	\$42			√
Leptospirosis/Lyme vaccine ^d	\$58		√	
Blood and urine testing	\$280	√		
Heartworm preventative medicine ^e	\$139		√	
Flea and tick preventative medicine ^f	\$113	√		

Source: GAO analysis of cost estimates from a private network of animal hospitals. | GAO-17-358

Note: These procedures, costs, and recommended frequency were provided by the chief of staff and a general practice veterinarian from a network of private veterinary hospitals in New Jersey. Costs for these preventative care procedures may differ based on geographic location and other factors. An

²²Based on available data, we calculated the average age for 78 percent of the 421 MWDs with electronic medical records with master problem lists from ROVR.

Army veterinarian reviewed the information provided by the chief of staff and concurred that the identified procedures and costs were reasonable.

^aA heartworm test is a blood test to ensure that the dog does not have heartworm disease. Heartworm disease is caused by worms (heartworms) that live in the heart, lungs, and associated blood vessels. This disease can cause lung disease, heart failure, and damage to other organs in the body.

^bKennel cough is a viral and bacterial respiratory infection that causes inflammation of a dog's voice box and windpipe. According to the chief of staff of a private veterinary hospital, the kennel cough vaccine may be required every 6 months if a dog is frequently in a day-care facility.

^cThe three viruses included in this vaccination are Distemper, Adenovirus type 2 (Hepatitis), and Canine Parvovirus. Distemper is a contagious disease caused by a virus that attacks the respiratory, gastrointestinal and nervous system of dogs. Adenovirus type 2 (Hepatitis) is a respiratory disease. Canine Parvovirus is a virus that affects dogs' gastrointestinal tracts and is spread by direct dog-to-dog contact and contact with infected fecal matter, environment, or people.

^dLeptospirosis and Lyme are two bacterial diseases that are transmitted to dogs through infected organisms. For example, raccoons can spread Leptospirosis and ticks can spread Lyme. These diseases can cause leg lameness, lethargy, and liver or kidney failure.

^eHeartworm preventative medicine is used to prevent heartworm disease.

^fFlea and tick preventative medicine is used to repel fleas and ticks.

Some Assistance with Private Veterinary Care for Adopted MWDs Is Available from Nonprofit Organizations; Some Owners May Purchase Care Offered at Certain Military Installations

Although owners of adopted MWDs are responsible for the costs of their care, some assistance with privately provided veterinary care is available through nonprofit organizations. Individuals with access to DOD medical care may also purchase care for their adopted MWDs at military installations.²³ However, the types of available veterinary services vary by military installation, and some installations do not offer veterinary services.

Assistance with Privately Provided Veterinary Care

Owners of adopted MWDs may obtain assistance with privately provided veterinary care through nonprofit organizations. Assistance for adopted MWDs is primarily available through the U.S. War Dogs Association, an

²³By law, federal financial assistance is not available for the costs of such veterinary care, see 10 U.S.C. §§ 994, 2583(e)(2).

organization that offers (1) a prescription drug program (free prescription drugs for registered MWDs), (2) free specialty care through Red Bank Veterinary Hospital in New Jersey, and (3) financial assistance of up to \$500 for emergency care and up to \$100 for euthanasia. About 400 former MWDs were registered with the association as of August 2016, according to the association's president. In addition to assistance with medical care, the association also finds new homes for adopted MWDs when the owners are no longer able to take care of them.

According to Air Force officials, individuals who adopt MWDs receive information about the U.S. War Dogs Association at the time of adoption. These officials told us that this is the only nonprofit organization's information they provide to individuals adopting MWDs. Other nonprofit organizations that inquire about adopted MWDs are directed to contact the U.S. War Dogs Association. Some assistance with privately provided medical care is also available through other organizations, such as the American Humane organization, which helps cover some medical costs for adopted MWDs when their owners are unable to pay for their care.²⁴ Officials from this organization told us they currently cover medical care costs for about 21 former MWDs. Information about potential services provided by the American Humane organization is available on its website.²⁵

Veterinary Services at Military Installations

Owners of adopted MWDs may purchase veterinary services through DOD if they have access to medical services at military installations. According to an Army official, access to medical care is generally available for active duty servicemembers, their dependents, retirees and their dependents, as well as reservists on active orders. However, the types of veterinary services offered vary by military installation, and some installations do not offer any veterinary services. (See table 5.)

²⁴American Humane organization officials told us that coverage of medical cost is dependent on both the needs of the MWD as well as their budget.

²⁵Further information about the American Humane organization's medical assistance for adopted MWDs can be found at <http://www.americanhumane.org/program/military/>.

Table 5: Types of Veterinary Services Offered at Some Military Installations

	Veterinary Centers^a	Veterinary Activities (located overseas)	Veterinary Treatment Facilities	Veterinary Clinics
Types of veterinary staff	General practice Veterinary Corps Officers (VCO) and one clinical specialist VCO	General practice VCOs and one clinical specialist VCO	General practice VCOs	VCOs make predetermined visits but not permanently assigned
Types of services	Preventative medical care, sick call diagnostics and treatment, laboratory services, dentistry, endoscopy, ultrasonography, and limited surgical and hospitalization services	Same capabilities as a Veterinary Center	Preventative medical care, sick call diagnostics and treatment, laboratory services, dentistry, and minor elective surgical procedures	Preventative medical care and minor sick-call capabilities
Number of locations^b	7	3	112	22

Source: GAO analysis of information as reported by Army Officials. | GAO-17-358

Note: Individuals with access to DOD medical care may purchase care for their adopted MWDs at military installations. Specifically, the individual must be enrolled in the Defense Enrollment Eligibility Reporting System, which is a database of individuals who are entitled to DOD medical benefits. According to an Army official, this would generally include active duty servicemembers, their dependents, retirees and their dependents, as well as reservists on active orders. DOD provides veterinary services through the Army Public Health Center.

^aVeterinary Centers are also used as training facilities for first year veterinary graduates within the Army Medical Command.

^bThe number of locations was reported in October 2016.

The Army's Public Health Center maintains an interactive map on its website that provides information about the types of veterinary services that are available at military installations.²⁶ According to an Army official, the link for this interactive map is listed on all veterinary service newsletters, brochures, and posters. This website has also been publicized in an Army newsletter for retired soldiers, surviving spouses, and family.²⁷

²⁶<https://phc.amedd.army.mil/TOPICS/ANIMED/VTFO/Pages/VTFMap.aspx>.

²⁷This website was published in the October 2016/January 2017 issue of the newsletter. See https://soldierforlife.army.mil/sites/default/files/echoes_issues/Army_Echoes_2016_October.pdf, page 11.

Agency Comments

We provided a draft of this report to DOD for comment. DOD concurred with the report and provided technical comments, which we incorporated as appropriate.

We are sending copies of this report to the appropriate congressional committee, and the Secretaries of Defense, the Air Force, and the Army. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff has any questions about this report, please contact me at (202) 512-7114 or at draperd@gao.gov. Contact points for our Office of Congressional Relations and Office of Public Affairs can be found on the last page of this report. Other major contributors to this report are listed in the appendix.



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Appendix: GAO Contact and Staff Acknowledgments

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Staff Acknowledgments

In addition to the contact named above, Bonnie Anderson, Assistant Director; Danielle Bernstein, Analyst-in-Charge; Jennie Apter; and Kenisha Cantrell made key contributions to this report. Also contributing were Jennifer Rudisill and Mary Denigan-Macauley.

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