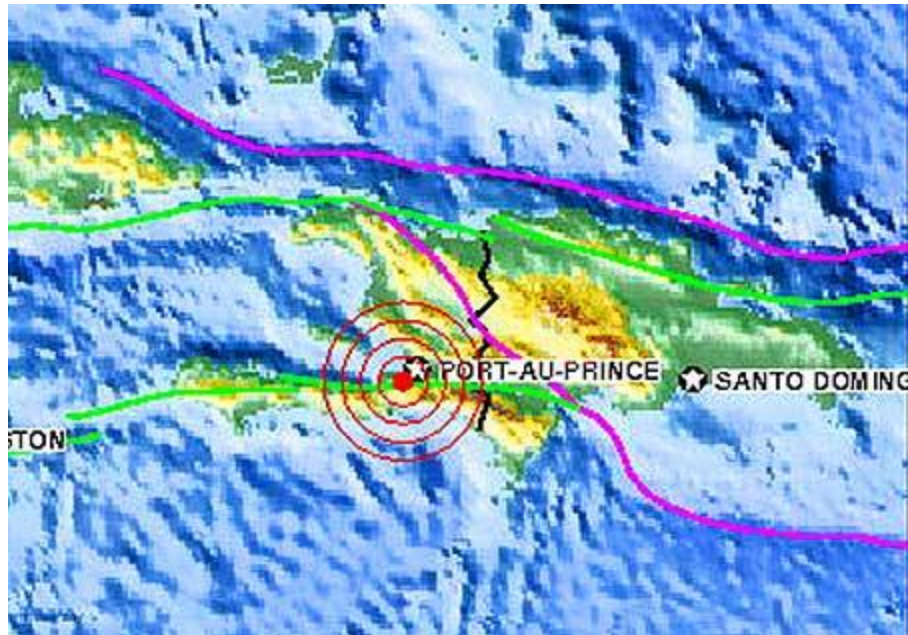


Handler and Canine Deployment Survey

# Haiti Earthquake

January 12, 2010



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## Summary of Findings

Regarding search canines, the majority of those in the survey were Labrador Retrievers (43%, 10 of 23). When including all deployed canines, German Shepherds were a close second (10 canines) to the Labrador Retrievers (11 canines). The majority of survey canines were male neuter (65%), and the most common age range was 6 to just under 8 years. More than half (61%) were between 60-74 pounds.



Arrival in Haiti spanned 4 days, January 13-16, 2010. Most of the handler-canine teams (61%, 14 of 23) arrived January 14, 2010, which was 2 days after the earthquake occurred. Their stay in Haiti ranged from 7 to 14 days, with most staying 11 days. Their demobilization ranged over 5 days, January 22-27, 2010, with most departing the last 3 of those days (74%, 17 of 23).

Billeting was at the Base of Operations. Two Task Forces were based at Port au Prince's Toussaint Louverture Airport, while the other 4 stayed at the Embassy grounds in Port-au-Prince.

Work during the day shift was most common. Most canines worked 5-10 days (78%, 18 of 23) and most common was 8 day shifts. There was a wide range of travel times, from 30 minutes to 6 hours. Shift times (including travel) also ranged, from 2 to more than 12 hours, with most working 8 to just under 12 hours.

Working the night shifts was less common. Many canines did no night shifts but 43% (10 of 23) worked 1-3 of them. There was a wide range of travel times, from 30 minutes to 4 hours. Shift times (including travel) also ranged, from 1 to more than 12 hours, with most working 1 to 7 hours.

Day or night shifts, actual search periods were multiples of 20-30 minutes at a time.

All survey canines were on preventative heartworm preventative and flea and tick preventative at the time of deployment. All canines that were due for additional medications during their deployment received them. More than half, 57% (13 of 23), received additional flea and tick doses within the first week of their deployment.

Regarding canine physical examinations, 65% (15 of 23) received Pre-Mission Examinations, 52% (12 of 23) received Pre-shift Examinations, 70% (16 of 23) received Post-shift Examinations, 61% (14 of 23) received Demobilization Examinations. The majority of Pre-mission and Demobilization Examinations were by a licensed veterinarian. The majority of Pre-shift and Post-shift examinations were by the handler.

Injuries and illness were incurred by 10 of the 23 canines (43%). Eight of them had multiple issues. Dehydration (30%) and wounding (26%) comprised the majority of medical conditions seen. Medical records were not consistently kept. All issues were resolved, ranging from the same day to 2 weeks.

Information about endemic hazards was related to about half (52% of 19) of the handlers. Five additional handlers may have received information, but their survey answers were inconsistent. Among the more commonly related hazards were Leptospirosis, Giardia, infectious diarrhea, Rabies, Mange, Flea and tick carriers, and parasites (hookworms, screwworms, tapeworms). The medical officer was the most common source of this information.

Decontamination was performed for every canine that worked (22 of 22). One HRD canine did not have any search work. The majority (95%, 21 of 22) had decontamination after their searches. All except one canine was decontaminated after every single shift. The majority, 82% (18 of 22) had soap and water.

Subcutaneous fluids were given to several canines (specific number is unknown) before their shifts, not as a treatment for dehydration but as a supplement to their oral intake. Others received subcutaneous fluids in lieu of oral rehydration when faced with public display of watering their canines in front of the populace that was deficient in drinking water.

Post-Mission examinations and tests were performed for 83% within 7-10 days, and 78% got additional testing at 30-40 days post demobilization. No reports of clinical illness or injury were reported.



**Chris Holmes with Cazo VA TF-1**

## **Data Interpretation and Comments**

### **Body Weights**

This information guides cache purchases w/r to number of and distribution of sizes of supplies (like tubes, stomach and catheters) as well as drug quantities.

### **Days in Haiti**

The need for acclimatization to a new environment, with respect to ambient temperature, humidity, and in some cases elevation, affects a canine's work performance. Body temperature has been shown as the most important factor in limiting performance during search in hot climate zones. Although it takes up to 20 days to fully acclimatize, demonstrable lower strain on the canines may be seen within 4 days.

What day of the deployment a medical problem occurred was not assessed, so there is no evidence that dehydration or injury occurred more during the first 4-5 days, or later.

### **Travel Time**

One handler reported that although the work/search areas were dusty, the worst was the thick dust ingested during some of the transport, which was often open-air or in the back of an open box truck.

Interestingly, none of the World Trade Center canines have shown evidence of the respiratory difficulties that have occurred in the human WTC workers. The longer nasal passages and necessity for nasal breathing during scent work may have more effectively filtered the particulate matter and toxins.

### **Prevention Medicine**

It is unknown if the additional doses of flea & tick preventative were given because they were due (monthly products), given because of an increased risk of exposure along with uncertainty in the preventative effectiveness, or the K9 was not receiving these during the winter months (Virginia and New York). Another factor may be that some of these products require 48 hours to be absorbed before any water exposure. If decontamination was performed before this, additional protection may have been advised.

One handler reported an attached tick on their canine. Various preventative products work in different ways. Some products allow a tick to attach, but during feeding the drug is absorbed and the tick falls away dead before the transfer of a disease can be accomplished. Other products prevent any tick or flea from feeding, but they fall away still alive.

No products are being promoted in this report. Of interest only is that all the preventatives, heartworm and flea/tick products, were of a monthly dosing. No sprays or collars were listed.

Preventative programs are the responsibility of the handler. Recommendation to add heartworm preventative and flea & tick products to the FEMA K9 cache were requested, but ultimately not accepted. If such products are deemed necessary during a deployment, a request may be made through the IST to acquire them.

## **Medical Examinations**

Most of the survey canines fell in the 4-8 year old range. As veterinarians we tend to look for an increase in problems at around age 7, when some practices promote senior screening exams and tests. Working canines are active and athletic. Annual exams are still very important, and may have been performed recently or due at the time of deployment. Pre-deployment medical examinations are promoted. This allows for recognition of a potential problem that may become serious during the rigors of a deployment, or allows for treatment early so a more serious problem does not develop. 65% of survey canines received a pre-deployment examination.

Pre-shift and post-shift exams were performed 52% and 70% respectively. Post shift exams are important to detect problems that may not be noticed during work. Pre-shift examinations may catch a problem in which clinical signs are delayed, and may be missed for more than 12 hours if not checked pre-shift.

The handler is by far the most common person performing the shift exams. This is a very good practice. Checking hydration status and the body (especially pads) for wounding was performed by all. Some did temperature, some did not. Body temperature has been shown as the most important factor in limiting performance during search in hot climate zones. It is also an early indication of the need for addressing the heat issue. There are digital rectal thermometers that measure temperature within 10 seconds, which would make the process quick and easy.

## **Medical Issues and Treatment**

Dehydration and wounding were most commonly seen in the survey canines. All injuries and illnesses were treated and no serious problems occurred. One report of a canine that had a seizure was not substantiated in this survey.

There was no apparent difference in the rate of injuries or illness between the canines that deployed from the colder climates compared to those from warmer climates. The numbers here may be too small to make the comparison.

## **Endemic Hazards Education**

The dissemination of information regarding endemic diseases and local hazards is part of FEMA US&R medical, safety, and hazmat daily briefings. The importance of the information is self-evident. Not only handlers, but all task force members should be informed (to the best of the gathered knowledge). This benefits individuals as well as the canines. If there is a lot of information, a paper copy should be made available.

Members of the US&R Veterinary Group put together the information about Haiti, and tried to get it to those in Haiti. Communications were difficult, but some information made it through.

## **Decontamination**

100%.... YEAH! Not only the dust and debris, but human remains and hazardous materials are a concern. The additional effects of cooling down a warm canine are beneficial. Decontamination also promotes a second look at the canine, and injuries not apparent under the fur may manifest visually as well as a pain response (flinching) when touched during the decontamination procedure.

## **Subcutaneous Fluids**

Some of the handlers, who drank their own water out of sight of locals, could not be seen giving such a precious commodity to their canines for many reasons – safety as well as sensitivity. Bladders and camel-backs worked better than the obvious water bottles.

One of the doctors described some concerns about giving water to the canines while the Haiti populace, looking on nearby, was without water for themselves. Instead, they gave subcutaneous fluids before the shift.

Currently there is no published scientific data regarding potential benefits and/or contraindications for giving a working canine subcutaneous fluids in an effort to prevent and/or delay the onset of dehydration and other heat-related conditions.

Factors to consider against subcutaneous fluids:

- ❗ Austere and unsanitary conditions increasing potential for infection or abscess introduced by the needle
- ❗ Volume needed to 'pre-load' a 30 kg (70 lb) canine against 5% dehydration is 1500 ml, a large amount at one time
- ❗ A normovolemic canine would not absorb fluids quickly as they are not needed by the body
- ❗ Large humps of fluids may interfere with harness or safety vests worn by some working canines
- ❗ Canine heat dissipation is mainly via respiratory tract (panting), a pure water loss. Most commonly 0.9% NaCl is the available subcutaneous fluid; this may exacerbate hyponatremia if the canine becomes dehydrated.
- ❗ Proper acclimation, enforced work-rest cycles, opportunity to orally hydrate, resting in shade or air-conditioning, healthy weight, and monitoring temperature are the best ways to maintain hydration or catch a problem early

Factors to consider for subcutaneous fluids:

- ❗ Austere and unsanitary conditions may be mitigated by prep of the area where the needle will be inserted
- ❗ Even if a large volume of fluid cannot be given, administering even 500 ml may increase the amount of time a canine can work in a hot environment before becoming dehydrated
- ❗ No known infection/abscess occurrence in >500 military working dogs (MWDs) - Dr. Janice Baker, anecdotal
- ❗ US&R canines rarely wear vests or harnesses, so a fluid hump is unlikely to be a problem for them
- ❗ Political situation: in Haiti, Urban Search and Rescue groups were concerned about giving the canines water in view of a populace that did not have enough potable water. Handlers were directed not to give their canines oral water, so the medics were giving them subcutaneous fluids.



## **Introduction**

Questionnaires benefit handlers, search canines, medical personnel who treat the canines, and hazmat members who decontaminate them. Whether you are a veterinarian, medic, or handler, training and disaster preparedness begin long before a deployment. Although anything can happen, and we try to prepare for all situations, every deployment is unique. The information gathered from prior missions allows us to concentrate training on the most common illnesses and injuries, streamline the cache needs especially when space and resources are limited, and emphasize preventative measures in an effort to avoid problems before they occur.

## **Information Collection**

A survey was sent out electronically to all handlers that deployed with FEMA US&R teams in response to Hurricane Sandy. Questions included canine signalment (breed, age, gender, weight), billeting, physical examinations performed, work shift information, preventative medicine status, injuries and illnesses incurred, decontamination procedures, briefing details, and post-mission examinations and testing.

## **Brief History**

On Tuesday, January 12, 2010 at 04:53:10 PM Eastern Standard Time a 7.0 magnitude earthquake struck 18.443°N, 72.571°W, Haiti region, 25 kilometers (15 miles) WSW of the capital Port-au-Prince, Haiti. Within 24 to 96 hours there were 6 FEMA US&R Task Forces in Haiti, including 37 search canines, deployed from 4 states: California, Florida, New York, and Virginia.

## **Thank You**

My sincere gratitude to all who took the time to fill out this survey. Information gathered in reports such as this is needed in order to drive improvements in our care for these incredible members of our FEMA US&R teams. Thank you!

*Lori E. Gordon, DVM  
MA TF-1 US&R*





## Definitions for Reference

Mean = the average; the numbers are added and then divide by the number of numbers

Median = the middle value in the list of numbers

Mode = the value that occurs most often; if no number is repeated, there is no mode for the list.

Range = is the difference between the largest and smallest values

## Handler Response Information

**K9 Haiti Deployment Survey** was opened August 19, 2010 and will close January 19, 2011

*Survey Link:* <https://www.surveymonkey.com/s/S5LGT8J>

*Password:* CaninesRock

### Survey response was as follows:

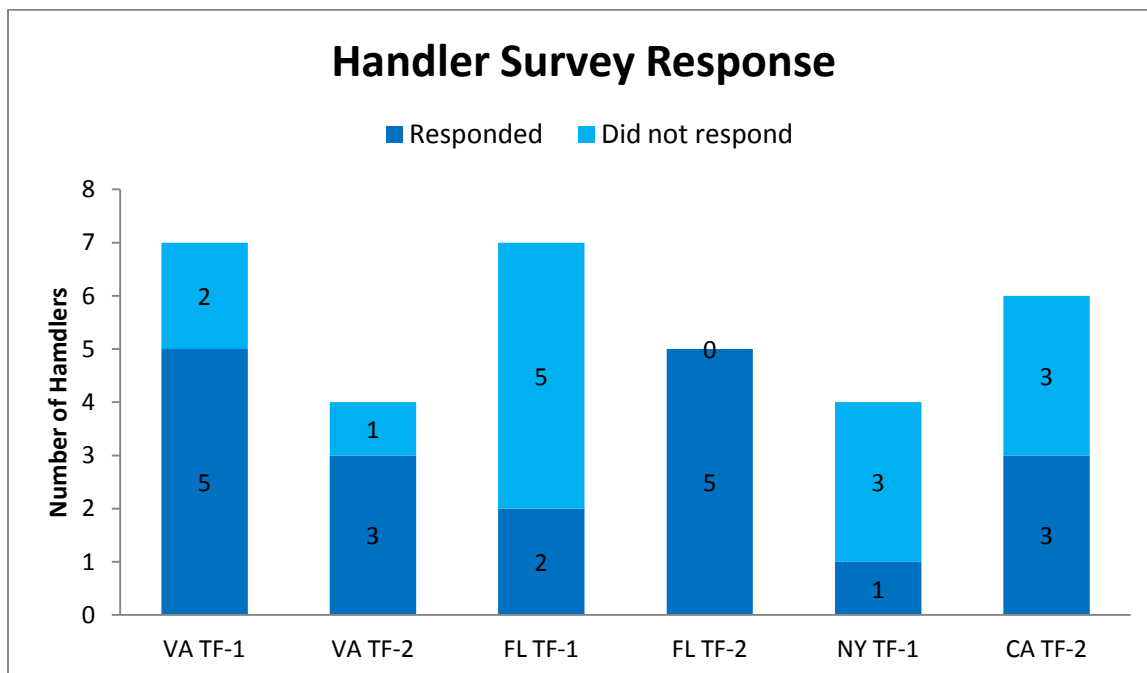
Handlers deployed to Haiti from 6 FEMA US&R task forces - 33

Handlers that responded to the Haiti deployment survey - 19

*Response rate: 58%*

### Distribution of handlers that responded to the survey is as follows:

- 5 of 7 (71%) that deployed with VA TF-1
- 3 of 4 (75%) that deployed with VA TF-2
- 2 of 7 (28.5%) that deployed with FL TF-1
- 5 of 5 (100%) that deployed with FL TF-2
- 1 of 4 (25%) that deployed with NY TF-1
- 3 of 6 (50%) that deployed with CA TF-2



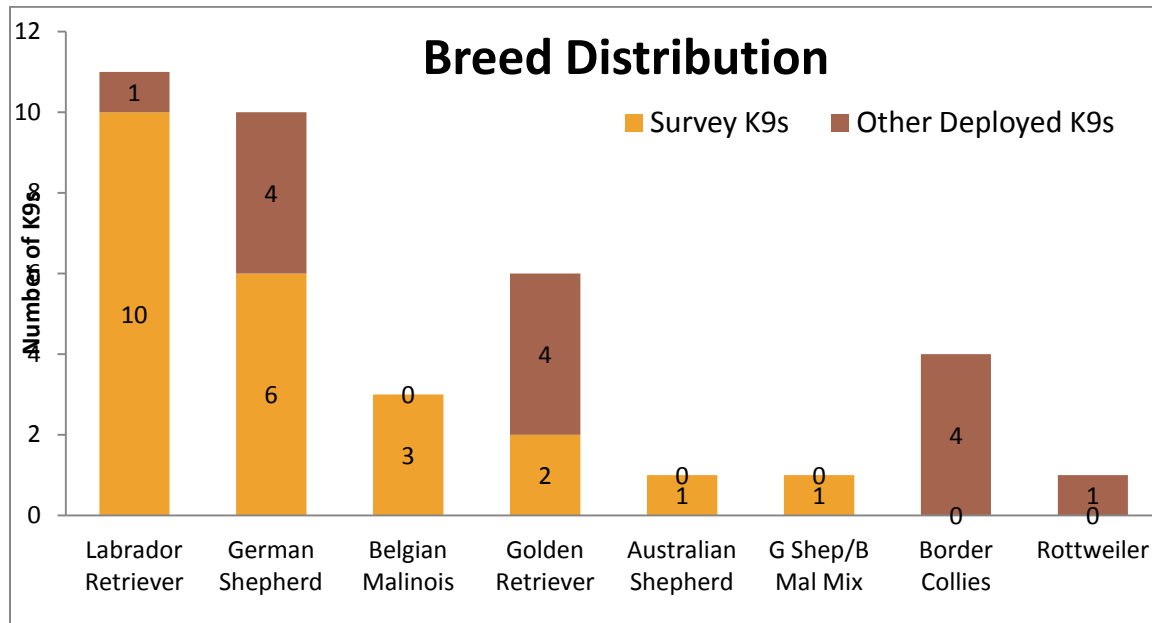
## Canine Information

- Canines who deployed to Haiti from 6 FEMA US&R task forces - 37
- Canines entered into survey (4 handlers deployed with 2 K9s each) - 23

**Response rate - 62%**

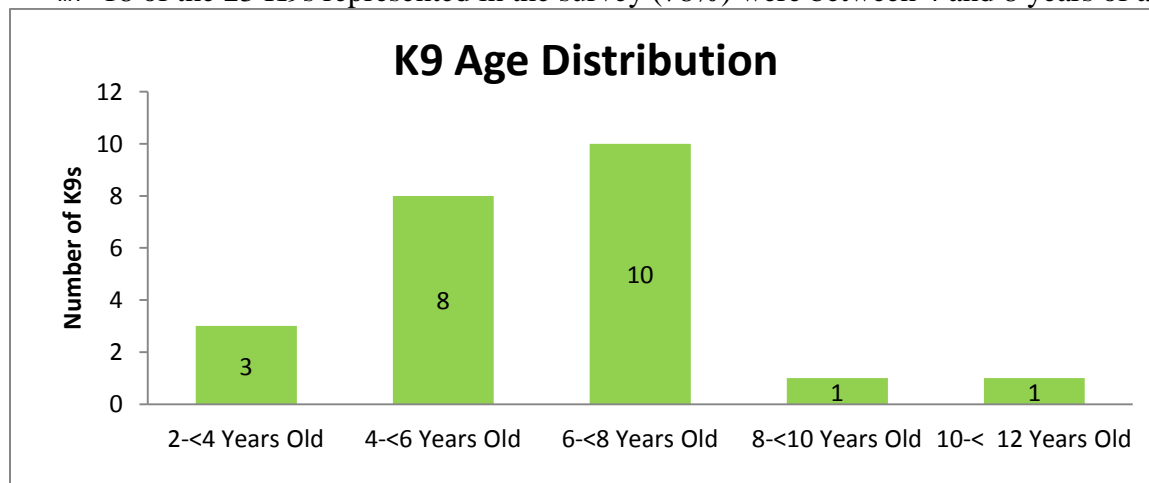
### Survey breed distribution (out of total deployed):

- 🐾 10 of 11 deployed Lab Retrievers
- 🐾 6 of 10 deployed German Shepherds
- 🐾 3 of 3 deployed Belgian Malinois
- 🐾 2 of 6 deployed Golden Retrievers
- 🐾 1 of 1 deployed Australian Shepherd
- 🐾 1 of 1 deployed G Shep-B Mal Mix
- 🐾 0 of 4 deployed Border Collies
- 🐾 0 of 1 deployed Rottweiler



### Age distribution of survey canines

- 🐾 K9 ages ranged from 2 years 4 months to 10 years 2.5 months
- 🐾 18 of the 23 K9s represented in the survey (78%) were between 4 and 8 years of age



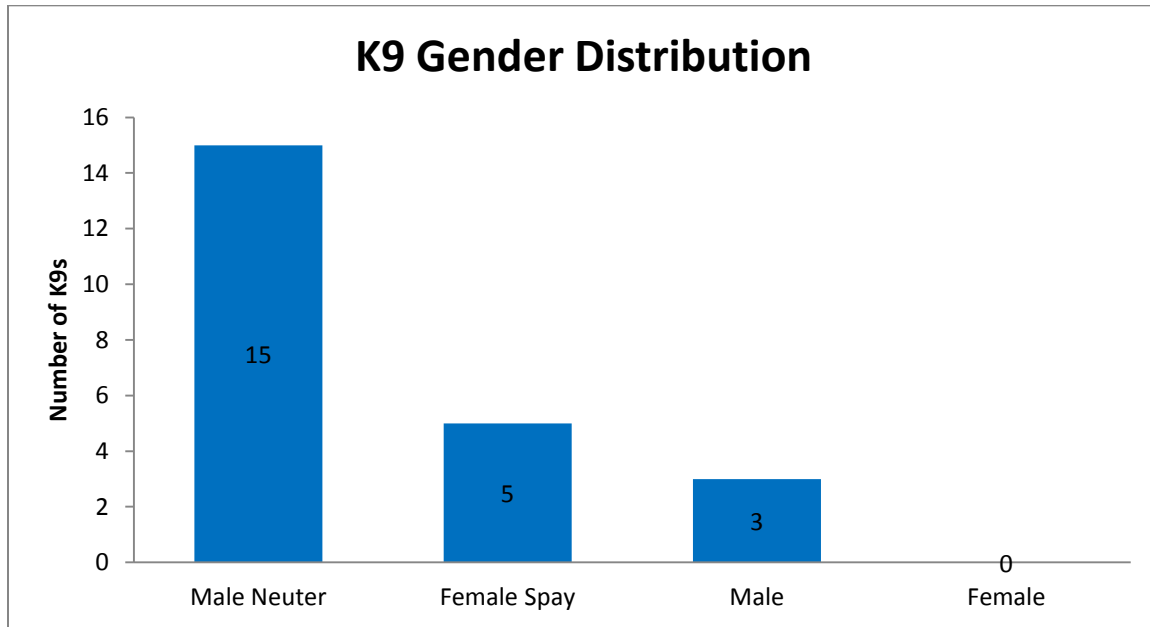
Median = 6 - <8 years old

Mode = 6 - <8 years old

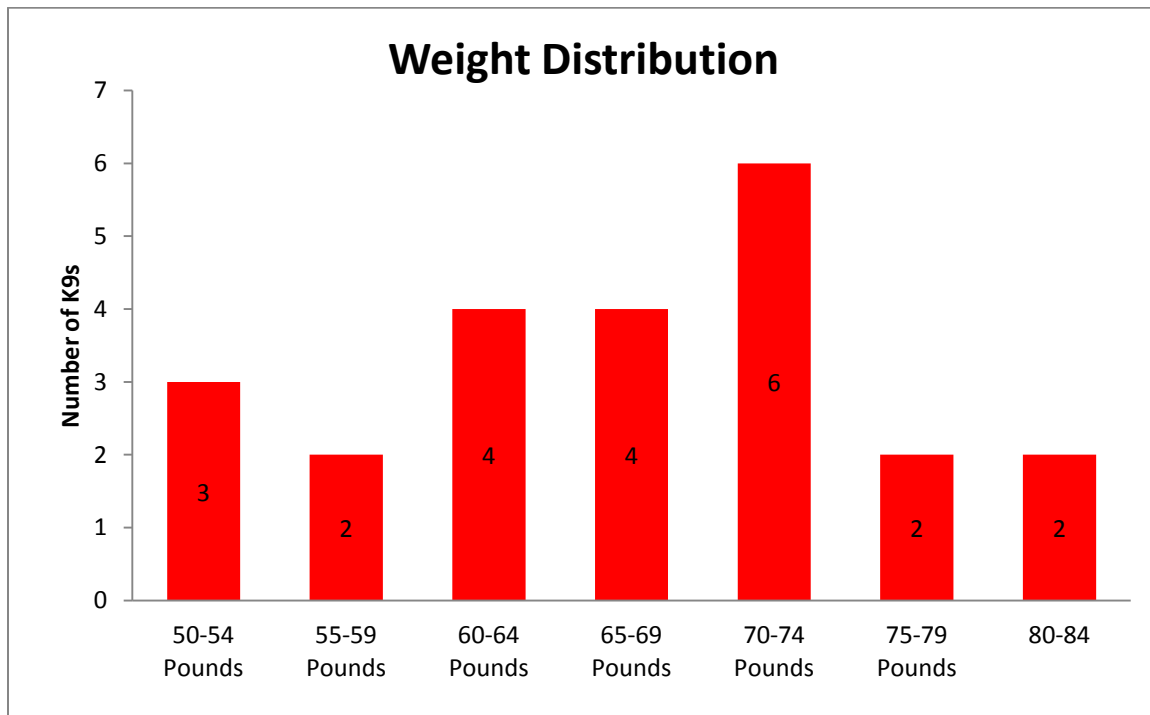
Range = 2- < 12 years old

**Gender distribution of survey canines:**

♂n 15 Male Neuter      ♀s 5 Female Spay  
♂ 3 Male                      ♀ 0 Female



**Body weight distribution of survey canines:**



Median = 65-69 pounds

Mode = 70-74 pounds

Range = 50-84 pounds

**Deployment Information** - The earthquake occurred on Tuesday, January 12, 2010

**Survey K9 arrivals in Haiti**

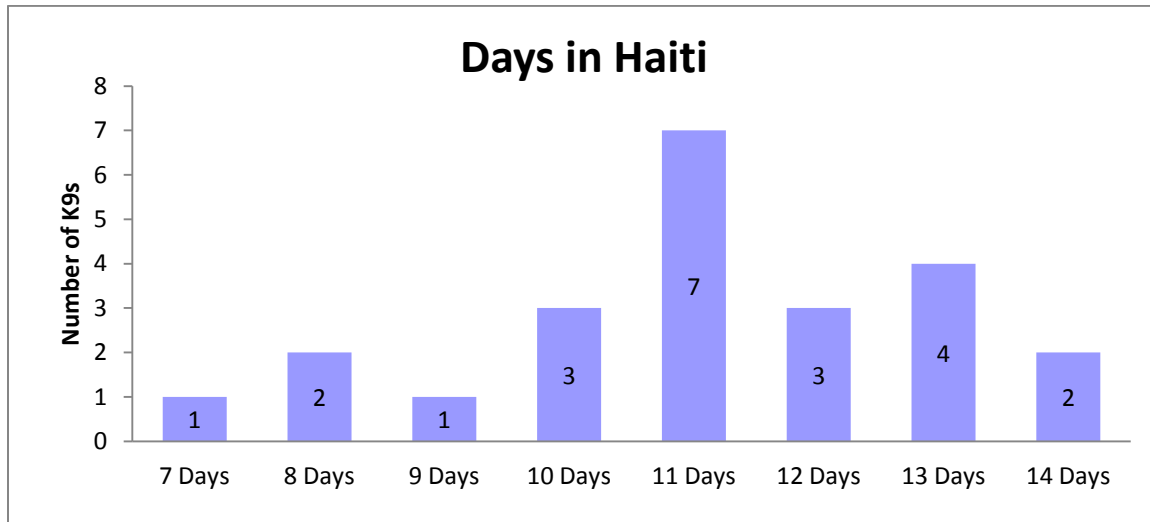
- 4 K9s on January 13th
- 14 K9s on January 14th
- 3 K9s on January 15th
- 2 K9s on January 16th

**Survey K9 departures from Haiti**

- 1 K9 on January 22nd
- 3 K9s on January 23rd
- 2 K9s on January 24th
- 7 K9s on January 25th
- 4 K9s on January 26th
- 6 K9s on January 27th

**Total days spent in Haiti (does not include travel to and from country):**

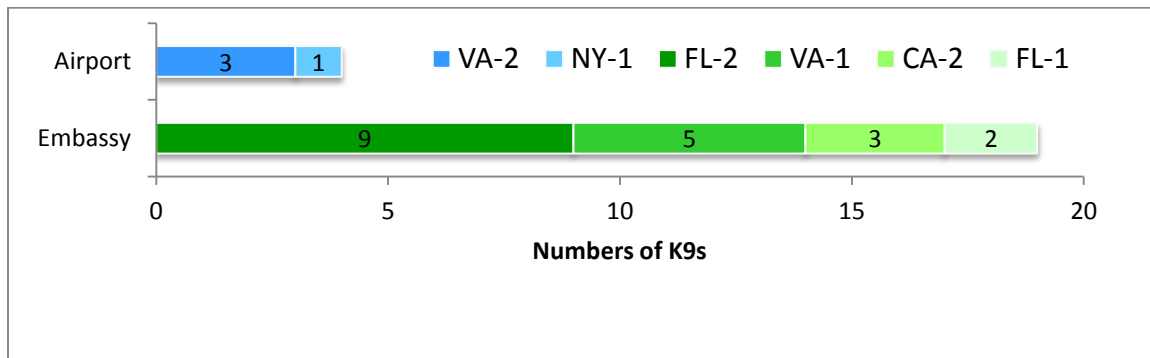
- |                           |                           |
|---------------------------|---------------------------|
| 🐕 1 Canine spent 7 days   | 🐕 7 Canines spent 11 day  |
| 🐕 2 Canines spent 8 days  | 🐕 3 Canines spent 12 days |
| 🐕 1 Canine spent 9 days   | 🐕 4 Canines spent 13 days |
| 🐕 3 Canines spent 10 days | 🐕 2 Canines spent 14 days |



Mean = 11 days      Median = 11 days      Mode = 11 days      Range = 7-14 days

**Base of Operations and Billeting**

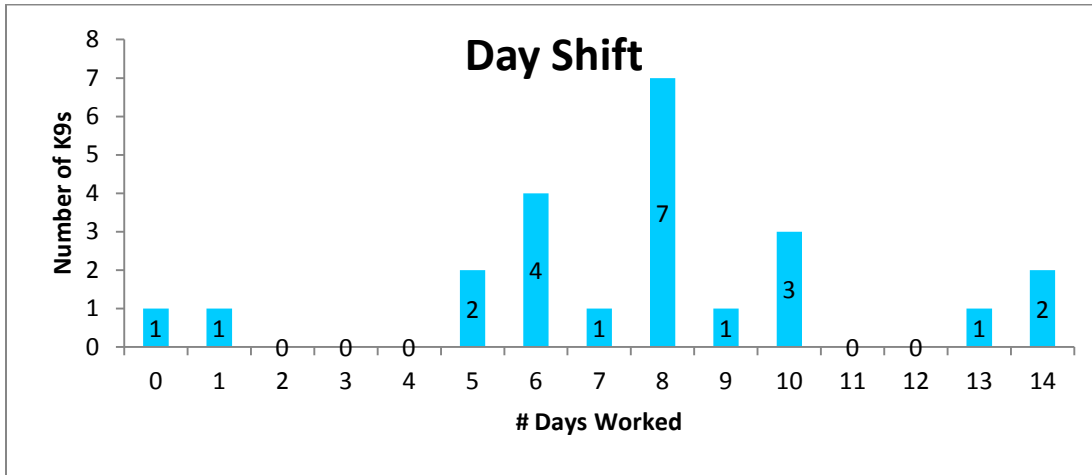
4 survey K9s were based at the Airport grounds from Task Forces VA-2 and NY-1  
 19 survey K9s were based at the Embassy grounds from Task Forces VA-1, FL-1, FL-2, CA-2



## Work History

### Day Shift

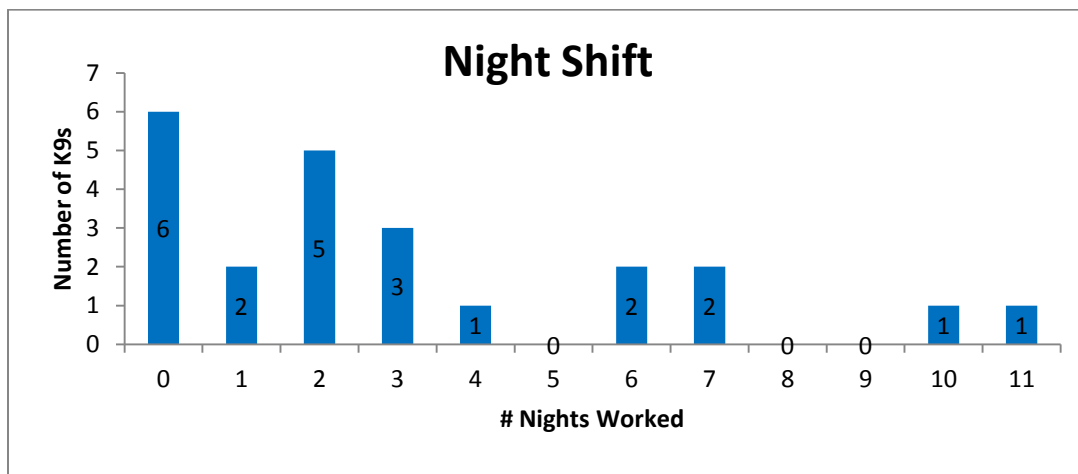
- 🐾 Number of shift hours: range of 0 (an HRD canine) to > 12 hours (including travel)
  - Total travel times to, between, and from sites ranged 30 minutes to 6 hours
  - Shift times (with travel) ranged 2 to >12 hours; most were 8 to >12 hours
  - Some groups made quick forays to a site; searches were relatively brief (< 1 hour)
  - Actual search times difficult to quantify; multiple searches of varied lengths of time (20-30 minutes) throughout a shift period



Mean = 7.7 days    Median = 8 days    Mode = 8 days    Range = 0-14-days

### Night Shift

- 🐾 Number of shift hours: range of 1 to > 12 hours (including travel)
  - Total travel times to, between, and from sites ranged 30 minutes to 4 hours
  - Shift times (with travel) ranged 1 to >12 hours; most were 1-7 hours
  - Some groups made quick forays to a site; searches were relatively brief (< 1 hour)
  - Actual search times difficult to quantify; multiple searches of varied lengths of time (20-30 minutes) throughout a shift period



Mean = 3 nights    Median = 2 nights    Mode = 0 nights    Range = 0 - 11 nights

## Preventative Programs

### Heartworm Preventative (HWP)

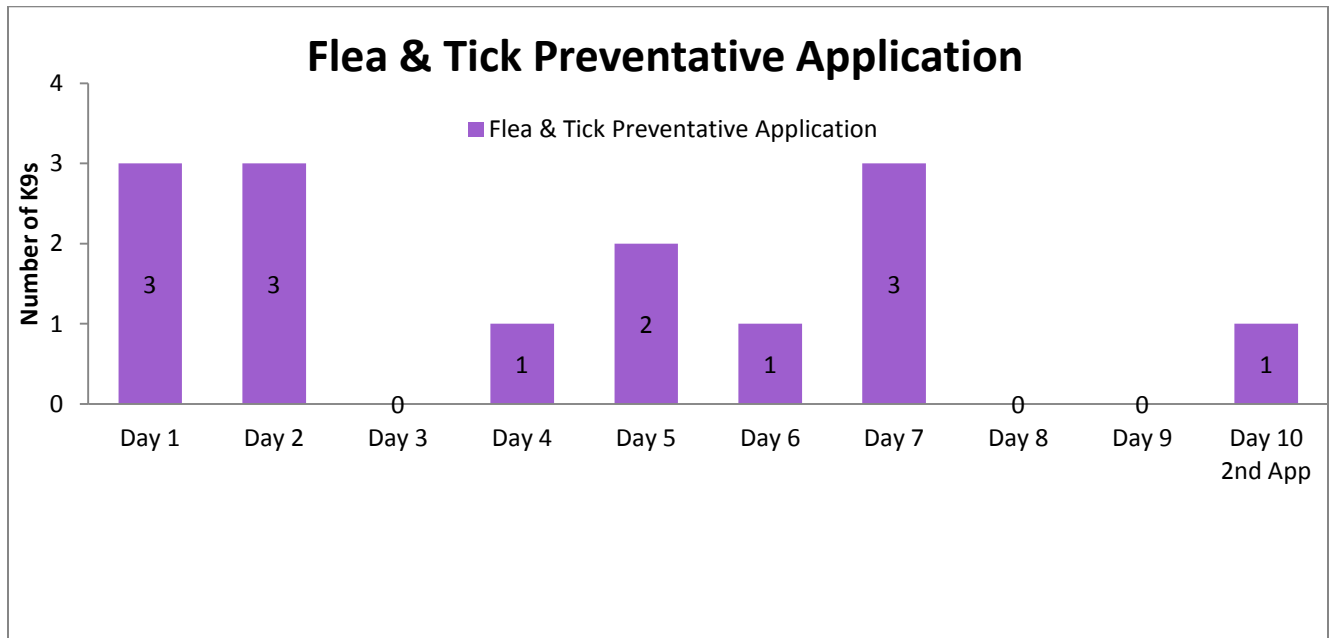
- ♥ All survey K9s were on regular maintenance HWP at the time of deployment
- ♥ 6 K9s received another dose during the deployment
  - 2 K9s on Day 1
  - 1 K9 on Day 5
  - 2 K9s on day 6
  - 1 K9 on day 12

### Flea & Tick Preventative

- 🐾 All survey K9s were on a flea and tick preventative at the time of deployment
- 🐾 More than half (13 of 23, or 56.5%) of survey K9s were given additional flea & tick product during deployment

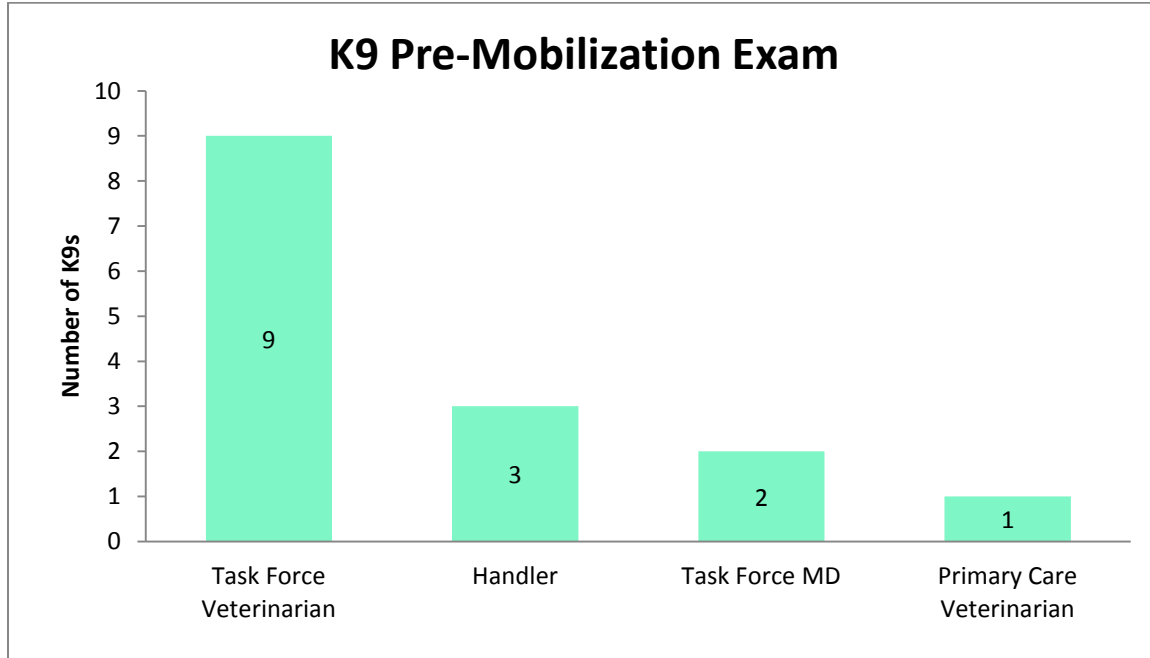
#### *13 K9s that received additional flea & tick dosing:*

- 🐾 One of the K9s had 2 doses (days 1 and 10)
  - 🐾 One of the K9s had 2 products applied at the same time
  - 🐾 All received a dose within the first week there
    - 3 K9s on day 1
    - 3 K9s on day 2
    - 1 K9 on day 4
    - 2 K9s on day 5
    - 1 K9 on day 6
    - 3 K9s on day 7
    - A K9 from Day 1 again on day 10
- } Nearly half (6/13) received doses in the first 2 days

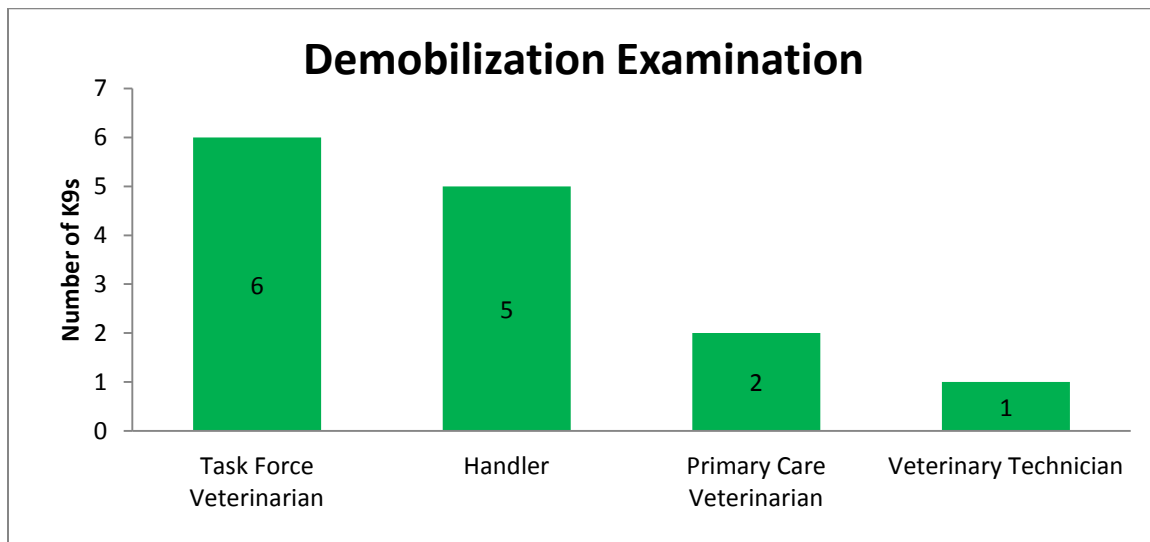


## K9 Medical Examinations

**Pre-Mission Examination** - 15 of 23 (65%) received: 9 by Task Force Veterinarian  
3 by Handler  
2 by Task Force MD  
1 by Primary Care Veterinarian



**Demobilization Examination** - 14 of 23 (61%) received: 6 by Task Force Veterinarian  
5 by Handler  
2 by Primary Care Veterinarian  
1 by Veterinary Technician

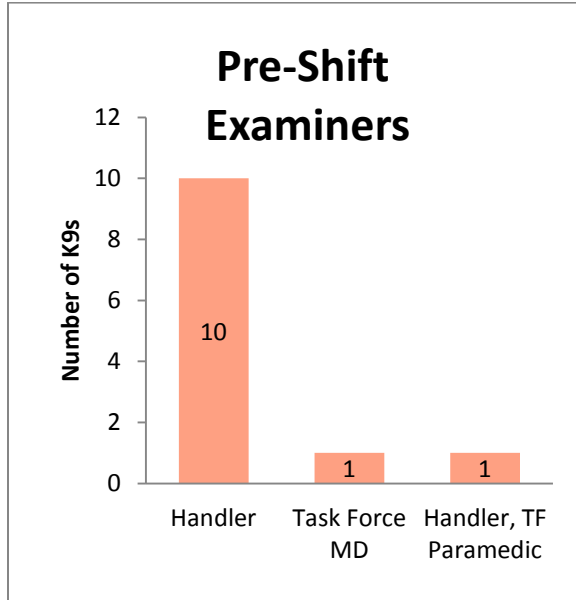
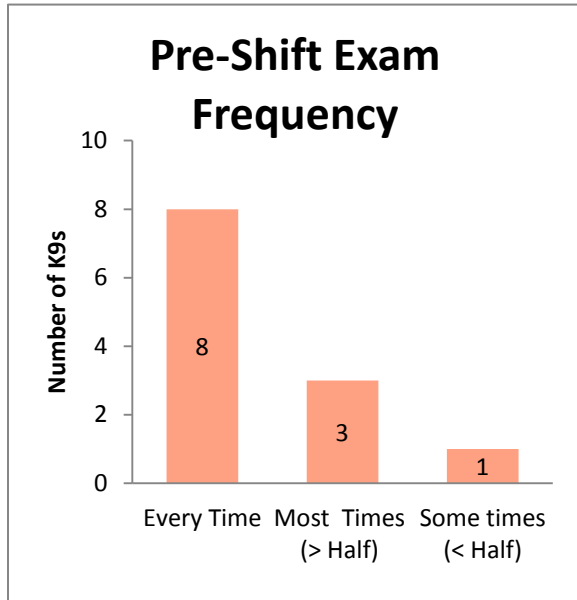




**Pre-Shift Examination - 12 of 23 (52%) received**

*Frequency:* 8 every time  
 3 most of the time (> half)  
 1 some of the time (< half)

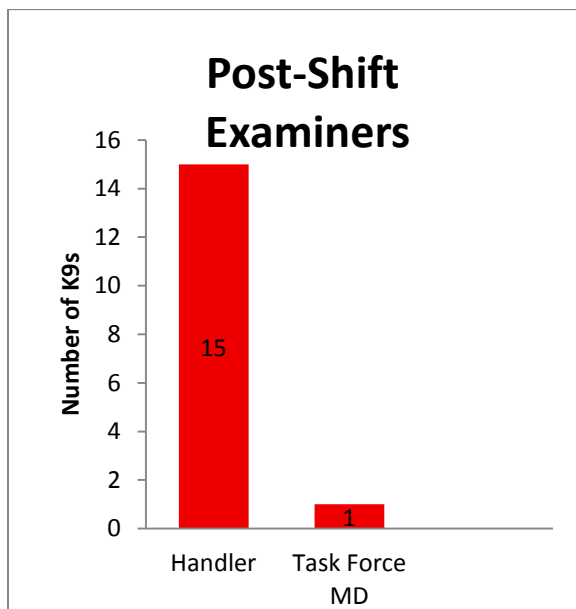
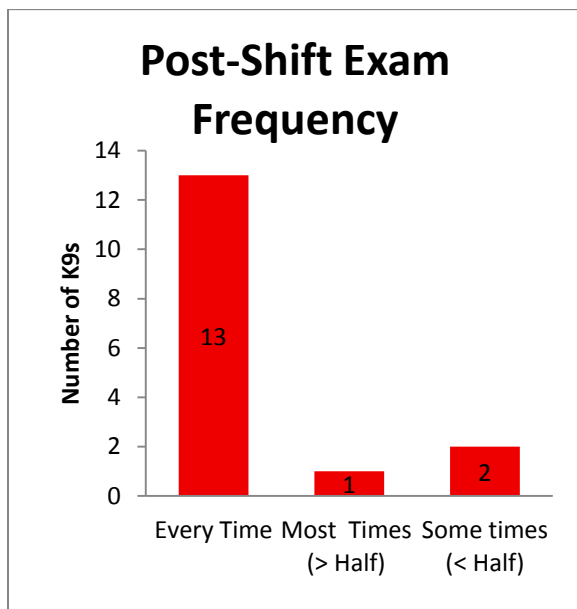
*Examiners:* 10 by handler  
 1 by Task Force MD  
 1 by handler & TF paramedic



**Post-Shift Examination - 16 of 23 (70%) received**

*Frequency:* 13 every time  
 1 most of the time (> half)  
 2 some of the time (< half)

*Examiners:* 15 by handler  
 1 by Task Force MD



## Medical Issues, Injuries, Concerns

### K9 Medical Issue Examinations

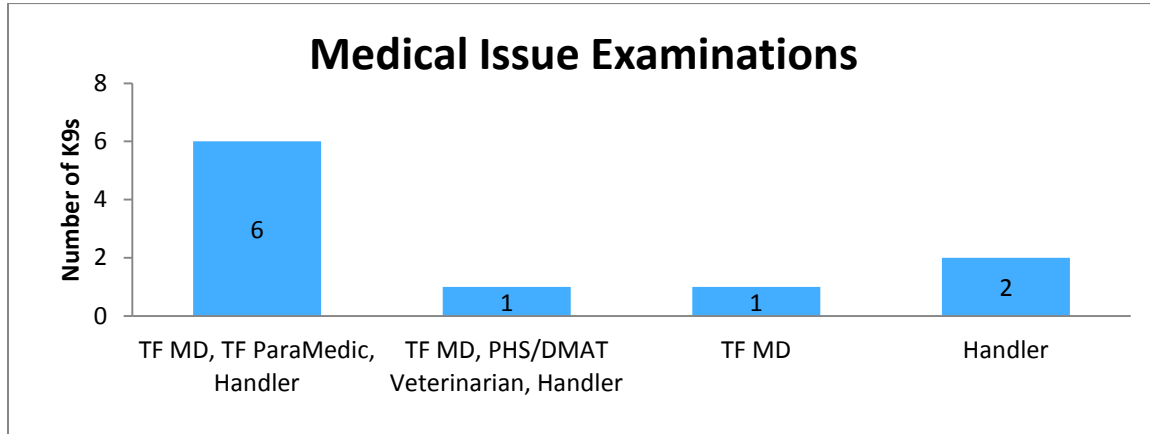
10 of 23 (43.5%) received one or more exams for medical issue(s)

6 had exams by TF MD, TF Paramedic, handler

1 had exams by TF MD, PHS/DMAT Vet, handler

1 had all exams by TF MD

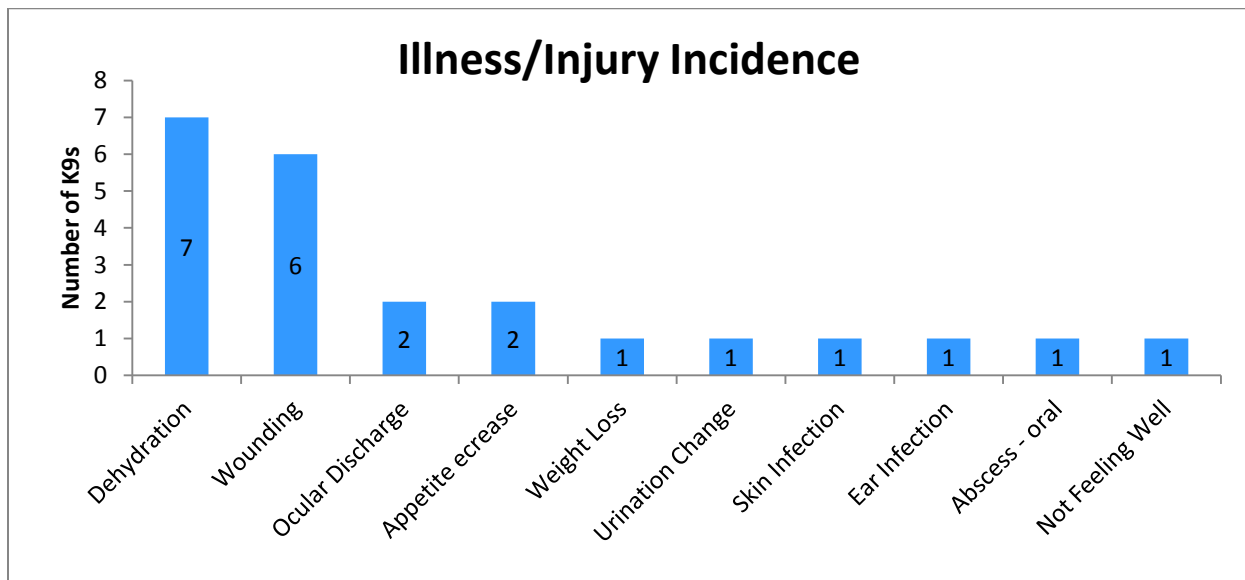
2 had all exams by the Handler



### Medical Conditions

There were reports for the following; 8 of the 10 K9s had multiple conditions

Dehydration	7 K9s ---- 30%	Urination Change	1 K9 ---- 4%
Wounding	6 K9s ---- 26%	Skin Infection	1 K9 ---- 4%
Ocular Discharge	2 K9s ---- 9%	Ear Infection	1 K9 ---- 4%
Appetite Change (↓)	2 K9s ---- 9%	Other (abscess)	1 K9 ---- 4%
Weight Loss	1 K9 ---- 4%	Unknown ( not right)	1 K9 ---- 4%



## Medical Records

### Task Force Medical Records

- ☺ 9 Handlers reported yes, TF medical records kept
- ☹ 5 handlers reported no, TF medical records not kept
- ☹ 5 Handlers were unsure



## Medical Treatments

### K9 A

- Decreased appetite - offered other foods, resolved in 24 hours
- Urination - increased in frequency, decreased in volume, and was dark in color; systemic antibiotics were given (possible urinary tract infection?); resolution took 1 week
- Dehydration - dark concentrated urine; oral water intake was increased; time to resolution was unknown/not recorded
- Wounding - laceration; cleansed (saline and antibacterial), topical antibiotics, bandaged, systemic antibiotics administered

### K9 B

- Ocular discharge in both eyes with very red conjunctiva; there was no treatment and the problem resolved on its own within 3 days
- Wounding - multiple: scrape/abrasion, laceration, and puncture; hair was clipped, wounds were cleansed (saline and antibacterial), sutured (laceration), some bandaging; topical antibiotic, systemic antibiotic and non-steroidal anti-inflammatory administered; resolution was 5 days

### K9 C

- Dehydration - responder was unsure of the specific signs; subcutaneous fluids were given; resolution took about 36 hours
- Not feeling right one morning, did not go out that day; subcutaneous fluids were given; the TF MD did an exam, and 12 hours later a veterinarian (officially there working with DMAT in Public Health capacity) was found; time to resolution was not specified

### K9 D

- Wounding - laceration; hair was clipped, wound cleansed (saline and antibacterial), sutured and stapled, topical antibiotics, left open; systemic antibiotic and non-steroidal anti-inflammatory were administered; time to resolution was not specified

### K9 E

- Dehydration - dry mucous membranes, dark concentrated urine; oral intake of water was increased; resolution was 1-2 days
- Weight loss - increased work load and decreased water intake (dehydration); water (orally) and food intake were increased; resolution took until 1 week after returning home

### K9 F

- Dehydration - dry oral mucous membranes, loss of skin elasticity; given increased oral water as well as subcutaneous fluids; time to resolution was not specified
- Wounding - laceration; hair clipped, wound cleansed (saline and antibacterial), topical antibiotic, left open; resolution in 2 weeks

**K9 G**

- Oral abscess - upper left gum; the area was flushed and oral antibiotics were administered for the duration of the deployment; time to resolution was not specified

**K9 H**

- Dehydration - dark concentrated urine, infrequent urination, decreased energy; subcutaneous fluids were administered; resolution was 10-15 minutes
- Wounding - laceration; clipped hair, cleansed wound (saline and antibacterial), sutured, topical antibiotic, systemic antibiotics administered; resolution in 7 days

**K9 I**

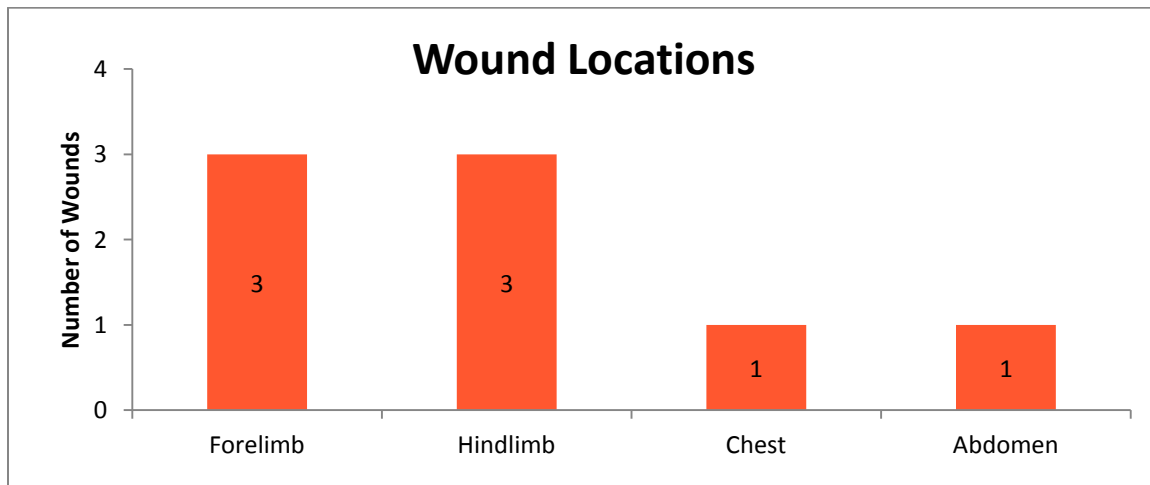
- Dehydration - did not want to work; increased oral water intake; time to resolution was not specified
- Wounding - laceration; cleansed with saline/water flush; time to resolution was not known/specified
- Ear Infection - left ear; head shaking; the ear was cleansed with an antibacterial solution, systemic antibiotics were administered; time to resolution was not known/specified

**K9 J**

- Dehydration - signs were not specified; a medic gave 500 cc fluid (subcutaneously?) each morning before leaving the BoO; resolution was not known/specified
- Ocular Discharge - both eyes had a watery discharge; treatment was administered but not specified; time to resolution was not known/specified
- Appetite decrease - this was not treated and resolved on its own; time to resolution was not known/specified
- Skin infection - from tick attachment; no treatment was specified; time to resolution was not known/specified

**Wounding Summary - Anatomical locations**

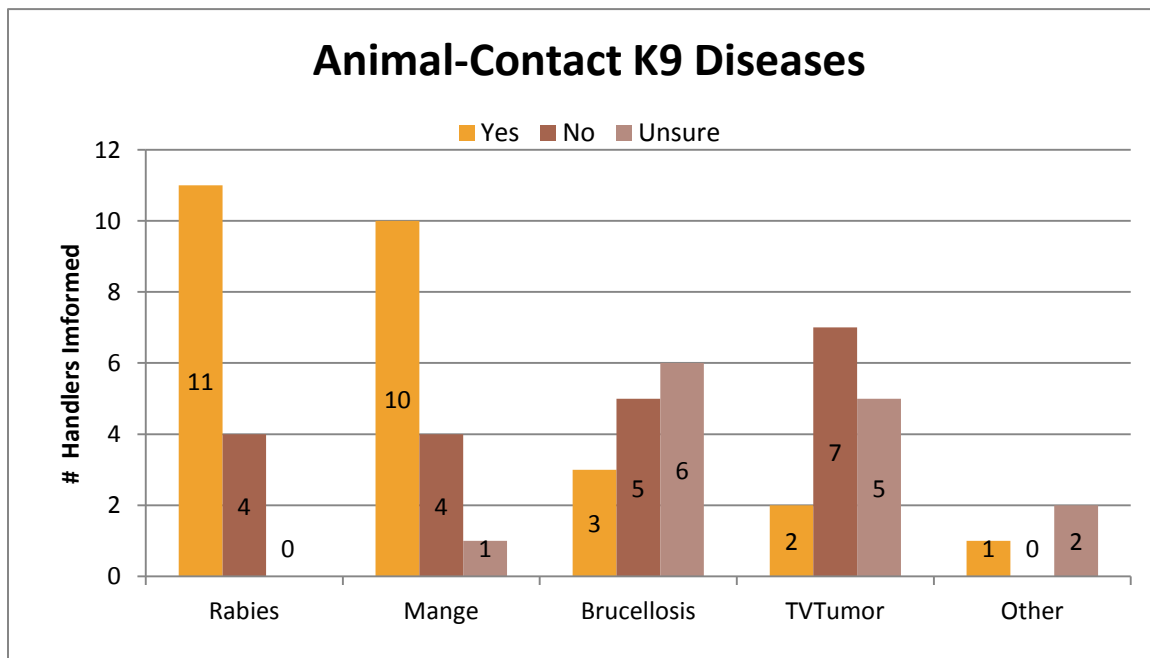
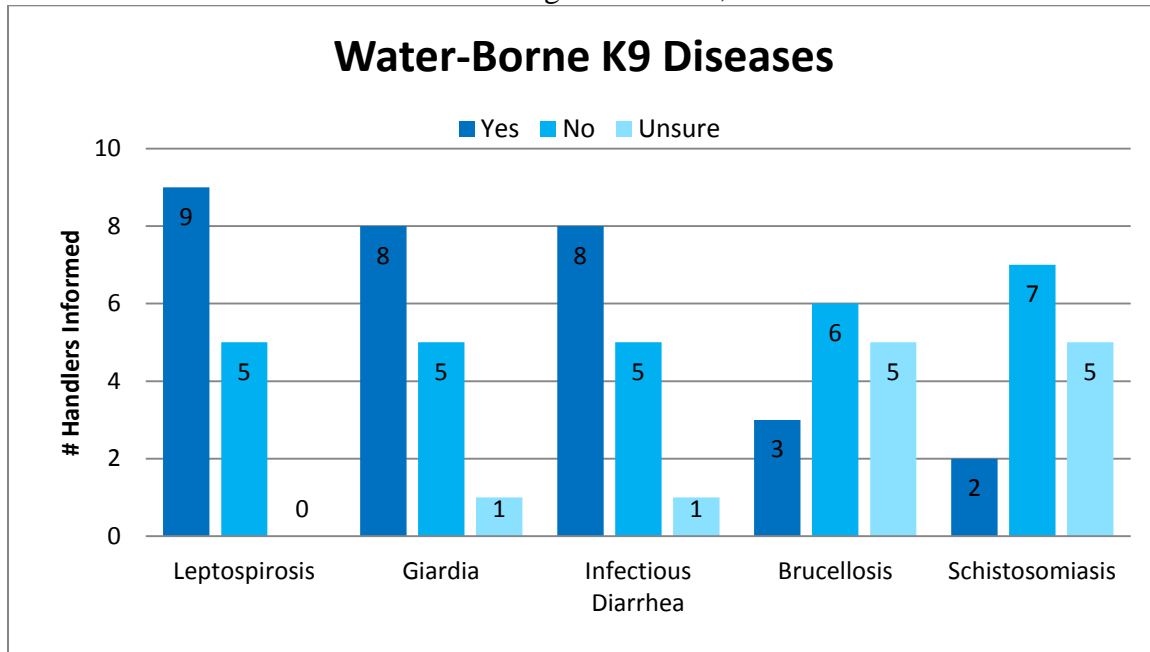
- 🐾 1 Forepaw webbing btw toes
- 🐾 1 Fore limb paw pad
- 🐾 1 Fore limb
- 🐾 3 Hind limb
- 🐾 1 Chest
- 🐾 1 Abdomen

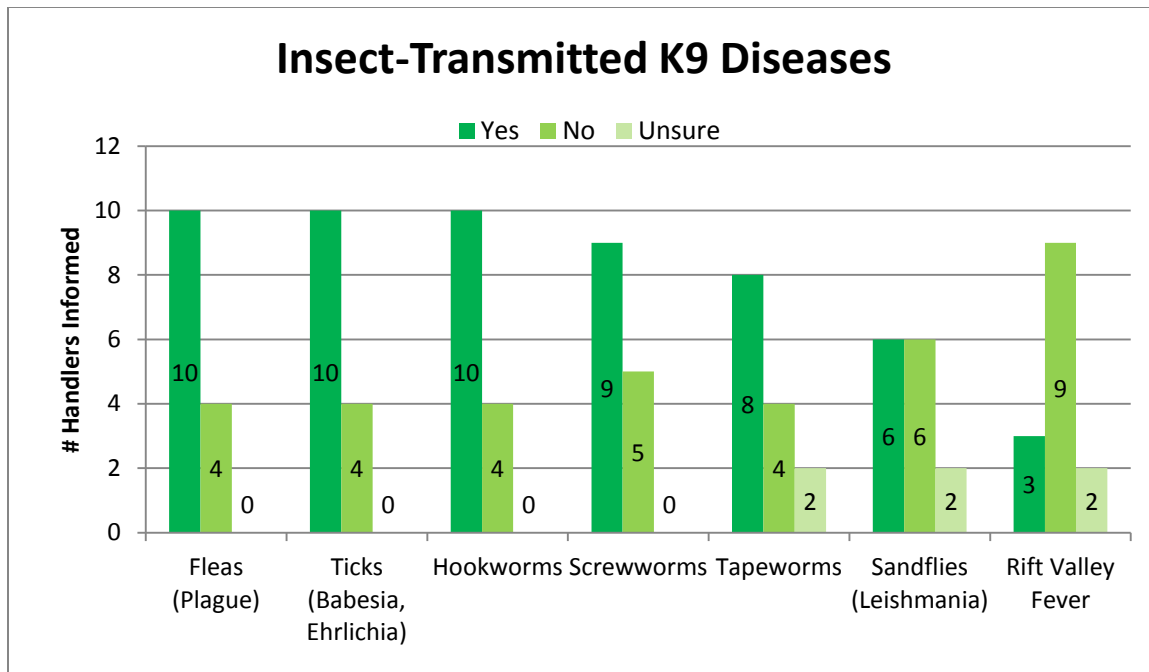


## Endemic Hazards Education

### Receiving Information regarding particular hazards and diseases endemic in Haiti

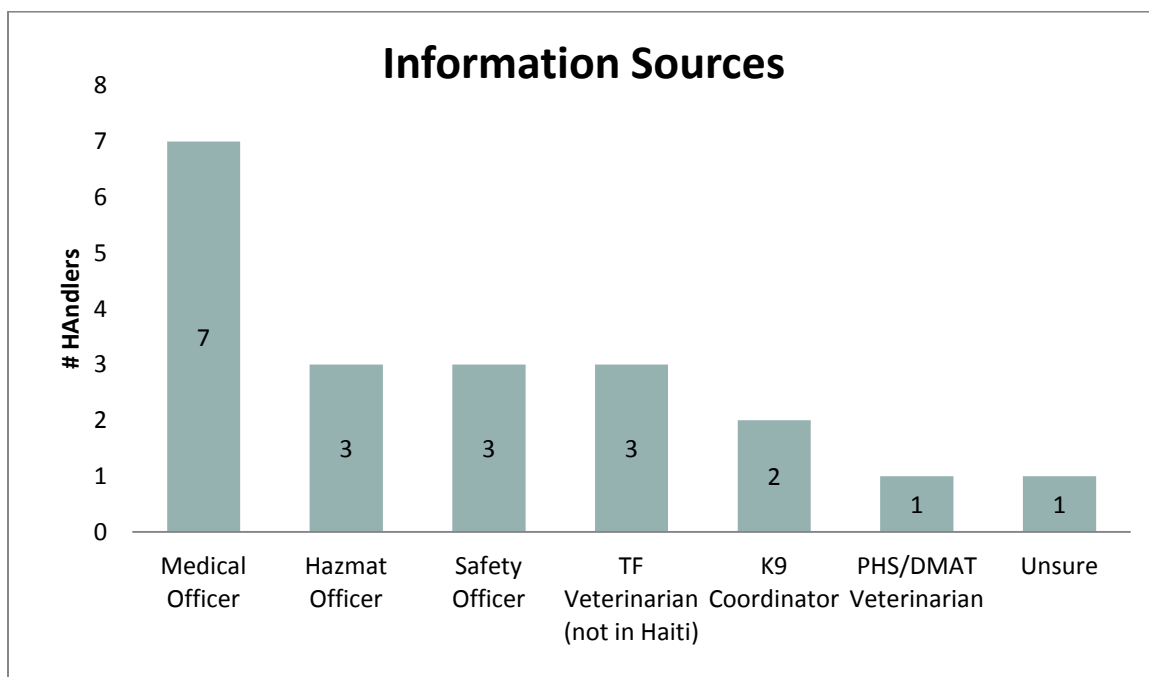
- ☞ 10 Handlers reported YES, and recalled receiving varied information listed
- ☞ 4 Handlers reported NO, and did not receive any information listed
- ☞ **5 Handlers' responses were inconsistent - their responses are not included in the chart**
  - 2 Handlers: NO to receiving information, YES to some or all diseases listed
  - 2 Handlers: YES received, NO to all listed, OTHER not specified
  - 1 Handler: YES to receiving information, NO to all diseases listed





### Source of endemic hazards and diseases information

Handlers reported hearing of the various endemic hazards and diseases from several sources. Some received the information from one source, others from multiple sources.



## Decontamination

### WHO:

- ◆ Every canine involved in search: 22/22 (100%)
- ◆ 1 HRD canine did not leave the BoO and did not require decontamination

### WHEN:

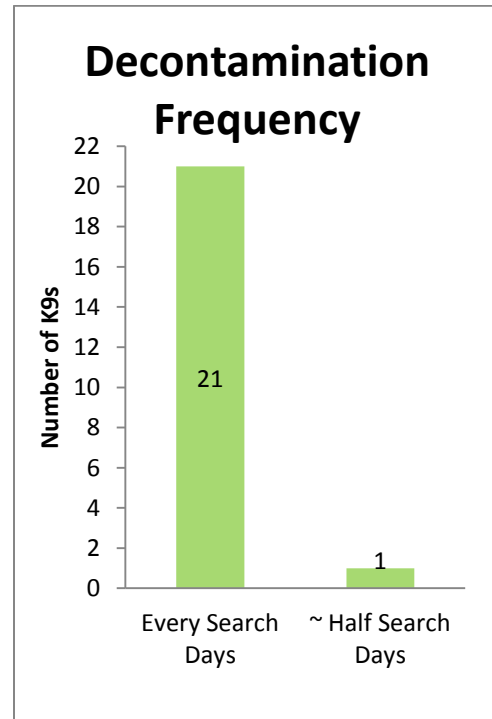
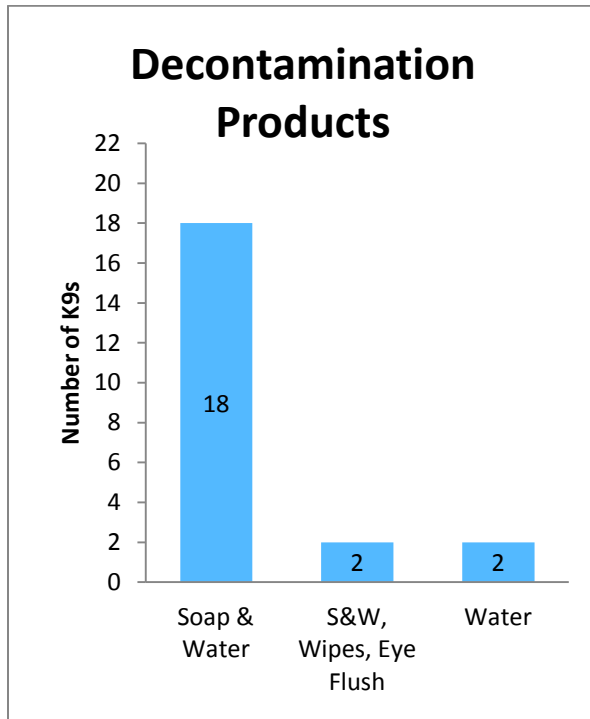
- ◆ After search: 20 of 22 (91%)
- ◆ During search: 1 of 22 (4.5%)
- ◆ Both during and after search: 1 of 22 (4.5%)

### HOW OFTEN:

- ◆ All search days: 21/22 (95.5%)
- ◆ About half of search days: 1/22 (4.5%)

### WHAT:

- ◆ Soap & water: 18/22 (82%)
- ◆ Water: 2/22 (9%)
- ◆ Wipes, eye flush, soap & water: 2/22 (9%)





## Subcutaneous Fluids

- 🐾 One survey K9 received 500 cc before each shift; there was an indication that this may have been performed for the other K9s on this task force
- 🐾 Two survey K9s received as treatment for dehydration because their handlers could not get them to drink enough water

There were anecdotal reports from some of the handlers and medical personnel about giving the canines subcutaneous fluids before search or during their shift for other reasons, which will be discussed in the next section.

## Haiti Post-Deployment Examinations and Tests

### Testing

#### 🐾 7-10 Days Post Demobilization

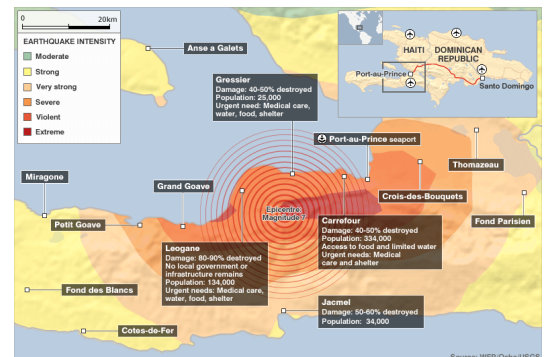
- YES: 19/23
- NO: 3/23

#### 🐾 30-40 Days Post Demobilization

- YES: 18/23
- NO: 4/23

#### 🐾 Other

- One K9 had testing done at 4 days and 17 days



### Results

Acquiring all the needed medical records and tests for all survey canines was not highly successful. Some of the medical records had lots of tests, but did not include veterinary notes on treatments, prior vaccinations, etc... to adequately interpret data. I did receive some records for 12 of the canines.

Overall, to my knowledge, there have been no reports of clinical signs for any of the diseases for which testing was recommended. Urine and fecal tests were negative as well. Varied positive titers for diseases like Lyme and Leptospirosis could be explained by prior vaccinations or prior exposure. Without clinical signs, these may be considered non-active infections or carrier states. Only one Leptospirosis titer was considered infection, but again there were no clinical signs reported.