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## Stories from the Field

### 2013 HSVMA-RAVS Trip to the White Mountain Apache Reservation in Arizona

Ada Norris is a veterinary student at Cornell University, getting an early spring jump on a summer of playing in the field as the 2013 HSVMA-RAVS student intern. In a former life, she co-edited a Penguin Classics book on a Sioux writer named Zitkala-Sa (1876-1938) who wrote popular short stories about American Indian life on and off reservations. She loves working MASH-style veterinary field clinics.

#### Day 0: Getting There

Eight minivans, two pickup trucks, one horse trailer, 33 veterinary students from 12 schools, eight veterinarians, six veterinary technicians and assistants, and three support volunteers travelled from all around the US to gather in Phoenix over the weekend to spend their vacation time and spring breaks providing free veterinary care to dogs and cats on the White Mountain Apache Reservation in Eastern Arizona.

Sunday was a gorgeous sunny and dry traveling day – en route we stopped in Globe refueling with tacos and buttered chips at El Rey cafe and stocking up on coffee and peanut butter for the week. Our caravan of 10 vehicles bravely climbed along the winding road through the stunning Salt River Canyon arriving in the town of Whiteriver at the tribe's old gym sometime around 5:00 pm. Within minutes of arriving, team leader Dr. Elizabeth Berliner and her seasoned crew of technicians and veterinarians cast their magic and had all 33 students carrying 142 color coded action packers from the RAVS trailer to a now color coded gym. Ta Da! – from a fully packed horse trailer to a now tarp covered basketball court – a full service veterinary surgical and wellness clinic. Doors open 8 a.m. tomorrow.

What followed was a blur of orientation, dinner, surgical skills testing, and finally, assignments for the next day. The longest day ever ended somewhere a bit before or after midnight. Altogether, like brightly colored sardines in a can, sleeping bag next to sleeping bag, we fell asleep (or didn't fall asleep) to a chorus of people talking in their sleep and snoring prolifically.



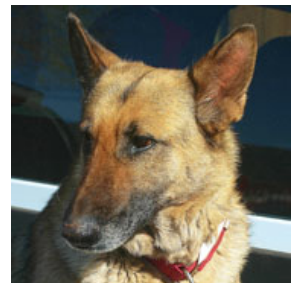
The HSVMA-RAVS rig hauls equipment for high quality MASH-style clinics on various Native Nations.  
Ada Norris

#### Day 1: The Trip of No Stories

Over rounds last night, our lead vet, Dr. Elizabeth Berliner (who we affectionately call "EB"), declared this would be the trip of no stories. By which she suggested there'd be no middle of the night evacuations of ill volunteers; no 14 hour days followed by emergency surgery that keeps her lead surgeon and technicians up all night; no chasing after cats who jump out of client's cars en route to the parking lot. No stories. EB's been going on these trips since 2007 and leading trips every summer since, and it's fair to say she has seen a few stories from start to dramatic finish.

We were all awake and up for section orientations by 6:15 am. The intrepid (aka crazy) were up for a cross-fit workout by 5:15 am. A few others were also up by 5 am in scrubs and reading through protocols, drinking instant coffee. Our first patient of the day was there by 7:30 a.m.

The receiving team starts by filling out paperwork, taking histories, doing physical exams, giving vaccinations, flea and tick treatments, de-wormers and other necessary treatments, and determining if each patient is in good shape for surgery. Day 1 brought the usual suspects: a few trucks full of mama dogs recently whelped with their puppies in tow, an entire kennel of eight bear-hunting hound dogs, and assorted brave cats in pillowcases, leashes, or the arms of their 10 year old caretaker. And one special return visitor from last year's clinic just here for boosters on her vaccines.



Jinx returned to the HSVMA-RAVS Whiteriver clinics this year for her wellness treatments.  
Laura Polerecky

The way these clinics work, members of the community bring their dogs and cats to us for vaccines, exams, and surgery; we are invited to the reservation, usually by someone in tribal government or animal control, someone in the position to both identify a need for veterinary care, and a willingness of members to go through the effort to get their animals into the clinic. We don't charge a fee – veterinarians and technicians work pro bono, students volunteer (some get course credit, most just for the experience) – but what we do ask is that the tribe provides us with a place to sleep (usually a gymnasium or community center, near where we set up our clinic), food to eat, and oxygen tanks. It's no small feat to feed a group of 50 for a week, coordinate the logistics of the clinic, advertise, and get us oxygen and access to water, electricity and the occasional shower.

And it's not insignificant what we ask of individual clients: to start they usually give up most of an entire day to see their pets through check-in and receiving, and then back to pick-up at the end of the day. Many of these animals have never seen a veterinarian before, many are carrying high loads of parasites, suffering tick-borne disease or viral infections that require significant nursing care if they are going to make it. We have long conversations up front about the commitment that will be necessary and to make sure people are up for it. What we find over and over again are people who are up for it, who are connected to their dogs and cats and who want them not to suffer and to enjoy lives integrated with their families and communities.

Sometimes, though, clients don't bring the animal to us. There's usually one at every clinic; everyone who's done RAWS before has a story of their favorite dog who shows up first day of the clinic, and sticks around the whole time. Last year our volunteer dog at White Mountain was Jinx – a rough looking German shepherd dog with patchy fur, visible ribcage, and infested with ticks. She visited us every day, hanging around the front of the gym, making friends with the clinic volunteers and especially endearing herself to one man who was bringing his own dog for surgery. He asked if we would be spaying Jinx and fixing her up. We can't perform a surgery and release the dog back into the world without a warm place to stay, guaranteed food and water, and someone looking after them. Every dog needs a plan after surgery and as much as we all had fallen for this dog, she didn't have one...yet. The soft-hearted client came back the next day and gave the skinny mangy shepherd dog a plan – he claimed responsibility and adopted her. We fixed her up and home she went.

This year, a few of us went out to a pick-up truck to do exams on a notably friendly, fluffy and well-behaved chow-type dog and a mellow yellow sharpie-lab dog, and who was there, proudly in her dedicated spot in the truck, watching every move of her person? Our friend Jinx! Now with a full beautiful coat, slightly overweight, just coming by for booster shots. Her caretaker told us all about how the two of them go on adventures – he on his bike, Jinx bounding along with him. While I went through the motions of recommending he reduce her kibble by a fraction, we weren't actually very concerned and agreed this dog had hit the jackpot. She's a good dog, her owner said with a cock-eyed sort of smile.

## Day 2: Distemper, Distemper, Distemper

Today was a real-life introduction to canine distemper virus. We got exposure to its wide-range of clinical presentation, from breaking and infectious to recovered and chronic. Students and veterinarians new to RAWS, and accustomed to working in private practice or at urban referral hospitals don't often – or ever – see distemper or think about it beyond the fact that it's included in our routine inoculations and a problem shelter vets and animal control have to deal with. But, in fact, canine distemper is considered one the most contagious and lethal viral diseases to affect dogs, and increasingly we are seeing an expanded range of hosts among a range of mammals, especially among small mammals like raccoons who live in close proximity to free-roaming dogs. At this point, almost all carnivore orders have proven susceptible to the virus – and we have seen lethal outbreaks among tigers and African lions in American zoos and African wildlife reserves, the worst involved over 60 lions dying from the virus in Serengeti National Park. After rabies, canine distemper is considered our most contagious and concerning threat for domestic animals and wildlife.

The virus is passed from dog to dog through exposure to an infected host's bodily fluids (sneezing, coughing) and will progress through several stages: fever and general crumminess followed by thick discharge from eyes or nose that is often green. After maybe a week, the dog may appear to improve, and then become sick again with gastrointestinal troubles: diarrhea, vomiting, not eating. The next stage of infection – which might be as long as one to three months from initial signs – involves neurologic signs, seizures top among them. A few dogs will survive the long the course of the disease, and might show neurologic tics later, develop hardened pads on their paws and rough noses, and some who have the disease in puppyhood have characteristic changes to their teeth. We have already today seen so many dogs along this whole spectrum. The most crucial to identify in a clinic setting are the dogs breaking with infection at the early stages as they are highly contagious and shedding the virus. And since most of our patients are receiving veterinary care for the first time, they are unvaccinated and highly susceptible. Distemper and other canine viruses like parvovirus get passed among dogs in some of the communities RAWS serves just like a cold passes among us. The consequences of distemper virus unfortunately are much worse.

## Day 3: Some Dogs Read the Textbook

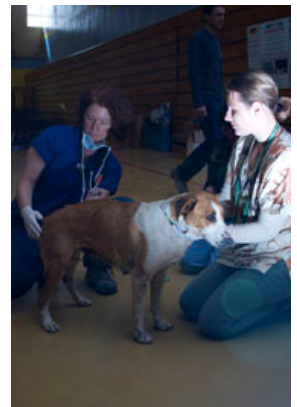
Turns out the trip of no stories does not mean stuff doesn't happen. We saw a lot of distemper on Day 1 and 2. Some with respiratory signs who were immediately isolated, and the clinicians who contacted the dog dressed in gowns (or trashbags, with head and arm holes cut out) and gloves, and – for the rest of the day – were the "green team" meaning they would not see any puppies for the rest of the day, and be routed to other dogs with questionable signs. Others who are no longer contagious and lived through the initial infection can survive with what are called "chewing gum" seizures – the dogs have what looks like a constant palsy where they look they are chomping or chewing gum all day long.

If there were a textbook description of diseases suffered by dogs on this reservation, Butterfly Way would be the case example. A young, 2- or 3- year-old, female hound dog mix was brought in to be examined and spayed after just having whelped a litter of pups eight weeks ago. Butterfly showed us classic signs of recovered neurological canine distemper. The "science-y" word

for chewing gum seizures is myoclonus – and even among those of us hot off our neuroanatomy course, Butterfly was the best example of it we'd ever seen.

But, neurological distemper was only the start of Butterfly Way's problem list. This sweet tan dog walked into our clinic with four of the top five or six problems we see facing reservation dogs: 1) survivor of puppyhood distemper with chewing gum seizures to show for it; 2) positive for ehrlichia, a tick-borne disease that along with Rocky Mountain Spotted Fever, has reached epidemic levels in some areas; 3) sarcoptic mange, or canine scabies, a very itchy skin infection that is contagious to both other dogs and humans and widespread among dogs in otherwise compromised health; and 4) a transmissible venereal tumor that we see commonly on the southwest reservations, and hardly ever (or never) in our veterinary college hospitals.

By Day 3 this was our fourth case seeing a TVT. The canine TVT is a naturally occurring contagious round cell tumor that is transmitted between dogs. The most common mode of transmission is through sexual contact affecting external genitalia. It might also be transmitted by licking and sniffing to nasal and oral cavities or the rectum. Large populations of free-roaming, unaltered dogs are at particular risk, and it is more common in tropical and subtropical areas. For some dogs, the tumors will resolve without treatment, for others they become large ulcerated, bleeding highly uncomfortable masses that interfere with urination and even ambulation. There is definitive treatment – weekly IV injections of a chemotherapeutic agent (vincristine or vinblastine) is curative – usually just two to four doses will cause the tumor to regress. While we are able to initiate treatment and provide initial care, follow-up treatments can be a challenge. RAVS staff work with each client to arrive at a treatment plan that they can logistically manage. Ideally this means follow-up vincristine doses with the closest veterinarian – more than an hour drive from Whiteriver.



Pre-vet student, Shadden Brock (right), helps restrain Butterfly Way while Dr. Berliner, affectionately referred to as the clinic's fearless leader, conducts an examination.  
*Michael Freifeld*

## Day 4: Starting to Get the Hang of Things

By Day 4, every student has been oriented in all three clinical rotations – receiving, anesthesia, and surgery. By Day 4, everyone basically knows what they are doing and can sleep in a bit, meeting at 7 a.m. instead of 6:15. Crossfit kids get up an hour later to start jumping around doing handstands, and the kids who pop up in their scrubs sipping instant coffee and reading protocols also start an hour later. By Day 4 we also have a gym full of boarders – dogs and cats who stay the night for various reasons; either their families were unable to get back due to logistical issues, or because they had a slow recovery from surgery and we wanted to keep them quiet and inside and warm until we were sure they had fully recovered. Dr. EB warned us all in rounds last night that Day 4 deserves some caution and respect. We know enough to feel confident and comfortable, and maybe are feeling comfortable enough to not ask for help or double and triple check ourselves. If you start contemplating the range of mistakes that can happen in medicine, especially field medicine, you'll go crazy with anxiety, but enough to say that this, being the trip with no stories, we were put on Day 4 advisory. Watch everyone's back, double check your calculations. Take care of each other and your patients.



HSVMA-RAVS volunteer and staff veterinarians work one-on-one with veterinary students on spay and neuter surgeries.  
*Laura Polarecky*

Learning how to stitch a simple continuous suture pattern will be a skill all of us use for the rest of our careers – students in RAVS trips range from 1st year to 4th year, and surgical experiences ranges from none to a little, instruction in school is usually pretty hands-off. A few power-points, maybe a short practical lab. Students with substantial experience practicing either had been preparing for RAVS using the on-line training materials or sought out someone outside the usual curriculum. So on a RAVS clinic, on Day 0, after the longest day in the world, when you land in one place (Phoenix, Bismark, Spokane), meet a bunch of strangers in a hotel lobby, tie colored tape on your rental cars and head out to the middle of nowhere following a huge white rig trailing a horse trailer full of boxes reportedly holding an animal clinic, after arriving in a reservation unlike anywhere else in the US, unloading and setting up said clinic, listening to trip leaders describe the schedule, after all of this – usually it's 9 at night – it's time for the practical skills test. Only those who pass the strict criteria for the test will participate in surgery on this trip. Probably the most nerve-racking moment for all student volunteers. Surgeons stand at tables with stopwatches and you are asked to tie a figure 8 knot, a ligature using a modified Miller's or surgeon's knot followed by good square knots, and a simple continuous suture pattern with square knots starting and finishing on two-inches of practice board in under three minutes. Most pass, some don't, all are nervous. And after this, those who pass and those who don't gather every night after rounds and practice. Surgeons, exhausted from 12 hour days, maybe have gotten a shower, maybe not, circulate among students and 1-on-1, they troubleshoot problems, help figure out what to do with your right pinky and all that extra suture, how to square your knot in the air and bring it down without slipping.



HSVMA-RAVS Senior Staff Veterinarian, Dr. Paul Breckenridge demonstrates suturing techniques for veterinary students.  
*Michael Freifeld*

So Day 4 went okay. There were no disasters, no EMTs have been called to evacuate anyone, no one has broken down in tears needing to go home. The clinic is running smoothly, animals are doing well. Clients are hanging in with our long days

and slow recoveries. Dogs are gamely trotting around the gym on leashes, being taken outside to pee (most never have spent so much time inside, have never walked on a leash, and certainly haven't gotten hearts listened to and rectal temperatures taken so often), while cats bravely bide their time in the cat tent trying to make sense of the alien abduction that has removed them from normal life, landed them in a box, made them inordinately sleepy, landing in a tent in another box surrounded by dogs and strange alien creatures.

## Day 5: Some Dogs Don't Read the Textbook

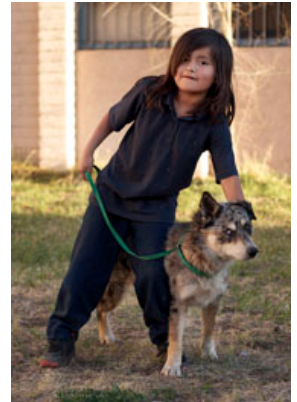
Turns out that, indeed, a trip with no stories does not mean an uneventful trip where nothing interesting happens. No surprises there. Turns out a trip with no stories actually generates some awesome stories. The underrepresented part of a RAVS clinic, looking at the last four days of this little field log, is its hilarity. One might assume clinics like these are tragic and sad – fatal contagious diseases, tick infestations, poverty, overpopulation, under-nutrition. Hard stuff. And so it is. Most definitely. But somehow, somewhere, in this mash-up of difficult extreme conditions, awesome animals, perhaps aided by lack of sleep, shared bathrooms, occasional (if we are lucky) showers, and unpredictable food – these trips end up being defined and motored by a steady stream of hilarity. It's half-crazy students. It's the zombie balloon that is stalking one of our rockstar technicians. And most of all very hilarious clients. Not every student gets the joke, many of them are at our expense; clients mess with our earnestness and talk circles around our well-meaning but occasionally ridiculous questions. There is always a subgroup of students who are hooked immediately by receiving. Without making generalizations, there is something very special about these reservation communities that invite us in to help with their animals. People are funny, they are full of heart, with a ragtag assortment of animal companions, we meet storytellers, survivors, philosophers and comedians.

One of our interesting cases for today wasn't surgical or medical, and didn't involve any diagnostic tests or expert physical palpation. A girl, her dad, and a Blue Merle Heeler cross. The dog presented with a history of losing an entire litter of puppies over the winter, and a more recent history of nipping at several kids.

Sitting on the stairs outside the front door for hours, she was the last appointment of the day. Dad was a pretty tough guy of few words with a half smirk and kind eyes. Momomo was a tough little girl who couldn't stand still. Hatchi was our patient – a scared, tentative, and adorable one-year-old intact female Heeler cross. Over the next hour we learned a lot. Emily Aston, a second year vet student from Cornell, came over at the beginning of the appointment and gave them a big bag of sample food, opening up the conversation about good nutrition, and why their dog possibly lost her puppies. Emily went for it; she looked dad in the eye and opened a conversation, and offered up a couple things she thought might be true. Without judgment, she shared the thought that the relationship between dogs and people is a mutual one, and they owe us something and we owe them something and we can't expect one without the other. For our part, we might give them protection from the cold, enough food to eat, companionship, and structure. For their part, they need to respect the rules of the group, whether it's barking at strangers, not barking at strangers, playing gently with cats or children, or being a friend and companion. Not biting strange children would be part of that; older kids not kicking the dog is another. Emily left and I was sitting with the dog, giving her some love and measuring vital signs.

While my partner was recording our findings and drawing up de-wormer and distemper vaccines, Momomo opened one of the little bags of dog food and started offering kibble to Hatchi. She liked the kibble. A lot. She warmed up to me and let me handle her without flinching, and was visibly enjoying the treat game. I gave my stethoscope to Momomo who listened to her dog's heart with big eyes. And then we talked about how smart Heeler dogs are, and how nipping groups of people actually is something that might be their best approximation of work they have been bred to do. I asked her if we could think about giving her some work to do – starting with a few commands. For a few minutes Momomo and I started to capture a "sit" with a treat. I wished I had two more hours and a clicker because "M" was a natural; soaking up everything that was going on, even as she kept a protective aloof distance. She was gentle with the dog, and was clearly excited to have the job of offering her a treat right at the moment that we gave the two vaccine injections. Her timing was impeccable.

At the end of the appointment, dad and I talked about not giving up on the dog, giving her positive stimulation, and spaying her next time we come to town. He nodded with a non-committal "uh-huh." But I choose to interpret the uh-huh in its whole context. He put up with us going on and on for – seriously, waiting time included – many hours. He came to our clinic and sat on those stairs waiting for us, and then waited easily another long hour as we earnestly went through our exam and paperwork. He listened to Emily talk about the mutual benefit of the human animal bond. If he didn't care about this dog he wouldn't be here. I just asked him what he thought about Hatchi and if she could adapt to living peaceably in his family. Back and forth we agreed she was a good dog, I pointed out what good condition she was in even given what she'd been through. He agreed. We talked about how life on the "rez" can be rough for dogs – for everyone – and it mattered that he had helped her get this far. She didn't have any signs of systemic disease or viruses, no external parasites, and given a little time the dog let me pick her up and poke her all over, and sit and take treats gently from an 8 year old. We talked about feeding dog food instead of scraps. And for him to stage a few encounters between the dog and random kids so that the dog wouldn't feel like she was left in charge. We talked about making sure the older kids didn't taunt her. And we talked about how good his daughter is with the dog, and how to encourage that. I asked if we could take a picture of them and he agreed. I walked them a ways from the clinic and said we'd love to write up a little story about Momomo and Hatchi if that was okay with him. It was his turn to get a little wide-eyed. With a sideways look at his kid and their dog, he sort of smiled looking a little proud. Nodding, "uh-huh."



Whiteriver community member, Momomo, waits with her animal family member, Hatchi, for a wellness appointment.  
*Michael Freifeld*



## Day 6: Everyone Set Free!

On the last day of the trip we provide a half-day wellness-only day. We see dogs and cats for exams and vaccinations, and any treatment we are able to do. We officially start at 8 a.m., but if there's a line we'll start early. Today we were seeing patients by 7 a.m., and saw over 200 dogs and cats by 1 p.m. One of the most fun parts of receiving days is seeing the command center of the clinic – a tight group of technicians who hold everything together – and the surgeons working next to them – released to see clients. Usually they are working from 8 am – 8 pm every day, occasionally only slightly wistfully asking if the day had been sunny or not. But on receiving day, they are freed from the gym and sent outside. Appointments take place on a first-come first-serve basis, and we improvise exam rooms: back of pickup trucks, curbs, corners of the building. Shade is at a premium and we get creative about sharing supplies and creating little zones where families can be somewhat separated from others, and infectious disease can be contained if identified. Veterinarians and technicians circulating among all of the appointments, confirming findings on physical exam, advising treatment plans and coming up with dosage recommendations.



Action packers, which contain supplies for HSVMA-RAVS clinics, lined up and ready to load into the rig after a clinic in Whiteriver, Ariz.  
Ada Norris

There are always more animals needing care than we can accommodate in a one week clinic and eventually you just have to call it. Tammy Rouse, seasoned RAVS Intake Coordinator, posted the sign and started turning people away. The hardest thing ever. We finished all the appointments on the list. We'd try and talk with the people we aren't able to see, giving phone numbers to other clinics in the general area, and offering recommendations for giving distemper vaccinations to puppies from the feed store. Magic wand is waved, the clinic finds its way back into carefully organized action packers, we repack the rig, scrub the whole place from gym floor to bathrooms, pick-up trash inside and out. Trying in every way to leave things a little better than we found them. We pack up our vehicles, take a last group photo, exchange numbers, and its back on the road. Looking forward already to the next trip, we'll see you out in the field!