Jane Desmond, PhD //

If you stroll the campus of a U.S. College of Veterinary Medicine (back when strolling was allowed in pre-pandemic times) you might spot a T-shirt with a striking message printed in bold lettering across the front: "REAL DOCTORS TREAT MORE THAN ONE SPECIES."

Debates about who is a "real" doctor, what real doctoring is, are not new to human medicine. We see this played out historically as well as today in tensions between AMA-endorsed practices and other types of human healthcare. But this case is different—here the root of the ostensibly joking sartorial assertion by veterinary students is the combination of similarity in training for veterinarians and for MDs, and the—at times—radical differences in the practices of medicine. Considering these differences and similarities across the MD/DVM line helps reveal the specificities of both fields of medicine, including those we often take for granted.

We can start with the initials themselves. A "Doctor of Medicine" treats humans, while a "Doctor of Veterinary Medicine" does not. The addition of the modifier here, parallel to some other realms, like "Basketball" and "Women's Basketball," clearly indicate the normative character of one and the

"marked" category of the other. While the histories of the development of medicine exhibit a complex intertwining of knowledges developed across species lines, the clinical practice of that medicine is clearly separated by patient. One tiny exception now is the enlisting of veterinarians to give Covid-19 vaccine shots to help speed the rollout. A muscle is a muscle after all.

But beneath the joking tone of the T-shirt is a higher stakes assertion. Veterinary students in the U.S. finish their 4 year post-college degrees in the same time as MDs and typically graduate with significant debt (averaging $167,000 according to the AVMA), in some cases as much debt as MDs.[1] Veterinarians hold a less prestigious social rank and overall earn less money. (Nationally veterinary salaries average about $100,000 a year, placing them roughly in the top 15% of U.S. wage earners.}[2]

There are crucial differences of course. Post-degree, post-national exam (NAVLE) certification, no internship or residency is required. A vet can go right into full time practice, although increasing numbers of students are electing to do at least a one-year internship, hoping to increase their marketability. And, the growth of specialty vet clinics in urban areas means more jobs too for higher paid specialists like veterinary oncologists, ophthalmologists, and neurologists, once found largely at Colleges of Veterinary Medicine. These positions require several years of post-DVM-degree training and grueling advanced Board Certification exams.

The social valuation of veterinary medicine is linked to the social valuation not only of the knowledge base but, of course, to the category of the recipient of care, with humans (treated by MDs) occupying the highest rung. This holds true categorically in terms of differential valuations between the professions, but there are cases, obviously, where a human patient may have little access to even rudimentary medical care and a specific animal, like a valuable race horse, may receive the latest, most expensive, diagnostics.

As a nose-thumbing joke resisting the social devaluation of their medical expertise, the "REAL DOCTORS" T-shirt functions as a part of what folklore scholar Carolyn Ware has characterized as the maintenance of work culture community cohesion through "occupational folklore," inciting pride among those entering the profession.[3] And in that pride is the recognition of some of the challenges of knowledge production and application in the veterinary world.

Imagine a typical morning in the clinic: the first patient is brought in for symptoms of what turn out to be metabolic bone disease, the second has a GI-stasis that if not treated could be fatal, the third has not eaten in two weeks and is having skin problems, and the fourth needs a fracture repair in a limb. The doctors and nurses working that morning will have to treat, in order, a sugar glider (a small marsupial), a lop-eared rabbit, a ball python, and a hawk. Avian, reptile, lagomorph, and small mammal patients are all common in the Exotics service[4] at our College of Veterinary Medicine hospital here on my campus at the University of Illinois at Urbana-Champaign, where on any day the whole hospital might be treating horses, pigs, cows, chickens, foxes, geese, rats, fish, and even a tarantula or tiger. Not to mention dogs and cats!

Most veterinary students these days hail from suburban community backgrounds, where dogs and cats prevail, including in the local veterinary practices where the students might have had the opportunity to shadow clinicians prior to vet school. Imagine the challenge when faced with doing, say, their first cow or rabbit exam during clinical rotations. Although vet students may eventually specialize in "large animal," "mixed" or "small animal" services, all will train across all of those categories.

While the 1,500- pound Holstein cow might seem a bit scarier than the small soft cuddly rabbit, both have complicated, non-human-like GI systems. In rabbits for instance, like the one in our hypothetical morning client list above, not eating or eliminating for more than 24 hours can be a sign of critical "stasis." As herbivores, with diets largely featuring hay, these lagomorphs must keep things moving. Motility drugs can often be the simple boost that is needed, along with fluid therapy, but, if untreated, stasis can quickly become fatal.

When students first encounter a rabbit patient, faculty will often remind them to "think of a horse" instead of a dog or cat. (Horses and rabbits both have large cecums to facilitate the bacterial breakdown of cellulose.) Paralleling technique can help students transfer knowledge from one species to another—in this case from one huge herbivore to a tiny one—but there are crucial limits and radical differences. A snake may only eat once a week, but a bird would eat every day. Birds have hollow bones to facilitate flight, so driving a pin through a broken avian bone feels different than setting the more solid bones of a dog, and repairing breaks for those with exoskeletons like turtles may require still different techniques—like glue!

From diagnostics to treatment, the "more than one species" paradigm is, ultimately, no joke at all, requiring multiple stores of knowledge and distinct sets of physical clinical skills. And what is all the more remarkable is that, especially once we get beyond the popular dog or cat species or the intensively farmed domesticated animals like dairy cows and chickens, veterinarians often have to work without the baseline information that would be well established for the one-species-only MD. For some of the "exotics," for example, baseline blood values may not have been established due to a lack of research, so vets must extrapolate from other species when trying to diagnose using blood panels. Research money follows social valuation, so even fundamental information can sometimes remain unknown about animal health.

Working across enormous variation and without the better-funded research bases on target species that can underpin M.D. practice, veterinarians' highly trained creativity and flexibility really is remarkable. Ultimately, affirming and celebrating that creativity and flexibility as a core value in medicine, all medicine, is the "real" message behind the T-shirt.

[1] For up to date statistics on the profession, see the Annual Data Report of the American Association of Veterinary Medical Colleges (www.aavmc.org/About-AAVMC/Public-Data). Veterinary education can cost less than M.D. education because a majority of the 30 Colleges of Veterinary Medicine in the U.S. are located at public universities, and these universities offer steeply discounted tuition for state residents. Nationally, in-state tuition averages approximately

$32,000 and out-of-state averages $52,000). Still, significant numbers of students attend "out of state" schools and can graduate with up to $300,000 in debt. In 2016, 20% of graduating vet students owed more than $200,000 in student loans according to the AVMA, placing them on par with the $215,000 average medical school debt, as reported by the AMA. Debt is a serious point of national discussion in the veterinary profession and can be a barrier especially to those entering with significant undergraduate debt and with fewer family resources.

[2] Starting salaries average about $70,000 annually, while experienced vets in specialty urban practices can make twice that, with practice owners more. Region and species treated, and employment in private practice, academia, or industry also affect income. With nationally averaged salaries of around $100,000, Veterinarians earned roughly half of the nationally averaged salaries of MDs ($203,000). See U.S. News Money report, for "Veterinarian" salaries (money.usnews.com).

[3] Carolyn Ware, "Real Doctors; Folk Traditions of LSU Vet School," in *Folklife in Louisiana*, 2015, accessible via http://www.louisianafolklife.org/LT/Articles.Essays/brvets.html.

[4] My deep thanks to the terrific past and present ZooMed faculty, house officers, and veterinary technicians at UIUC from whom I have learned so much during my clinical fieldwork, and also as a client.

Featured Image from Zazzle.