

# Veterinary bioethics, farm animal services & future alternative opportunities

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Due principally to economic pressures, and in part because of advances in animal science and farm animal productivity, the health and welfare of livestock and poultry have been compromised due principally to competitive economic pressures in the livestock and poultry industries. This statement may seem outlandish, if not offensive to those many veterinarians, animal scientists and others dedicated to improving the health and well-being of animals for the benefit of society. But as this review will document, the veterinary profession has become as much a victim of these forces and trends as the animals themselves.

## Farmed animals & food animal veterinarians

The advent of CAPOs---confined animal production operations (also called CAFOs---concentrated animal feeding operations) ---has meant increased reliance on vaccines and drugs to control disease and to maximize production and profits in livestock and poultry husbandry systems that are highly stressful, immuno-compromising and create consumer and worker health and safety problems. A percentage of animal morbidity and mortality---and associated suffering---is accepted as the price of doing business 'economically and efficiently'. CAPOs have also decimated rural communities and that meant the demise of the 'mixed' veterinary practice, a return to which some advocate, not out of nostalgia but from a sense of community renewal and sustainability.

Except as a provider of drugs and vaccines and monitor of zoonotic diseases, the food-animal veterinarian is limited in what can be done economically beyond being merely a service provider to the industry. Food animal veterinarians have knowledge and skills that are rarely applied because they add to production costs of CAPOs, the exceptions being with valuable foundation and breeding stock, small farm and ranch operators, and organic and livestock and poultry producers whose husbandry practices are more challenging and usually more humane than CAPOs.

The veterinary bioethical principle of the One Medicine/One Health (where human health=animal health=environmental health) is undermined by the economic pressures on CAPOs managers who are forced 'to seek greater efficiencies' to quote from the editorial comment in the British Veterinary Association's *Veterinary Record* [1].

There has been much recent discussion about recruitment of veterinarians into the food animal medicine sector, and what the future may hold for new graduates. Heather Lyons Narver, VMD, in her Commentary 'Demographics, moral orientation, and veterinary shortages in food animal and laboratory animal medicine' [2] raises some pertinent concerns. Aside from the current predominance of women in veterinary colleges in the US, the shortage of both men and women in the food animal and laboratory animal medicine sectors may

reflect a convergence of gender-linked differences in moral philosophy. This is with respect to animals being treated 'as an economic commodity' and 'as an intellectual commodity' to use Dr. Narver's terms, in these respective sectors.

There is limited employment opportunity for veterinarians in CAPOs. For economic reasons, veterinary services and compassionate care are short-changed in the CAPOs of the main-stream food and drug industries that accept a percentage of animal loss from stress, injuries and disease. Any percentage of disease loss when those diseases are indicators of bad husbandry, (also termed production-related, or domestogenic diseases) is ethically questionable. The veterinary mission to control and prevent these indicator diseases reflective of pathogenic conditions and unsound husbandry and breeding practices is not as laudable as it once was, now that the cost-justified suffering of animals in CAPOs is evoking more public concern as well as the 'carbon footprint' and other hidden costs of 'cheap' meat [3]. The long predicted [4] development of antibiotic resistant strains of bacteria such as MRSA and MRSP (methicillin resistant *Staphylococcus aureus* and *Staph. pseudointermedius*) in livestock infecting humans, and of CAPOs becoming the epicenters for human pandemics like avian and swine flu have come to pass, further underscoring the inherent flaws in the livestock industry that will not be rectified simply by treating animal produce with isotopic irradiation, (that causes brain damage when fed to cats). Freeze-drying and hydrostatic pressure food treatments may be less hazardous alternatives.

What then are veterinary colleges and these animal-based industries doing to fill this lack of food animal veterinarians that could mean lower standards of animal health, consumer safety/public health, animal welfare and animal protection oversight? To possibly help rectify the shortage of veterinarians in the food animal sector the multinational drug company Pfizer Animal Health has teamed with the American Veterinary Medical Foundation to award \$2,500 scholarships to more than 225 veterinary students in the US [5].

## The future of the veterinary profession

As the percentage of veterinary college graduates seeing advanced training increases, the DVM/VMD degree is being seen as an 'entry-level degree' [11]. And as more graduates work toward certification in various specialty fields, particularly in the companion animal sector, we may find there is an increasing shortage of general practitioners, a

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recognized regional problem in human health care industry. Increasing service costs to clients could mean fewer companion animals receive adequate veterinary care. The net result of new DVM graduates feeling inadequate and compensating for a lack of practical clinical experience through mentorship and internship programs by electing instead to work toward board-certification in some specialty such as internal medicine or dermatology, aside from the promise of higher incomes [11] remains to be seen. Veterinarian Jeffrey A. LaCroix [12] calls for a limited licensure where veterinary students would elect to specialize in either companion animal or food animal medicine, for example, at the start of their education rather than investing in subsequent postgraduate specialization. 'In the current economic climate, there are even fewer pet owners willing and able to pay for this (specialist-referral) level of care. In this scenario, the specialist may find many more colleagues sharing a smaller pie.'

There are surely veterinary students who would like to work with wild animals but not in a laboratory or conventional zoo and circus setting, or with farmed animals under organic and other humane husbandry systems, especially in the aid programs for 'developing' countries. But funding is often lacking in these non-commercial sectors and having to pay off hefty student loans can leave veterinary graduates with few options outside of the commercial and animal research industry sectors, especially in developing and testing new drugs, vaccines, and high-tech diagnostics and therapies.

Many epidemiologists and other biomedical scientists contend that more research should be done in-field, and not in laboratories trying to simulate various animal diseases, often with considerable difficulty without violating animal protection laws and institutional animal research protocols. Focusing on the ecology of animal disease and health, many veterinary students would enroll in a farmed/food animal or wildlife specialty. Others could specialize in veterinary immunology, genetics and pathology that would better serve the new wave of organically certified and humane animal production systems and wildlife and biodiversity conservation fields rather than the end goals of CAPOs and the increasingly dysfunctional global food industry. Better to address the root causes of dysfunction than to develop yet stronger pesticides, vaccines, and veterinary medicines for ever more CAPOs that are the antithesis of humane animal husbandry, and are seen by many communities, health and environment experts, as destroying all hope for a more viable and fulfilling future.

I see grounds for hope when veterinary schools develop and offer degree programs, postgraduate internships and residencies, as well as advanced degrees which enable students to work in these emergent sectors that are calling for veterinarians to help with animal health and welfare problems, and also wildlife preservation and habitat restoration. These emergent sectors are notably in extensive, organic and other less intensive animal husbandry (including aquaculture) systems, and in wildlife medicine where veterinary expertise can be crucial in efforts to save endangered species and other wildlife and their habitats as well as addressing new 'emerging' zoonotic diseases. Specializing in 'exotic' animal medicine to serve those who keep various wild species as 'pets' or as a hobby, and who support the often-illegal market trade in wildlife, is an ethically questionable professional pursuit.

Perhaps all first-year veterinary students should take a basic introductory clinical course in applied bioethics [13] with an emphasis on the ecology, ethics, and economics of domestic and wild animal diseases that tie in with sustainable and healthful food production, water and other resource management, conservation and preservation practices, and especially with genetic preservation in terms of the

biodiversity of both seed-stock and breed-stock. Such a course could be revisited in the final year to help give clarity and resolution to their future professional goals. Learning the elements of indigenous wisdom especially concerning sustainable agricultural practices, medicinal and food plants, and the adaptive and productive traits of rare breeds and their inherent biological value---ethno-veterinary medicine---would broaden the vision of students if not also their future career choices and opportunities.

Real progress in veterinary and human medicine will come not in correcting the problems of dysfunctional and often over-capitalized, energy-consuming, life and nutrition-degrading, and environmentally damaging systems and industries, but in client education, and in the creative anarchism and paradigm shift toward a more holistic, integrative approach to health care and maintenance, rather than profiting from treating disease and suffering, and in the process simply preserving the status quo. Informed consumers vote with their dollars when there is freedom of choice that monopolistic oligopolies abhor.

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