Beef practice models

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Abstract

Veterinary service delivery models for beef practice are best viewed as a continuum, ranging from the traditional task-oriented, service-on-demand ("fire engine practice") to a more contemporary evolving model, wherein veterinary practitioners provide consultative services. The bulk of practices, however, lie within these two extremes, with practitioners providing a blend of services customized to their clients' needs. Generally, larger beef operations have been more receptive to paying retainer fees for consultative services, while smaller operators prefer the conventional fee-for-service (unbundled services) model. North America is aging, and nearly half of Canadian producers are over 55 years of age. As a result, consolidation in all agricultural sectors will continue, and may even accelerate, leading to fewer but much larger operations. Therefore, the stage is being set for the beef practice delivery model to shift towards consultative services. While this model requires fewer veterinarians to look after a larger number of animals, it also requires practitioners to become more knowledgeable in the areas of beef production.

Résumé

Les modèles de prestation de service des vétérinaires pour la pratique bovine forment un continuum, qu'il s'agisse de services traditionnels axés sur la tâche, de services sur demande (« pratique d'extinction des feux ») ou encore d'un modèle en évolution, plus moderne, selon lequel les praticiens en médecine vétérinaire offrent des services de consultation. La majorité des pratiques, cependant, se situent entre ces deux extrêmes, les praticiens offrant un mélange de services personnalisés répondant aux besoins de leurs clients. En règle générale, les exploitations bovines plus grandes sont plus réceptives au versement de provisions pour des services de consultation, tandis que les plus petits exploitants préfèrent la formule de paiement à l'acte (services individuels). La population nord-américaine est vieillissante et près de la moitié des producteurs canadiens sont âgés de 55 ans ou plus. Par conséquent, la consolidation se poursuivra dans tous les secteurs agricoles, et pourra même s'accélérer, entraînant la diminution du nombre des exploitations, qui seront toutefois beaucoup plus grandes. Par conséquent, tout est en place pour que le modèle de pratique bovine passe en mode de services de consultation. Ce modèle fait appel à un moins grand nombre de vétérinaires pour s'occuper d'un plus grand nombre d'animaux, et il exige des praticiens qu'ils connaissent davantage les secteurs de la production bovine.

Discussion

Forces shaping beef practice

> *"It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change"* – Charles Darwin.

While there is considerable debate as to whether Darwin wrote those exact words, most appreciate that adaptation is the key to survival, and this certainly applies to beef practice. A central tenet of Darwin's theory of natural selection is that evolution is a constant, albeit slow process. However, Stephen Jay Gould, a more contemporary pioneer of evolutionary biology, posited that evolutionary changes occur relatively rapidly, alternating with long periods of relative evolutionary stability. Evolutionary pundits succinctly captured the contrasting theories of Darwin and Gould in the phrase "Evolution by Creeps versus Evolution by Jerks". Gould's theory of "Punctuated Equilibrium"is applicable to beef practice.

Regulatory authorities frequently run simulations for foreign animal disease outbreaks, particularly foot-and-mouth disease (FMD); however, it is important to remember that FMD has already visited Canada. Foot-and-mouth disease was diagnosed in Saskatchewan in November, 1951. While the eradication costs were relatively modest ($1 million), the overall economic effect was devastating. Live cattle exports dropped from 433,000 head in 1950 to less than 15,000 by 1952, and calf exports plummeted from about 26,000 to 500 head (Statistics Canada).[4] The ban on exports devalued the livestock market by $722 million (all figures in 1950s dollars). Although Canada was declared FMD free by August 1952, exports would not return to pre-FMD levels until 1957-1958. There are no references in the literature describing how this outbreak affected the veterinary profession; however, we can assume the impact was similar to what we witnessed firsthand five decades later.

Nothing could prepare bovine practitioners in Canada for the shock of bovine spongiform encephalopathy (BSE). The cost of BSE to the Canadian cattle industry has been estimated at $7 billion. Even though beef

producers bore the brunt of these economic losses, the veterinary profession, particularly the beef-producing regions of western Canada, sustained significant collateral damage. Figure 1 shows how the number of bovine veterinary procedures performed annually by mixed animal practices in western Canada changed pre- and post-BSE (2000-2008, inclusive). Most striking is the reduction in the number of dystocias and examinations of sick animals. Not only did the number of procedures decrease, but the trend continued for years after the discovery of BSE. Surveys conducted by Jelinski and Campbell in 2007-2008 found that less than 4% of practitioners in western Canada were engaged exclusively in food animal practice, and 43% of the 24% who self-identified themselves as mixed animal practitioners devoted<10% of their time to food animals.[1,2] For many, mixed animal practice has become companion animal practice punctuated by seasonal food animal-related work. Traditional mixed animal practices that once catered predominantly to cow-calf operations now rely upon companion animals for their economic existence. While this trend towards a reduction in the percentage of beef practice was well in hand prior to BSE, there is no doubt that BSE was the catalyst that led to the restructuring of beef practice.

Like the FMD outbreak, the discovery of BSE in May 2003 ended the slow natural evolution of rural practice in Canada. However, not all factors that influence the beef sector are infectious in nature. Within the last year we have seen cattle prices hit all-time highs, pressured by a punishing drought in Texas and neighbouring states. If you espouse the theory of global warming, then a corollary of this theory is that weather extremes, hot and cold, will become the new norm, creating havoc and volatility in feed and cattle markets. The beef industry, and by extension beef practice, is also not immune to the ongoing global economic crisis. Will local and federal governments have sufficient funds to continue providing agricultural support programs? Will the Canadian government sacrifice Canada's supply management system on the altar of free trade? There are also the daily pronouncements in the mainstream media regarding the hazards of eating red meat (i.e. lean fine textured beef; Harvard study linking red meat consumption to decreased life expectancy). Underlying all these 'acute' issues are societal concerns relating to animal welfare, antimicrobial resistance, the environment, and the sustainability of modern agricultural practices. Despite the myriad of external forces shaping the profession, beef practitioners have shown their ability to adapt to change.

What is beef practice?

Historically, a rural practice was synonymous with a mixed, large, or food animal practice. Conversely, urban practices were dedicated to serving companion animals. However, categorizing practices based on geographical location is now much more problematic. As previously stated, more than 40% of mixed practitioners devote less than 10% of their time to food animals. To label all rural practices as food animal or predominantly food animal-oriented is no longer accurate. Figure 2 provides a breakdown of the amount of time 100 practices in western Canada devoted annually to small animals, food animals, horses, and 'other'. As is

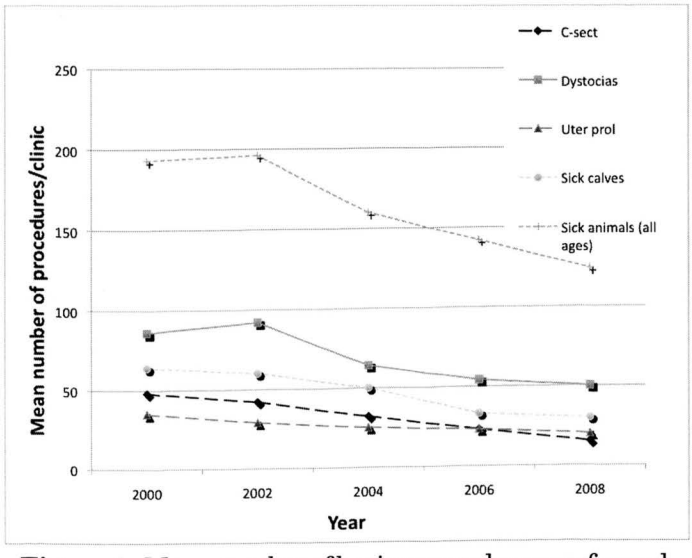

Figure 1. Mean number of bovine procedures performed annually by 100 mixed animal practices located in western Canada, 2000-2008.

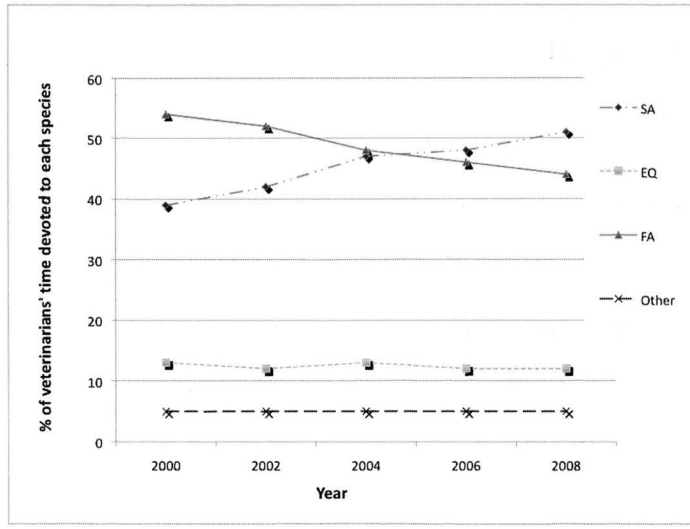

Figure 2. Breakdown of the percentages of time mixed practices (n=100) in western Canada devoted to small animals, equine, food animals and "other" for the years 2000-2008.

evident from the graph, prior to BSE it was appropriate to categorize mixed practice as being predominantly food animal-oriented, but this is no longer the case. In the post-BSE era, mixed practices are becoming increasingly companion animal-oriented. To add to the confusion of labeling practices as rural and urban, many consultative practices are located in or around larger urban centres. Clearly, location (rural versus urban) is no longer a fitting term for describing what practices actually do.

To further complicate matters, even the terms "companion animal", "mixed animal", and "food animal" practice are ambiguous because there are no universal criteria for categorizing these practices. Is it reasonable to label a practitioner as 'mixed animal' if the veterinarian devotes less than 10% of his or her time to beef cattle? This discussion may seem overly pedantic, but it is more than just semantics. To have a dialogue on veterinary manpower and food animal veterinary education, there must first be agreement on the sub-population of veterinarians being discussed.

For this discussion, a veterinary beef practice is any practice that provides services to the beef industry, regardless of where it is located or the amount of time practitioners devote to servicing their beef clientele.

Veterinary beef practice models

Currently, the beef producing regions of North America are populated by traditional mixed animal practices; that is, practices that generate income from food animals (dairy, beef, small ruminants, swine), companion animals (horses and pets), and 'other' (llamas, alpacas, backyard poultry, etc.). Depending on the demands of the clientele and the expertise of the practicing veterinarian, these practices offer a wide range of services. For some practices, pharmaceutical and vaccine sales may be the primary income generator with respect to the beef component of the practice. For others, beef practice is a mix of emergency calls (i.e. dystocias, salvage procedures); scheduled seasonal work such as breeding soundness evaluations and pregnancy diagnoses; and consultative services relating to vaccination/treatment protocols, breeding programs, and nutrition. These consultative services are often viewed as 'practice builders', and hence many veterinarians may not charge directly for these services, providing written vaccination/treatment protocols without charge, with the expectation that the client will purchase the vaccine/pharmaceuticals from their clinic.

Many practices may offer a beef herd health program which encompasses a smorgasbord of services: breeding soundness examinations, pregnancy diagnosis, nutritional advice, written vaccine and treatment protocols. Clients who commit to these programs are often given a discount on their vaccine/drug purchases. While mixed practice is generally associated with servicing cow-calf operators, mixed practices may also look after smaller local feedlot operations.

On the other end of the spectrum are the predominantly consultative practices. The word *predominantly* is used deliberately, because in many instances these practices provide emergency services. While consultative practices are relatively new to cow-calf practice, they are the norm in the poultry, swine, dairy, and feedlot sectors. Consulting veterinarians are specialized and may even have a sub-speciality such as nutrition, genetics, health, or risk management. While feedlot consulting practices have been around for decades, such services are just beginning to be adopted by the larger cow-calf beef herds. Dr. Troy Drake (Kathryn, Alberta) is perhaps the best example of a cow-calf consulting practice (Dr. Drake provided an excellent presentation on his cow-calf program at the AABP Conference in St. Louis, 2011). Like his colleagues in the other food animal sectors, Dr. Drake is a specialist and has developed a sophisticated proprietary software program for analyzing a multitude of individual animal and herd-performance parameters. Dr. Drake's consulting model charges an annual fee based upon the number of animals enrolled in his program, which parallels the model used by consulting feedlot practices.

Feedlot Health Management Services (FHMS), Okotoks, Alberta is an excellent example of an innovative feedlot consulting practice. FHMS was one of the first feedlot consulting practices to develop a sophisticated proprietary software system for tracking animal health. They have also been leaders in embracing the concept of an animal health team, making extensive use of veterinarians, PhD animal scientists, and animal health technicians.

Future evolution of beef practice

The core of beef practice is unlikely to change dramatically in the coming decade. There will always be a need for the local mixed animal practitioner to handle emergency calls, and provide a traditional complement of services. However, it is reasonable to expect that not unlike what has occurred in the other livestock sectors, large intensive operators will increasingly seek consultants (specialists) who are more knowledgeable and better equipped than the local veterinarian to provide consultative services. While some practitioners may take exception to this comment, this has certainly been the case for the poultry, swine, dairy, and feedlot sectors; hence we can expect a similar evolution with the stocker and cow-calf sectors.

Lastly, the concept of a Rural Community Practice (RCP) was put forth by Drs. Nielson, Evans, and King wherein they envisaged *"combining traditional services provided in a "mixed-animal" veterinary practice with an expanded portfolio of public-practice and communication*

services that meet the emerging animal, public, and ecosystem health needs of the collective community, not just those of animal owners".[3] While the concept has merit, it is predicated on remunerating the RCP veterinarian with public funds. Given the current status of most state, provincial, and federal governments, this concept is unlikely to gain traction in the foreseeable future.

Conclusion

The majority of beef producers are serviced by the traditional mixed practice model of service delivery. In this model, veterinary practitioners provide a combination of emergency services, as well as services that fall under the herd health umbrella. These services are delivered on an as-needed, fee-for-service basis. In contrast, the consultative beef practices generally cater to much larger and more intensive operations. Many of their services are scheduled and fees are typically based on a per animal basis. The consultative practitioners are viewed by their clientele as specialists. Consolidation within the beef industry will continue, driven by an aging population and economies of scale. As the economic value of the individual animal becomes relatively less in relationship to the value of the herd, there will be a greater emphasis on herd-based production and hence a greater adoption of consultative services.

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