

Economics and animal welfare in small animal veterinary practice: the case of genetic welfare problems

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Abstract

Veterinary practice is subject to veterinary surgeons' professional ethics, which ensure that patients' welfare is considered paramount and clients' interests are considered important. The provision of veterinary services is also subject to market forces that can affect transactions between clients and veterinarians. Veterinary markets could encourage or permit welfare harms due to potential market variations, imperfections and limitations, for example where financial constraints limit owners' willingness to pay for treatment or veterinarians' abilities to provide pro bono treatment. Consequently, economic factors could lead to potential welfare compromises through animals being undertreated, overtreated or mistreated. Fortunately there are possible solutions to these problems. Some are supplier-driven, for example improved the market functioning through transparency and honesty, strategically disrupting it through co-ordinating clinical standards and protocols or using veterinary authority to influence clients. Others are consumer-driven, for example improving consumer decision-making through the actions of insurance companies.

Keywords: animal welfare, dog, economics, overtreatment, undertreatment, veterinary practice

Introduction

This paper looks at the possible economic contexts of veterinary practice, including hypothetical market variations, imperfections and limitations, and links these to potential welfare problems they could cause and possible solutions to prevent them. Economic concerns are key to many issues within veterinary ethical decision-making, alongside veterinarians' legal, professional and personal ethics. As an example, this paper looks at canine breed-related conditions, which are a matter of topical discussion within the veterinary literature (Higgins & Nicholas 2008; Nicholas & Wade) and a salient example where veterinary professionals could face a conflict between earning money for correcting breed-related problems and their duty to advise against breeding practices (Bateson 2010).

A simple economic model of veterinary treatment choices

On one side of the transaction, owners 'buy' medical treatment for their animals. Their willingness to pay for this treatment requires them both to have the money and to be prepared to spend it. Some owners' willingness to pay is due to expected financial returns. Treatments may save valuable stock; increase animals' show success or reproductive ability; make animals more sellable through repairing

congenital problems or providing a certificate of health ('vetting'); or avoid future costs through prophylactic treatment, such as vaccination. Other owners' willingness to pay is often based on non-financial considerations, such as love and empathy for their animal.

On the other side of the transaction, non-charity veterinary prices 'sell' treatment in order to cover costs, fund investment and make appropriate profits. This provides a motivation to increase practice turnover and reduce costs. Again, there are also non-economic motivations for veterinary practices to charge fees, such as wanting a fair reward for their skills and efforts to encourage responsible ownership, and non-economic motivations to provide treatment, not least their concern for the patient and client.

In an ideal economic model, these two drivers might be expected to reach an optimal equilibrium based on a mutually beneficial compromise between the interests of the owners and veterinary parties. For example, the price of a given therapy would be set at a price that benefits both owner and practice, since charges outside this level would be above the owners' willingness to pay or unsustainable for the practice. Similarly, services would be provided if and only if the benefit perceived by the owner and practice exceed the cost.

Market variations, imperfections and limitations

However, there are situations in which the veterinary market could fail to achieve this compromise, due to several hypothetical limitations that could occur in unregulated veterinary markets. These are as follows.

Owners have variable budgets

As in any market, consumers' willingness to pay can depend not only on their need and the absolute price, but on the product's price relative to other budgetary demands. In the UK and US, some pet owners have traditionally had high incomes (Goodwin 1975; Endenberg *et al* 1992) so that pet costs represented a small fraction of the family budget. In contrast, more recent studies indicate that pet ownership occurs within households with a range of incomes (Westgarth *et al* 2007; Murray *et al* 2010). Less affluent owners may be unable to afford certain treatments, due to more limited budget and higher priorities. This may be especially important as the effects of the recent international economic downturn impinge upon owners' available resources, reducing both households' overall budget and the percentage of budget available for veterinary treatment. This could lead to comparable animals receiving different levels of treatment, which may seem unfair (Yeates 2010a).

Veterinary-client interactions may be imperfect from an economic perspective

Veterinary surgeons might not offer all options due to limited facilities or skills; clinical judgment; standard operating procedures; or because they assume the owner cannot afford them. Owners may make imperfect decisions due to overpowering emotions. Many owners rely on the veterinarian for information and some may deliberately leave decisions to their veterinarian out of respect for their authority or to eschew personal responsibility. More generally, veterinary surgeons' professional status might make owners unthinkingly trust that veterinary advice will be entirely and accurately welfare-based, or that all options that a veterinary surgeon offers and is willing and permitted to perform are acceptable (see Rollin 2002). This would not be the behaviour expected of the economist's model of an ideal consumer.

Owners may be unable to select suppliers effectively

In a perfectly functioning market, owners could solve some problems by choosing their veterinary practice. However, the ability to exercise this discrimination could be limited where owners lack knowledge, where there are variations between practices' protocols as well as prices, where practices use deliberate pricing strategies such as 'loss leaders', or where veterinary treatments are hidden from the owners. Additionally, 'shopping around' involves both direct costs (eg the fee for a second opinion) and indirect costs (eg a delay in treatment and risks of transportation). In some markets, consumers' choice could be limited by functional oligopolies, ie situations where there are few providers of a given service, such as a limited number of specialist experts within a geographical area.

Many owners have health insurance for their animals

In general, insurance may increase owners' willingness to pay, since dissociating veterinary fees from owners' budgets would be expected to lead to an inattentiveness to price. More specifically, different insurance schemes could have varying effects on owners' uptake of treatment (Reisman 1993). Clients may be averse to costs up to their 'excess' (since they have to pay) but indifferent to increasing costs beyond that figure (which are paid by the insurer). Conversely, clients with 'capped' policies may be indifferent to expenses below the insurance limit, but unwilling to pay higher fees.

Cost is not always an accurate indicator of services' value

Owners may assume that all veterinary surgeons provide equivalent care or that higher costs mean higher quality, even if this were erroneous. Treatments requiring specialist abilities or facilities may attract higher prices because of the oligopoly on these services, without their being more valuable in welfare terms (just as diamonds cost more than water, despite water being essential and diamonds luxury items). Some owners may even think of spending money as a way of demonstrating care or love or to avoid seeming ungenerous or unfair to their animal.

Veterinary work is unlike conventional economic goods

Many aspects of small animal veterinary practice are unlike selling consumable commodities, such as apples. While small animal veterinary practices do sell products such as vaccinations and flea treatments (and toys and food), the 'veterinary' part of the practice function is the specialist service that is provided (including advising which products to use). Indeed, we may say that even this advice is not what consumers want — what clients presumably want is animals' *health*, not veterinary services *per se*. More (restorative) treatment does not (necessarily) correlate with better health (Triplett 1999), indeed it could be due to a greater incidence of disease. At the same time, veterinary treatment does not satisfy a finite consumer demand, but often leads to further demand. The supply of life-saving treatment can lead to further demand for more treatment for individuals who are kept alive. Similarly, treatment for breed-related conditions may lead to further demand for more treatment if that treatment helps individuals to reproduce (eg Caesarean sections).

Animals are external to veterinary transactions

Animal welfare represents an economic 'spill-over' that benefits or harms external parties who cannot take an active part in the transactions — the animals. Indeed, it has been argued that values such as animal welfare may be incompatible with the neutrality of liberal markets (Miller 1990), and that caring relationships may be incommensurable with cost-benefit analyses (Milgrom 1993; Johnson 1995). Consequently, it is unsurprising that many owners report they would spend any amount on their animal companion (Albert & Bulcroft 1987).

Veterinary competition may limit clinical autonomy

Market functioning encourages competition, which may potentially restrict the clinical autonomy of individual practitioners. For example, a practice may feel obliged to provide a particular treatment that they expect other practices will otherwise provide, either to remain competitive or to keep control of the case (even when this expectation is incorrect).

Even a perfect market that included animals would not be expected to maximise animal welfare

From an economic perspective, the economically optimal outcome is not necessarily expected to be the one with the highest animal welfare, since economics will favour the most efficient balance between the interests of the economic agents involved. Even if non-human animals were able to meaningfully engage in the transactions, economic equilibria would, at best, achieve a compromise between clients', veterinary surgeons' and animals' interests.

Animal welfare implications

In the absence of sufficient safeguards, these difficulties could potentially lead to several problems. This section considers three possible types. The first is 'undertreatment', in which animals do not receive treatment that would be in their interests, or the interests of other animals. The second is 'overtreatment', in which animals receive treatment that is actually detrimental to them, even if there is a small chance of improvement. The third is 'mistreatment', in which animals receive the wrong treatment (in many cases, this might be a combination of overtreatment and undertreatment).

Most obviously, financial limitations could lead to undertreatment by preventing an animal getting necessary therapy. This could occur when the price of a treatment exceeds the owner's willingness to pay and its cost exceeds the practice's capacity to subsidise the treatment. Owners might be unable or unwilling to afford treatment for breed-related problems, such as surgery for hernias or analgesia for secondary osteoarthritis. For example, owners may not engage with veterinary breeding schemes, and so fail to obtain pre-breeding veterinary health-checks, DNA tests or calculations of Estimated Breeding Values that could promote better health amongst breeds. More widely, the commercial interests in dog breeds limit the motivations of breed societies to invest in veterinary research into the extent of genetic homozygosity, inbreeding and inherited diseases, or to develop breeding strategies to address genetic diseases. Undertreatment could also be driven by pharmaceutical companies setting prices to maximise profit (which may involve fewer sales at higher prices), rather than uptake.

Financial determinants could lead to 'overtreatment' that harms the individual. Breeders may request painful cosmetic mutilations, such as ear cropping and tail docking, to increase the value of their product. Owners may request life-saving treatments for breed-related conditions that perpetuate animals' suffering, such as radical surgery for spinal disorders or poorly tolerated chemotherapy.

Overtreatments might also harm other animals by perpetuating or disseminating breed-related conditions, such as reproductive therapies (including Caesarean section), or veterinary treatments that improve show-ring success (where this increases commercial breeding value).

Overtreatment could be caused by breeders' motivations to make money or veterinary practices' motivation to make money and remain competitive. It can also be partly due to non-economic factors, such as imperfect animal welfare assessments, owners' wishes to save their beloved pet, or to veterinary surgeons wishing to keep patients under their care or to reach a diagnosis, or feeling that they have a duty to offer, and then provide, treatments with only a very small chance of a positive response or to focus only on the interests of other animals (Yeates 2009).

Economic factors could also lead to mistreatment. A drive exclusively for economic efficiency may make consultation times too short for accurate diagnosis or good client-communication to ensure compliance. Concern for owners' costs might mean cheaper antibiotics or a shorter course of these drugs are used than would be recommended, or that animals are euthanased inappropriately. Pharmaceutical companies' marketing might also bias veterinary clinical decision-making.

In addition, the provisions of veterinary services might potentially corrupt the pet market. Veterinary interventions to remedy breed-related conditions may mask genetic predispositions, making informed purchasing choices, and later breeding choices, difficult. Veterinary treatments that perpetuate the reproductive lives of unhealthy individuals may make it more commercially viable to breed them. Indeed, the possibility of veterinary therapies for breed-related conditions may make having a dog of an unhealthy breed more feasible, thereby altering prospective owners' purchasing decisions. The breeding industries for some breeds might struggle if there were no veterinary surgeons.

Solutions

Fortunately, there are possible solutions to these issues. Some concern the legal, professional and personal ethics of veterinarians and veterinary professions in many countries. Others are economic interventions, which could help avoid these outcomes, on both the supply and demand sides.

Suppliers

Since owners' willingness to pay depends on their ability to pay, avoiding undertreatment necessarily requires that the fees charged are affordable. In setting prices, practices cannot rely on market forces and '*caveat emptor*' philosophies to legitimise higher fees. Reasonable fees, which cover costs and a reasonable mark-up without prioritising profit over uptake, should ensure that many animals can be treated.

Where clients cannot afford reasonably priced treatment, practices can (and in reality often do) work for reduced fees. This has potential disadvantages. One is that it seems unfair. Charging different fees for different clients seems unfair to those clients who have to pay higher fees; although charging the same fees for all clients may be

unfair for animals which receive different levels of treatment. Charging different fees for different clients seems unfair to those clients who have to pay higher fees.

Another disadvantage is that commercial practices cannot afford to provide widespread unpaid services, since doing so could reduce a practice's efficiency, and thus competitiveness (plus doing so might encourage irresponsible ownership). One solution to this problem is to obtain money from other people, but there are ethical concerns over increasing fees charged to other clients to offset the costs of *pro bono* work, since this effectively involves subsidising some clients by taxing others.

In some cases, extreme undertreatment (eg not doing anything) may be avoided by offering more conservative treatments that may be within clients' budgets. However, this strategy could lead to systematic undertreatment or overtreatment. For example, omitting analgesia for a surgical procedure would reduce variable costs and thus be affordable but such treatment may not be in the animal's interests. Such tactical undertreatments should therefore not be provided in order to exploit a 'budget' market or to give a practice a competitive advantage by increasing efficiency. The tactic should be used only as a 'best of a bad job' solution for occasional unavoidable situations, (and some tactical undertreatments, such as surgery without adequate analgesia, may never be acceptable).

Veterinary practices should also ensure that prices are transparent, to allow consumer choices. This means not pricing conspicuous products (eg vaccines) as loss-leaders while maintaining high prices for less visible services (eg operations). Such methods corrupt market functioning in ways for which consumers cannot compensate, and the less affluent clients attracted by such misleading price-setting may be later unable to afford treatments which they could have afforded if they were more transparent. Furthermore, practices could try to improve consumer power and market functioning, for example by informing clients about competitors' prices or publically displaying their own prices for popular items.

Overtreatment should not be provided simply because there may be a niche market of owners who want it. Practices should avoid supplier-side motivations through careful clinical evaluation, with explicit welfare assessment and efforts to overcome subconscious biases (Yeates 2010b). Veterinary professionals might also use deliberate economic tactics. Where owners lack willingness to pay for treatment, undertreatment could be avoided by veterinary surgeons exploiting the fact that owners are relatively uninformed consumers to 'hard sell' the best (which are not necessarily the most profitable) treatments (Main 2006). Other veterinary practices might avoid overtreatment while remaining competitive by marketing themselves as particularly 'ethical' where this is professionally acceptable.

Communication can help avoid the motivation to provide overtreatment because a competitor will otherwise do so. If all practices do not perform certain treatments, this removes a temptation to supply it so that competitors do not. More

widely, the overall veterinary oligopoly (ie having the legal licence to practice) could be made conditional upon following certain standards. A professional oligopoly is justified by the veterinary profession ensuring that its work has value (Freidson 1980), and the governance of the profession should achieve this through maintaining its ethical standards (Bones & Yeates 2012). Such professional ethics are not reliably determined by consumer groups (Goldman 1980), so governance requires other mechanisms such as professional education and regulation, which could prescribe or constrain clinical decisions. Some practices have standard operating procedures that can advise and co-ordinate colleagues. Many countries' laws or professional bodies have regulations about how veterinary practices or individual practitioners interact with their clients. These may not apply to non-veterinary practice owners, managers or directors.

Consumers

While helping owners to make money is never a justification for overtreatment, avoiding undertreatment can be facilitated by finding treatments that not only improve welfare but also help owners to make money. For example, vaccinations, neutering and microchips can help to prevent welfare problems and may make the animals more valuable at point of sale. A wider example would be to add value to the breed or strain, through breed-improvement strategies that lead to breeds having fewer imperfections, thereby making puppies of those breeds more valuable to concerned consumers.

This does not solve cases where owners *cannot* pay for treatment, regardless of any possible longer term benefits. While hidden taxes seems unethical, a more acceptable subsidy would be possible if there are clients who *are* willing to pay for *pro bono* work to help other owners' animals. This is most obviously done by welfare charities that provide subsidised veterinary treatment. Commercial practices may have voluntary charitable funds, or may transparently tax all clients by explicitly advertising that a very small percentage of profit is used for charitable cases (many other companies do this), thereby facilitating informed client choices whether to utilise that practice or another.

Another, important group of consumers is the insurance industry. Insurance may avoid undertreatment, by dissociating owners' decision-making from financial implications. In contrast, insurance may make overtreatment more likely by reducing financial constraints. Furthermore, such overtreatment could have an additional, paradoxical effect of leading to later undertreatment if earlier unnecessary treatment uses up the policy limit. Other animals may also be undertreated if increasingly expensive treatment leads to higher premiums that deter owners from insuring their animal or encourage them to take out cheaper policies which provide less cover. This may explain why, as premiums are rising, the number of insured animals is falling (Anon 2011).

One might hope that these problems could be solved by the functioning of the insurance market, but many of the

problems faced by owners choosing veterinary treatments or practices are also faced when they choose what insurance to take out. Owners also have limited ability to switch policies and limited knowledge about different policies. Guarding against insurance-related overtreatment is also probably beyond ombudsman supervision, due to the complexity, particularity and autonomy of clinical decisions. Generic guidance is available online (eg www.abi.org.uk/information/consumers/general/pet_insurance.aspx). But, the obvious sources of specific advice — veterinary surgeons — cannot always advise, for example due to Financial Services Authority rules in the UK.

Insurance companies themselves may therefore be the best placed to avoid overtreatment of insured animals. Companies could restrict clients to using ‘preferred suppliers’ (ie certain practices) or fixing the sums available for treating certain conditions. Companies can require pre-authorization of therapies, perhaps for those over a certain price. However, equivalent supervision is not favoured in human health insurance (Laing 1985; Havighurst 1988), and would need to be carefully managed. One specific solution could be co-insurance, where the veterinary practice is both provider and insurer. Some small schemes occur already, eg in ‘vaccine for life’ health-plans and the insurance schemes provided by some corporates.

In the case of breed-related conditions, there are several ways in which insurance could drive improvements. Actuaries could set differential premiums for certain breeds, just as the Association of British Insurers (ABI) allows the use of tests for genetic conditions in the underwriting procedure (Wilson 2001). This may not deter people from purchasing those breeds, but it would send a message about the quantifiable health of each breed, would facilitate informed consumer choices about puppy-purchasing decisions, and would avoid certain breeds leading to increased premiums for healthier breeds or crossbreeds. Insurance companies could also drive welfare improvements by refusing to fund certain procedures, such as caesarean sections or surgical treatment for genetic disorders without neutering. Insurance companies could also usefully release cost data to help consumer choices, although this requires a non-economic altruism.

Animal welfare implications and conclusion

Market imperfections and the externality of animal welfare mean that veterinary surgeons cannot legitimise overtreatment by appealing to owners’ choices through *caveat emptor* philosophies, since owners are often unable to make rational economic and welfare-based decisions.

In some cases, economic factors can legitimately affect treatment decisions. As a general rule, financial constraints may sometimes justify undertreatment. Owners cannot spend money they do not have (or cannot borrow); veterinary surgeons cannot provide unlimited *pro bono* treatment. But financial motivations cannot ever justify overtreatment. Patients’ welfare can be improved through economic solutions, alongside non-economic approaches such as

personal ethics and professional regulation. In many countries, such means are in place to varying degrees. Achieving veterinary professionals’ animal welfare goals requires recognising and avoiding the economic barriers to improvements, alongside efforts to improve economic drivers for welfare improvements.

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