



Update

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MISSION STATEMENT

To improve the economic base of the veterinary profession, ensuring that the delivery of veterinary care and service meets the needs of society.

The commission asked Drs. James Lloyd and David Smith to answer some of the most frequent questions raised after publication of KPMG's executive summary of "The Current and Future Market for Veterinarians and Veterinary Medical Services in the United States." Drs. Lloyd and Smith used their expertise and insight to answer these important economic questions in the following report.

Is there an oversupply of veterinarians?

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The report entitled, "The Current and Future Market for Veterinarians and Veterinary Medical Services in the United States," published in the *Journal of the American Veterinary Medical Association* on July 15, 1999,¹ has stimulated a great deal of discussion across the veterinary profession on a number of topics. One specific item in the executive summary that has been the focus of considerable debate is the authors' contention that an excess of veterinarians exists. From these debates, a few questions and misconceptions about the study and its results seem to be prevalent. These issues warrant clarification and perhaps further discussion.

1. What does the phrase, "...in purely economic terms, there is an excess of veterinarians..." really mean, in a technical sense?

This study estimated the supply of veterinarians based on the current population of veterinarians, expected attrition rates, current veterinary school enrollments, and anticipated class sizes. In effect, the supply estimate began with an actual count of the people in the profession.

On the other hand, the demand estimate started with a prediction of consumer expenditures on veterinary servic-

es. This dollar estimate, which was obtained from a highly sophisticated and respected econometric model, was converted to an estimate of people (veterinarians) using the historical ratio of gross revenue per veterinarian obtained from AVMA statistics on private practices.² Economists refer to this process as an estimation of derived demand, where data from one market (veterinary services) are used to make inferences about a different, but directly related, market (veterinarians).

It is worth noting that both the estimates of supply and demand are somewhat uncertain. The numerical results obtained are merely the best point estimates available, and they represent a range of possible values that could have been presented as confidence intervals. In addition, all economic models depend on a number of assumptions, and the forecasted results are sensitive to changes in the assumptions.

As these calculations were performed, it turned out that the number of veterinarians expected to be needed (demand) was somewhat less than the number of veterinarians expected to be available (supply). Because these methods of analysis are widely used by economists, and because the numerical

results indicated that the predictions for supply were slightly greater than the predictions of demand, it logically followed "...that in purely economic terms, there is an excess of veterinarians." Implications of this situation, according to the authors, include downward pressure on the price of veterinary services, and lower incomes for veterinarians as a consequence. The fact that veterinary prices have fallen relative to general consumer prices over the past 20+ years is offered as corroborating evidence.

2. What do the study's conclusions about a gap between supply and demand really mean in a practical sense?

Economic models are judged on their ability to predict economic phenomena. In that regard, the models used in the report appear to be reliable, considering the fact that estimated supply is near to estimated demand, based on the most recent survey data. In fact, estimations for demand and supply differed by only 0.6% in 1997. This reliability gives credence to the sources of information being used for number of veterinarians (supply), consumer expenditures on veterinary services, and revenue per veterinarian.

However, these results do not necessarily mean we have too many veterinarians. Even though the prices of veterinary services have admittedly not kept up with the prices of other consumer goods, additional evidence exists that indicates veterinarians are not in excess supply. If an oversupply truly existed in a practical sense, we would expect to see unemployment or underemployment of veterinarians in addition to the soft prices. As it turns out, data from this study indicate that 56% of practicing veterinarians would like to work fewer hours, fully 30% plan to hire a new veterinarian within the next 12 months, and open veterinary positions go unfilled for an average of 6.5 months. This is hardly a picture of excess capacity, oversupply, unemployment, or underemployment. Thus, although the economic models estimate a surplus of veterinarians from a technical standpoint, in reality, there exists some practical evidence that contradicts this conclusion.

3. So, what useful information about the supply and demand of veterinarians does the study really provide?

As discussed, the methods used for analysis of the full study appear reasonable on the basis of their predictive ability. And, although uncertainty in estimation weakens confidence in conclusions about the absolute levels of supply and demand, it has little impact on the credibility of the trends predicted by the model. In this regard, results of this study indicate that, on average, demand will increase at a rate that exceeds the increase in supply over the period 1997-2015. Demand is predicted to increase at an average annual rate of 1.1%, whereas supply is predicted to increase at an average annual rate of 1.0%. This finding is noteworthy.

The foundation for the expected increasing demand for veterinarians is a prediction of continued real increases in consumer spending on veterinary services, at an annual rate of increase estimated to be 5.1%. If nothing else changed, we would expect the demand for veterinarians to increase at an identical rate of 5.1% per year. However, as mentioned, demand for veterinarians is expected to increase at an annual rate of 1.1%. The difference between these 2 rates points to the authors' expectation for a sustained increase in productivity per veterinarian, leading to a steady increase in the amount of revenue each veterinarian generates annually. If this trend of consistent increases in revenues generated per veterinarian occurs as the authors predict, all else equal, it is likely to be accompanied by consistent increases in veterinarians' incomes. This finding, although somewhat subtle, is noteworthy.

Finally, the authors conducted further analysis to determine which of the underlying assumptions were most critical to the long-run balance of supply and demand in the veterinary profession. Results from this part of the study clearly indicate that steps should be considered to protect and enhance the predicted growth of demand for veterinary services. These steps might include such promotional techniques as industry-wide public awareness and informational campaigns regarding the

availability and value of veterinary medical services. During recent years, similar activities have been successfully conducted on a national basis to enhance the demand for milk, beef, orange juice, and major league baseball, among other products.

4. If it is not clear that veterinarians are truly in excess supply, then what else might have led to the relatively soft prices for veterinary services that seem to be restricting veterinarians' incomes?

If the demand for veterinary services is inelastic, meaning demand is relatively insensitive to price changes, then veterinarians could increase their incomes simply by increasing the prices for their services. In a broad sense, results of the current study include somewhat conflicting evidence regarding how sensitive individuals are to changes in veterinary fees. The majority of survey respondents indicated their veterinarian's fees were low compared with the value of their animals, and that they would continue to use their current veterinarian if prices were increased up to 20%. These findings were supported by the results of an alternative exercise that analyzed data on actual expenditures for veterinary services. Thus, the authors conclude the demand for veterinary services appears inelastic, insensitive to price changes. As the authors point out, this conclusion is consistent with other reports in the literature.

At the same time, a substantial number of survey respondents in the current study agreed or strongly agreed that the fees their veterinarian charges are too high, and a few animal owners were found to have switched veterinarians to find lower prices. Readers should use caution, however, when interpreting these findings. For example, if parents of college students were asked to respond to the statement, "The price you pay for tuition is too high," we could expect that a substantial proportion of the respondents would agree or strongly agree. And, we could expect to find a few who have switched colleges to find lower prices. However, the importance of price in the selection of a college could easily be overstated if only the results

of this particular question were considered. As formulated, the basic question about tuition is quite leading, and it shouldn't be at all surprising if people indicated that they would like to receive the same education for a lower price than they currently pay. In fact, we would be surprised if consumers responded differently. Thus, in the current study, perhaps more weight should be placed on the study's main finding in this regard, that the demand for veterinary services appears relatively insensitive to price changes. As the authors point out, more research in this area is needed, but it is a noteworthy finding, because it suggests that veterinarians may be able to increase their incomes by raising their fees.

In some cases, such as with gasoline and milk, sellers have very little control over the price of their products. In these types of markets, known as commodity markets, the primary basis for consumer choice between alternative sellers is price; the qualities of the product itself vary only slightly, if at all, from one seller to the next. In general, these products are homogeneous and undifferentiated: a gallon of gasoline is a gallon of gasoline, regardless of where it was purchased. If one gas station raised its price of gasoline over the price of its competitors, it would likely lose most of its customers, all else being equal. These highly competitive markets (where demand is *elastic* and highly responsive to price changes) are generally unattractive to sellers, and usually result in lower profit margins. Sellers of these types of products should actively seek to differentiate their particular product from those of other sellers by taking advantage of such factors as convenience and shopping environment. Such efforts would be designed to move price down the priority list for consumers. Successful differentiation allows sellers to increase the price of

their product over that of other sellers, and thereby increase profits.

Findings from this study suggest that veterinary services are a highly differentiated product. In the market for veterinary services, consumers surveyed in the current study ranked price ninth on a list of reasons for choosing a particular veterinarian. In light of all the characteristics deemed more important by consumers of veterinary services, this finding indicates that the price of veterinary services can be largely determined by the sellers.

So, what does all this ultimately mean about the prices of veterinary services and the levels of veterinarians' incomes? It is possible that veterinarians, and perhaps consumers, have traditionally viewed veterinary services as a homogeneous commodity, seeing little difference in the type or quality of service that exists between practices. If this were the way veterinary services have been viewed in the past, the situation would have naturally led to a high level of price competition between veterinary practices, weak price structures over time, and an accompanying profitability that was somewhat restricted as a consequence. In contrast, this study clearly establishes that consumers choose their veterinarians based on a host of attributes that are more important to them than price. As such, it is critical that veterinarians develop value-adding strategies of product differentiation in the future, whereby individual practices emphasize the uniqueness of their own particular service. This approach should then allow prices that are adequate to support sustainable economic performance across the veterinary medical profession. Further research in this area would be useful.

5. So what's the bottom line?

Although this study contains mixed evidence on whether there is currently an

oversupply of veterinarians, of greater importance are the projected trends, whereby this study projects a rate of growth in the demand for veterinarians and veterinary services that exceeds the projected growth in the supply of veterinarians. At the same time, the study predicts a steady increase in productivity for veterinarians. These conditions may be further improved if programs can be successfully developed and implemented to actively maintain and enhance the growing demand for veterinary services.

Although incomes in the veterinary profession have been somewhat soft relative to other professions, so have the prices for veterinary services. This study provides compelling evidence that consumers view price as relatively unimportant when they make their choice of veterinary service provider. In that regard, a real opportunity exists for individual veterinarians to enhance profitability by successfully employing strategies of active product differentiation, emphasizing their own particular strengths and unique qualities. By doing this, veterinarians will be able to exhibit more control over their prices as well as their financial futures.

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References

1. Brown JP, Silverman JD. The current and future market for veterinarians and veterinary medical services in the United States. *J Am Vet Med Assoc* 1999;215:161-183.
2. *Economic report on veterinarians and veterinary practices*. Schaumburg, Ill: American Veterinary Medical Association, 1998.