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An interview with Professor Lance Lanyon

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Professor Lance Lanyon recently published an article in *Veterinary Record* (Lanyon, 2016) proposing a nationwide Evidence-Based Veterinary Medicine (EBVM) system of veterinary-practice data collection, management and interrogation. The goal is to use data from UK practices to aid "the understanding of the links between the cause, prevalence and treatment of disease." His article describes the need for such a system, and possible mechanisms to pay for it. Professor Lanyon's article started an important conversation about the role all practices can play in EBVM, so *Veterinary Evidence* asked Professor Lanyon to expand on some of his ideas.

VE: Professor Lanyon, a theme of your *Veterinary Record* article is that collecting and analysing data from practitioners would be good for the profession. But data is only as good as its quality, and subjective assessments are notoriously variable. What kinds of data should the veterinary community collect? Is it sound data?

Lanyon: That is two questions. Of course, data is only as good as its quality. That is why it is important that once it has been decided what data is required; it should be collected and recorded in a standardised way. Human nature being what it is, the system will have to be designed so all the necessary fields are completed. Only those in the specific discipline can determine whether the data is real or fake.

This whole process is in its infancy. In these early stages very simple data such as prevalence of breeds, prevalence of various conditions with breed, size, weight, etc are useful in telling us simple things that we did not know before, such as lifespan according to breed and gender. As the system grows more complex situations, such as drug sensitivities, could be introduced to particular subsets of the population. The value of this data will of course depend upon the quality of those devising the questions that need to be answered.

VE: If the initial data collection and assessment is successful, how would you suggest avoiding data 'creep', the tendency of official bodies to pile on more and more data collection paperwork for practitioners? In other words, how much data is enough?

Lanyon: As explained in answer to your first question there will of course be data creep, if by that you mean an appetite for more information. However, I hope that this will not be 'regulatory creep' rather 'curiosity creep'. As we get to know more and more about the populations of animals that we treat we will realise how little we know and identify what we think we need to know to answer the next in our list of questions. Thus your question "how much data is enough?" is unanswerable. How much do you want the medic treating your cancer to know about the risks and benefits of your possible treatments?

VE: In your article, you state that the collection, storage and interrogation of data "could be achieved at practically no cost". What additional personnel, software and possibly equipment will practices need to collect the data?

Lanyon: The cost to the practice in terms of collecting the data is indeed practically/effectively zero, at least with the VetCompass system, since every practice will have a computerised practice management system for patient records and finance that can also deal with the clinical data involved at this stage. Maintaining the infrastructure to automatically collect data from multiple sources, standardise it and enter the information to harmonised databases clearly requires resourcing, both technical support and data storage capacity. However once established the file transfer protocols will run with minor modifications and extremely large databases can be managed by relatively small numbers of individuals.

Of course the cost of interrogating the primary data also has to be factored in, however I envisage that this cost would be borne by those interested in the results of the interrogation. This includes not just those with scientific but also regulatory interest. My point is that having these interests, and being willing to pay for them to be satisfied, is a responsibility both for the practitioners themselves and for the profession's regulatory bodies (in the UK the RCVS). Every practice should want to know as much as possible about the biology of its patient base and that it is no worse at treating these patients than its peers (clinical audit). The regulatory authorities should want to know that systems are in place to ensure that this happens and that satisfactory standards of professional competence are maintained.

VE: Can you suggest a simple pilot project that might convince practitioners of the value of data collection? How would it differ from VetCompass?

Lanyon: The last thing we need at the moment is an alternative to the systems that we now have; rather we need them to come together. The crucial next step is for some central intelligence (the RCVS, the veterinary schools?) to accept responsibility for bringing about a uniform single system, define what it does and the extent to which involvement with it is an unavoidable professional responsibility.

VE: Practitioners can do EBVM now, but it could be argued that it hasn't caught on. What would motivate them to use the information obtained from your proposals?

Lanyon: Saying it hasn't caught on is not necessarily true. For example there are currently over 400 practices contributing data to the VetCompass project while SAVSNET is collecting laboratory data from the majority of commercial veterinary laboratories. I think this suggests there is definitely an appetite for this activity across

the profession generally. One hopes that their primary motivation would be interest and their desire to provide a high quality professional service using the best evidence available. The best possible motivation should be seeing the greater success in their clinical practice from using the wider data available to them and the interest they derive from involvement in the process.

VE: Would you anticipate the data being publicly available? If so, would that allay the expense of interrogation because enterprising academics and journalists would analyse the data?

Lanyon: Yes I would envisage that the basic data should be publicly available, and yes the expense of "custom analysis" to answer specific questions could well be paid for from grants to academics or from commercial enterprises. As the system develops it should come to encompass (or at least provide a database for) clinical audit and this may involve a degree of confidentiality. However, published success rates are now common in human medicine and there is no reason why our profession should be coy about them.

VE: What kinds of data might have commercial value? If profitable, where would that money go? Back to the practitioners who collected the data?

Lanyon: There is always commercial value in information. One responsibility for the central organisation is to ensure that any income available from selling it is ploughed back into improving the system.

VE: This is a sematic point, but is your proposal really EBVM? Classic EBVM, for example, determines the superiority of one treatment over another using randomised trials. Census data isn't randomised and can't be used that way. Is your proposal more accurately described as a surveillance program or quality assessment strategy? Should the classic definition of EBVM be broadened?

Lanyon: This depends upon your definition of Evidence-Based Medicine.

Although randomised controlled trials are a highly effective means of assessing clinical outcomes in complex situations, they are not the only kind of evidence that can legitimately be included in making clinical judgements. Rather these judgements should be based on the judicious use of all available evidence, some types of which obviously carry greater weight than others. I prefer the definition of EBM used by (Sackett et al., 1996) which is:

"The conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients".

It involves integrating individual clinical expertise with the best available clinical evidence from systematic research. As well as basic research this means clinically relevant, especially patient centered research.

What I propose (and what VetCompass and SAVSNET in rather different ways provide) is "analysis of systematically-derived evidence from clinical populations" and thus Evidence-Based Medicine. Randomised controlled trials provide excellent forms of evidence and indeed may be the best evidence available, but the best should not be the enemy of the good and there is lots of good evidence that can be derived from analysis not involving such trials. Furthermore, effective, adequately powered, randomised controlled trials are difficult to design and hugely expensive to conduct. They are not in general a participatory activity for any except a small number of clinics in the country. They, like laboratory-based research, confine participation to a small elite rather than involving the much wider, if more humble, population of clinicians.

VE: Who determines the best outcomes for data collection? If you could pick three outcomes to collect from practitioners, say from small animal practices, what would they be?

Lanyon: The best outcome is a veterinary profession passionately interested in learning as much as possible about the health and welfare of its patient population, deeply involved in collecting and analysing the information by which this can be achieved, and by this means progressively increasing the quality of care it can provide.

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