



Nuffield Farming Scholarships Trust

A Trehane Trust Award

The role of the vet in knowledge transfer in the dairy industry

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PREAMBLE

When setting out on my Nuffield trip, I had the notion that as a farm vet I had three things to sell: medicines, clinical work, and knowledge/advisory services.

It was this third one, I would say, that we vets are very poor at selling, yet has the most value, and my mission was to work out how I could make a business out of this "product". (I should point out, at this stage, that this wasn't in order to make my millions, but just recognition that to make something sustainable for the future, it has to be financially viable.)

I was challenged by my first contact, Jelle Zilstra of Wageningen University in The Netherlands, who contested that knowledge is not a saleable commodity, and it is vets who continually try to sell it that contributes to giving the vet profession a reputation for arrogance!

Much of the rest of my trip has concentrated on the role of vet as coach, or facilitator. It seems, though, that not many vets have

- a. developed these communication skills very well
- b. managed to make a living from selling them.

Some of the most interesting scenarios of vets as coach/ facilitator which I came across were those employed by industry: for example, some of those employed by the pharmaceutical giant Pfizer, vets working for the USA farm medicine retailer Animart, and the in-house vet for Synlait, an integrated dairy company in New Zealand.

If my first contact during my travels began to challenge my initial conceptions, it was my final meeting before flying home from New Zealand which seemed to crystallise how I feel veterinary input could be used in the dairy industry to best effect. Vet, Dave Campbell, works for Synlait Ltd, a company in South Island, New Zealand which processes 300 million litres of milk each year sourced from its own supply farms. His role as Head of Production Systems could be broadly split into two main areas:

1. Training and staff management
2. Systems management: using a HACCP (Hazard Analysis and Critical Control Points) approach to herd health; monitoring health performance, production and animal welfare.

Dave's role at Synlait is a central part of the business and inputs into the decision making at the highest level of the organisation, as the cow advocate. However, a key feature marks this role out from most veterinary input into dairy farms: as an employee rather than an out-sourced consultant, there is no charge for his work on a time or piece-meal basis, or any reliance on selling medicines or other product in order to cover the cost of his services. This changes the nature of the relationship he has, and better allows him to complete the review/ monitor and reinforce phases of his consultancy role.

Animal health, as we must realise, forms only a small proportion of the whole complex system that is dairy farming. Finance and accountancy, personnel

management, plant (machinery/technology/buildings), grazing/ cropping, waste management, sales, supply/resource management, environmental responsibility and public relations/ marketing, are all other aspects of a dairy farmer's role, whether that dairy farmer is a one-man operation milking 80 cows, or a corporate farm milking 18,000. As a vet, it is sometimes difficult to firstly see the bigger picture, but secondly to bang the drum effectively enough to speak up for the importance of animal health and welfare in the over-all system.

For all the complexities of dairy farming, the cow, after all, is at the very centre, and everything else hangs off her tail (or teats!). Cows are themselves not only complex biological systems, but also sentient beings. A very particular set of skills and *deep* understanding are required to keep cows for milk production. The scientific training of vets is a good foundation for these qualities. The challenge is to adapt and learn new skills, such as communication techniques, systems management and leadership skills in order to provide that essential veterinary input for our developing dairy industry.

It is hugely encouraging that even since applying for a Nuffield Scholarship in 2008, there has been significant progress in the UK of dairy vets up-skilling to become more effective trainers and facilitators. The revolution has begun!

STUDY OBJECTIVES/ SCOPE

Objectives:

- Learn more about the changing relationship between vet and farmer
- Investigate the veterinary needs of dairy farmers in different management systems
- Investigate the provision of veterinary services by dairy vets in some of the more developed dairy countries
- Understand more about effective knowledge transfer in practice
- Seek veterinarians who have successfully developed advisory roles within the dairy industry
- Investigate the reasons for possible market failure in the widespread adoption of knowledge transfer by vets within the dairy industry
- Develop ideas to implement at home - by myself and other vets - for the benefit of the UK dairy industry

Scope:

To the extent that I wished to gain as much as possible from my travels, I set no limit to the scope of what I would investigate. Although the study is defined to some extent by the title, I have always seen it as an opportunity to get out there and see what's going on.

- Who's doing the job better than us (vets and farmers)? If so, how?
- How does the money flow? How much cross-subsidy of fees occurs?
- What will the dairy industry of the future most likely look like?
- What will be the role, if any, for vets in that industry?
- Who are the experts in knowledge transfer?
- What skills are required?

What this study is *not* is an *uber*-scientific investigation with surveys, tables, graphs and multiple references. It is the tale of one man's "look, see" and his thoughts upon that.

A BIT ABOUT MYSELF

I am a vet who has worked in farm animal practice since qualifying, mainly with dairy cows.

Born in Derby in 1971, I began my professional life in 1994 with my first post in Northallerton, North Yorkshire, before moving on to work at the University of Liverpool teaching farm animal veterinary practice, and then Wrexham in North Wales. With my wife, Laura, and three children, Dylan (8), Jude (6) and Lola (3), I have now settled in Cheshire where I am a partner in a large farm-only vet practice, Lambert, Leonard and May, which is part of the XLVets group of practices.



My interests in rumen health, cattle foot care and lameness reduction have led me to do an increasing amount of training and advisory work. In 2007, I became a fully qualified CowSignals trainer. CowSignals asks the cows what they think of their management and environment and uses this information to devise improvements, always seeking to implement the “success factors” which lead to happy and profitable dairy farms. This approach complements the environmental approach to cow health which I believe is far more important than reliance on medicines and supplements: strong, fit, happy cows stay healthy, and strong, fit, happy cows result from providing a suitable environment.

My goal is to help farmers make changes on their farms which benefit the cows, the quality of life and the bank balance.

INTRODUCTION

My roots are in farming, but I always enjoyed science at school and so became a vet.

Herein lies one of the interesting facets of my study: vets generally like science and place high value and pride in knowledge. We perhaps undervalue the importance of communication in our roles as health professionals. Yet having the knowledge without the ability to communicate it is like having a computer without a screen – useless.

So where did my interest in the role of the vet in knowledge transfer in the dairy industry arise?

I qualified as a vet in 1994, in times of high milk (and quota) prices. This was quickly followed by the BSE crisis, and a sustained period of tough economic times and poor morale in the dairy industry (at least at the production end, in which I work). Unlike other comrades at vet school who were also enthusiastically intent on becoming a farm vet, I haven't been lured away by the glamour of emptying dogs' anal glands, gone into industry, emigrated to New Zealand or switched to the dark side of horse medicine. So I am still a farm vet in practice – what I always wanted to be – but which could arguably make me one of the dumbest members of my class.

During my career in practice, there has been a huge shift in the way vet practices operate in the UK. A significant rationalisation has resulted in far fewer “mixed” vets and more specialisation, and there has been a sustained downward pressure on medicine prices, and changes in supply. Inevitably, those farm vets who wish to survive have to move away from traditional over-reliance on medicine sales supporting their fee-work. As a partner in Lambert, Leonard and May Farm Vets, I suppose I have played a role in this change. Our practice began in 1999 as a farm animal only practice, and introduced lower medicine prices and a more realistic fee structure. This model has now been replicated in many parts of the UK. A practice like ours can have a very specific focus on servicing *only* farmers' needs which gives us a competitive edge – just don't come to us with your poorly cat; you'd be as well asking for advice from the postman for all we know about such creatures.

We have a client base of largely business-minded farmers, mainly dairy (we are in the Cheshire/Shropshire dairy belt), and we provide a predominantly preventive health service – or at least that is our aim. It is the fact that we still have to deal with so many preventable conditions (scouring calves, high mastitis rates, too many lame cows, thin cows not getting in calf, displaced abomasum after displaced abomasum), that leads us to be very self critical. If we were doing our job even *half* well, surely we wouldn't be so busy treating sick animals and fire-fighting? So how can we do our job better? What are the bottlenecks to bringing about effective change on farms? It isn't that we don't have enough knowledge, so what else is missing?

This is what brought me to apply for a Nuffield Scholarship: as my wife would describe it, a naïve conviction that I can make some difference to the way we do things.

BACKGROUND TO STUDY

Since being awarded my Scholarship, the relevance of my topic seems to have increased in the UK dairy industry and the supporting veterinary sector. In August 2009, a key government report on veterinary expertise in food animal production was published by Professor Philip Lowe, Chairman of the EFRAcom (Environment, Food and Rural Affairs Committee) Vets and Veterinary Services Steering Group¹. One of the key findings was that there is currently a general failure of delivery of knowledge transfer (KT) by vets in the livestock sphere.

This problem has very complex reasons, and is echoed in many developed dairy nations (USA, Europe, Australia and New Zealand). Two key features seem to be the inability of vets to make money out of KT (which would encourage them to do more of it) and a lack of communication and marketing skills. Meanwhile, government organisations and levy-funded bodies are trying to encourage vets to deliver KT in order to increase the skills and production efficiencies of farmers. However, it is important to consider whether there is a demand from farmers. Vets are service providers, and generally respond to demand in the market place; could there be a market failure?

There appears to be a contradiction, because vets seem to be widely recognised as important agents of KT, often being cited by dairy farmers as their most important and trusted sources of information on animal health and production. In recent years, bodies such as DairyNZ, Dairy Australia, UGCN (Netherlands) and DairyCo (UK) have all invested in programmes for use by farmers and their vets which are designed to lift health and production (e.g. Dutch Udder Health Programme; NZ and Australian InCalf projects; DairyCo Mastitis Control Plan). As yet, there has been relatively poor uptake and compliance. It would seem there is a small army of social scientists around the world investigating reasons for this failure and looking for better ways to progress farmer development through knowledge transfer.

¹ Lowe, P., 2009. Unlocking Potential: A report on veterinary expertise in food animal production. Report to the vets and veterinary services working group, UK, August 2009.

WHERE MY TRAVELS TOOK ME

I travelled twice to the Netherlands during March and June 2009, and then undertook a longer trip in November and December 2009 to Wisconsin, USA, and New Zealand.

During these travels, I tried to meet dairy vets who are successfully delivering KT, and making a commercial success of it, as well as canvassing dairy farmers and others on their opinions about the changing role of the dairy vet. An important aspect of the study has been the consideration of veterinary income streams and the interdependence of production animal veterinary practices worldwide with the pharmaceutical industry (i.e. subsidy of fee income by medicine sales, *and* the dependence of the animal health companies on vets as salespersons).

I have met with University researchers, private consultant vets, vets in progressive dairy practices, and dairy extension workers. In addition, I have met with some of the most progressive and high-performing dairy farmers in each of the visited countries who have been able to give me an insight into the type of veterinary input which they currently have, and which they would wish for.

The journey has been as much a mental one as a physical one. Inevitably my travels have led me to a wealth of interesting people with ideas to share, but they have also taken me out of my normal sphere and made it easier for me to open my mind to new possibilities.

THE NETHERLANDS

Books and theories

Holland - home to a very developed and proud dairy industry. Dairy farming is as much part of the national psyche as wearing clogs and smoking roll-ups. Dutch dairy vets and researchers are arguably streets ahead of their UK counterparts in terms of technical aspects of the herd health approach to dairy vetting. Some of the most renowned texts on herd health management and the advisory rather than clinical role of the farm vet hail from the Netherlands.

HACCP (Hazard Analysis and Critical Control Points) based dairy herd health and productivity management (HHPM) has been the “buzz” phrase since Brand and others¹ published their widely acclaimed and often quoted book in 1996, “Herd Health and Production management in Dairy Practice”. Since then, other books have been written and theories expanded, culminating perhaps in the development of the consultancy company, Vacqa: Veterinary Advice and Coaching in Quality Assurance in Dairy Farms (www.Vacqa-international.com).

On visiting the Netherlands, would I witness first hand a revolution in the way vets provided services to their dairy clients, or would this all be no more than hot air to drive their windmills?

Equations for success

My first meeting was with Jelle Zilstra, a dairy economist working for Wageningen University who has published papers predicting the future shape of the Dutch dairy industry. We met at the research dairy unit at Lelystad. Jelle had a fascinating insight into the future trends and challenges faced by dairy farmers, and we were able to open up our discussion to explore the possible role of the dairy vet.

One of the gems that came from this meeting was his assertion that until vets relinquish their self-image of “knowledge supremos” and embrace simple communication skills (such as listening!) then their effectiveness in delivering change on farms would be limited. Not for the last time, I was told that vets have a reputation for arrogance, and that this got in the way of farmers wanting to use them for advisory work.

I like simple models – it helps me visualise concepts better.

A model to illustrate the point is that:

$$\text{Result} = \text{knowledge} \times \text{acceptability (communication)}$$

Therefore, a vet who knows the last detail of the most complex disease process, perhaps a mastitis expert (score 9 out of 10 for knowledge, but 3/10 for communication skills), may not be as effective at helping a farmer reduce his mastitis problem as a less knowledgeable (say score 5) but more able communicator (say score 8/10). The vet “expert” scores 27; the lay-adviser scores 40.

¹ Brand, A., Noordhuizen, J.P.T.M., Schukken, Y.H. 1996. Herd health and production management in dairy practice. Wageningen Academic Publishers, Wageningen, the Netherlands.

Knowledge is not for sale

Jelle, being a very organised Dutch man, had asked me to send him a list of pre-prepared questions prior to our meeting. This was the first and last time I conducted an interview in such a formal and structured way, preferring normally to spend sufficient time with contacts to engage in conversation which naturally evolved into discussion. Never the less, it served a good purpose in this instance, because it seems I sufficiently irritated Jelle with questions about “selling veterinary advice” for him to pop my bubble with some exacerbation. The resulting afflatus helped shape the remainder of my whole study.

Jelle believes that dairy farmers of the future will be of the entrepreneurial type. These energetic thrusters will source their own knowledge: this may be from their own college education, journals, discussion groups, neighbours, or by their own hard-won experience. Certainly, the vet may also be a source for them, but the idea that they will *pay* for this *knowledge* would be anathema.

Far better, he suggested, dairy vets should always position themselves as facilitators, “coaching” rather than “telling” in order to go about their advisory role most effectively. Undoubtedly, the deep and broad understanding and knowledge that vets have with respect to cow biology and health will be invaluable in this role, and should naturally place the vet at the very centre of dairy cow management. However, vets could and should look around them (outside their profession) to learn *how* to coach: there are too few who currently understand those skills well enough.

In fact, this conversation reminded me of a very interesting lecture which formed part of our “Scholars Briefing” week, back in February 2009. The session was with Professor John Bessant, Chair in Innovation Management, Imperial College, London, and was titled “Managing Knowledge Spaghetti”. Professor Bessant illustrated with examples the point that knowledge is far more accessible now than in the past (largely due to the internet). Doctors no longer receive patients with descriptions of symptoms for them to reach a diagnosis; patients arrive armed with differential diagnoses, potential therapy options and likely prognoses, after full literary searches of the relevant research on Google Scholar. Whereas in the past, professionals such as doctors and vets may have been the “gatekeepers” of their particular sphere of knowledge, this is no longer the case. The wider question is, therefore, what has that new role become?

Stepping down from the ivory tower

The reality is that knowledge needs interpreting. Which knowledge is correct? Do we have all the relevant knowledge on a subject, or just one perspective? If we are not careful, the knowledge spaghetti can equate to a chaos of un-sorted “facts”. I suspect many patients arrive at their doctors worried sick and convinced they are suffering from some bizarre disease “because all the symptoms fit” when in actual fact the pragmatic experience, and wider understanding, of the doctor will lead him/her to a much more likely, more common and less deadly diagnosis. The doctor must deal with this new scenario in a very different way to perhaps days gone by when his diagnosis and treatment would have been handed down, as if from on high, and never have been questioned.

Likewise, vets must adapt away from seeing themselves as “gatekeeper”, fiercely guarding and protecting all that knowledge, but perhaps more of a “guide” through the jungle.

Cowmunication and Infotainment

The Dutch, as said, are perhaps world experts in the process of herd health planning, the use of discussion groups, external facilitators, and “experts”. I left my meeting with Jelle, clutching a copy of “Networks with Free Actors: Encouraging sustainable innovations in animal husbandry by using the FAN approach (Free Actors in Networks)”, a snappily titled booklet from Wageningen University designed to help people just like myself. For me, the book (and title) rather illustrates the point that if we get too academic about it all, we may lose sight of what all this good communication that we should be embracing is all about.

With this in mind, my next contacts were Jan Hulsen and Joep Driessen of Vetvice, the two veterinary inventors of the CowSignals concept (www.cowsignals.com). CowSignals is as much about communication as it is science. It cleverly, and in my opinion successfully, marries the best available science about cattle health and husbandry with excellent communication techniques. The communication is via book format (with a range of books with excellent examples, picture quizzes and photographs) or on-farm workshops. Jan is the book man, Joep the workshop guru.

Joep brings about an element of theatre into his farmer workshops, and this is quite intentional. Coining the phrase “Cowmunication” to describe his art, he concentrates on using as many good (and learned) communication techniques as possible in to play. Briefly, this comprises body language, visual props, devices to engage people with different learning preferences, voice styles and participatory learning activities. The net effect is an experience which will stimulate but also *entertain*. He is under no illusion that in order to successfully make a career out of delivering lectures and workshops, he must provide something which people *enjoy* doing: “infotainment”.

Information vomit

Certainly, I have learned a lot from Joep during the past few years (which began before becoming a Nuffield Scholar). My first glimpse into realising some of the reasons for current failures of vets as agents of change came when I began to appreciate the different elements of communicating with farmers. Take an evening talk for some farm clients, for example; perhaps a talk on mastitis I might give with a PowerPoint slide show. The talk can be scored on three very different aspects:

1. Content
2. Process
3. Procedure

The content is the nuts and bolts of what information is in the presentation; the facts. The process is *how* that information is communicated, for example taking into account my voice, clarity of slides, choice of words, visual aids, body language, etc. etc. The procedure is how well the infrastructure of the meeting is run: were the invitations sent out correctly? Is the room a comfortable temperature? Are the seats OK? Is there food and drink? Can everyone hear me? ...and so on.

Like most vets (scientists), I would typically agonise for ages over the content. I would know that what I said was correct; I would know my facts inside out, and certainly be ready for any awkward questions. As a bit of a pedant (sadly), I would normally score fairly well on the procedure side of things: I would like to think that my attention to those details were generally OK. However, as for the *process*? Well,

looking back now I visualise myself at those types of talks as vomiting information all over my audience. I attend similar meetings now given by others and I see the same thing. Of course, amongst that vomit, there may be some small nuggets which stick to some people (perhaps the bits of carrot?), but for most of the audience, it isn't a particularly enlightening or enjoyable experience.

Looking outside the box

Joep I have known for several years, but Jan I was keen to meet for the first time. I had the notion that Jan was a very different character to Joep: maybe a bit of a deep thinker and more serious. Almost immediately, our conversation was peppered with visual models and examples. Jan is the sort of guy who finds it hard to talk to people without having a pencil and paper in his hand to illustrate his points. I was very impressed with the amount of careful thought which evidently goes into all of Jan's projects, whether that be writing the CowSignals books, or designing a motivational poster, or thinking of the best way to reach his audience. I have enjoyed staying in email contact with Jan to share some ideas, particularly over cattle foot health.

Jan was able to elaborate on vast subjects. For example, as vets should we be talking about "risk factors" or "success factors" when we communicate with farmers? Probably, for most people, it wouldn't matter (or they wouldn't even think about it) but for Jan, issues such as these could evoke enviable passion for his subject. If Joep had made communication with farmers his art form, Jan has made it his science.

I learned a lot. Again, one of the key messages was to look outside the vet profession for the answers. Jan, at his own admission, is a bit of an "anorak" on business management books, and is well read on the subject after studying for an MBA after becoming a vet. Using some of the established models and techniques in the business world to help develop a management approach to herd health is incredibly useful, and is utilised widely in the CowSignals series of books.

Knowledge is not enough

I moved from the Vetvice/ CowSignals team to talk with Theo Lam, a vet with the Dutch veterinary diagnostics and support company, GD Deventer (a privatised version of our own Veterinary Laboratories Agency, or SAC). GD had won the contract to run the Dutch Udder Health Centre (www.ugcn.nl), a programme financed by the Dutch Dairy Organisation (akin to our DairyCo) and the Agricultural Farmers Organisation (akin to our NFU), and Theo was head of the project.

The Dutch Udder Health Centre (UGCN) is a national programme to improve udder health in the Dutch dairy herd. Approximately half of the UGCN work is research; the other half is implementation of knowledge in the daily practice of veterinary practitioners and dairy farmers. Central to the knowledge transfer aspect has been the involvement of vets in practice in running farmer workshops and study groups. This has complemented other methods, such as a practical Udder Health handbook (written in conjunction with Jan Hulsen), open-door days, and marketing campaigns (for example to encourage milkers to wear gloves).

I had previously heard Theo speak at veterinary conferences, and it was clear that the work of UGCN is as much about motivating change in farmer behaviour as it is about new knowledge. Interestingly, results from concurrent work in the UK sponsored by the MDC (Milk Development Council) which investigated an intervention approach to mastitis control on 50 UK farms would also suggest that the

bottleneck to improvements is less in the *knowledge* of what to do but more in the *compliance* of adopting the professional advice.

Setting the agenda

Theo, like my previous Dutch contacts, had evidently given the subject of vets and knowledge transfer much previous thought. Some of the gems which emanated from our conversation were to do with the structural approach to veterinary advisory work. As vets, we often concentrate on investigating a problem and hand the farmer advice based on our findings, possibly in the form of a written report, possibly by telling the farmer what he/she should do. Rarely, however, do we first set an *agenda* beforehand, establishing mutual goals, before diving in with our investigations. Even more rarely do we follow up our advice with questions, support and efforts to aid changes in behaviour.

By now, I was learning more and more about communication skills, and the skills of a successful consultant. Perhaps it appears bizarre that such simple things like structuring an approach to advisory work should appear new to me, but this is the reality. Like so many vets, my education and training has centred on my clinical skills and understanding of the *science* and I have never had these things explicitly explained to me. Indeed, as I write this, it seems bizarre to me that I have been striving to do more and more advisory work in practice without considering what skills are required.

In essence, it is possible to break any advisory work down into four components:

1. Agenda
2. Investigation
3. Reporting
4. Follow-up

Vets generally excel at point 2, but are let down by weaknesses in the other three areas.

Shut your mouth and open your ears

Whilst at UCGN, Theo introduced me to Jolanda Jansen, a PhD student researching the effectiveness of communication within the Udder Health Programme. Jolanda is a product of the Communication and Innovation Studies Group in the agricultural department of Wageningen University (you see, the Dutch are quite foresighted in this area!). Her project is titled: "Udder health, more than a technical issue?! - Communication strategies and social factors related to mastitis control practices". Her work includes looking at the mindset of vets and farmers, and how the two communicate.

Jolanda, in the course of her research, has had the opportunity to analyse many examples of how vets try to impart knowledge and advice. Suffice to say, Jolanda has not been impressed! Whether intended or not, there is a tendency for vets to come across as very arrogant. This is largely because, in Jolanda's experience, they spend too much time talking and too little listening. When questions are asked, they are invariably "closed", prompting perhaps the answer the vet wants or expects.

The use of “open questions” is well established as a more useful technique in the circles of those who understand communication. Again, this was new to me. An open question begins with what? when? how? who? or why? and the answer can never be “yes” or “no”. This means that there is less likelihood of the questioner steering the answers and allows the answerer to give a more expansive and valuable answer. For example,

Q: *“Is the dung of your cows loose?”*

A: *“No”*

Or

Q: *“How is the dung of your cows?”*

A: *“It is variable: none are loose but some are a bit stiffer than normal. There are a lot of undigested grains in most dung heaps which concerns me”*

Talking to Jolanda felt like striking gold. Here was someone whose work was virtually the title of my study, and she was (and has remained) a fantastic source of ideas and information. Not only did Jolanda have a great understanding of the subject in her own right, but she has provided me with access to an international network of fellow workers and researchers in the academic community, all investigating effectiveness of communication in one form or another.

Participatory learning and all that stuff

Following up on some of the papers Jolanda gave me, I continued my investigations on my return to England. I soon hit a rich seam of material and books, and found that much of the work on effective knowledge transfer has been done by organisations involved in rural extension work in developing countries.

I do not want to dwell on this material in this report, but a quick Google search on “Participatory Approaches to Rural Development” or Participatory Learning” or “Participatory Epidemiology” will lead you to all sorts of interesting projects in different corners of the world. In fact, it is the experience of extension workers trying to educate people about AIDS in developing countries which has perhaps influenced this field the most.

Here am I searching my soul on how I might be better able to influence my farm clients to make changes for the betterment of cow health. That should be easy! Just imagine trying to explain to an illiterate, poor population, in a language which is not your own, about a subject (sex) which causes embarrassment and is riddled with tradition and taboo, in order to influence changes in sexual behaviour and practice to reduce the spread of AIDS – now that would be a challenge.

Never the less, the two main lessons from extension work would appear to be that knowledge transfer often works best in groups (study groups, for example) and that people (particularly adults) learn best by *doing* or participation. Participatory learning may include acting out scenarios, drawing pictures and “workshop” style activities. There are a lot of these techniques which can be adopted for use by vets in practice working with farmers – even if they aren’t all poor, illiterate or not sharing the same language!

“In Practice”

It was on my return from the Netherlands that I decided to crystallise some of my thoughts, and share some of the wealth of what I had learned with my vet colleagues. If all this communication stuff was new to me, surely there were some other vets out there who may be the same.

I figured that the best way to capture and share it was to write an article for In Practice magazine, published by The British Veterinary Association and the sister magazine to The Veterinary Record. The article was published in two parts, in April and May of this year and is worth a read if you are a vet interested in communicating better with your farm clients¹.

¹ Communication in farm animal practice 1. Farmer–vet relationships. Atkinson *In Pract.*.2010; 32: 114-117 and Communication in farm animal practice 2. Effecting change. Atkinson *In Pract.*.2010; 32: 163-165

WISCONSIN, USA

Well trodden path

With a study such as this, I am sure that it is not unusual to find oneself having the same conversation over and over with different people in different places but discovering progressively less new stuff – the law of diminishing returns. That was a real concern for me, having had such a fruitful time in the Netherlands. I decided to shift the focus of my attention away from the communication experts and towards practical applications: I wanted to meet vets in practice who were doing something a little different, and in the US I wanted to meet a sample of dairy farmers who may represent the future: what would their requirements be from their vet?

Quite apart from any conscious decisions, the study was to a large part shaped by what contacts and leads I had. America is a big country but I had one contact I had arranged to meet: Nigel Cook, a UK born and bred vet who emigrated to work in the University of Wisconsin Vet School several years ago. Nigel has celebrity status in my very small world of dairy vets interested in lameness, and he works with two other celebrities in the equally small world of vets interested in rumen health, Garry Oetzel and Ken Noordland. Ken, Garry and Nigel form a large part of the world respected dairy veterinary science group at Madison University, from which some of the best recent work in sub-acute ruminal acidosis, lameness prevention and fresh cow management has emanated.

Nearly every Nuffield Scholar with a dairy-related subject has passed through Madison, Wisconsin. Most have been hosted at least in part by Dave Wieckert, a retired professor in the dairy sciences department, well travelled dairy enthusiast and generally all-round good guy supporter of Nuffield. It was not long before his contact details were passed my way, and so I embarked across the pond with just two firm contacts: Nigel and Dave.

Whilst my instinct would normally be to go somewhere different to previous scholars, my common sense told me that sticking to Wisconsin would be the most effective use of my time. I have no regrets. Certainly, by not spreading myself thinly over more than America undoubtedly has to offer, I was able to get under the skin of my chosen part.

One size fits all

One of the opportunities which I relished was to spend a few days with Nigel Cook during some lameness consultancy visits around the state. This served two valuable purposes: to spend quality investigative time on some typical USA dairy farms, and to witness Nigel's approach to dairy lameness reduction using the "First Steps" programme which he developed.

Through Dave, I later visited several other dairy farms, but there was no substitute for a full day investigative visit which though focussed on lameness allowed me to more fully understand the dairy farming industry of Wisconsin, and the detail behind the headline figures. It is beyond the scope of this report to write in detail about these dairy farms, but I thoroughly enjoyed learning so much about large-scale intensive dairying. This ranged from feeding practices, to labour organisation, to man management, through to performance monitoring and herd health protocols.

A certain aspect struck me about Wisconsin farms: it seemed that whether it was a 50-cow herd in tie-stalls or a 5000-cow herd in freestalls (cubicles), the basic system was the same. That is to say the cows were housed in ventilated barns and fed a maize, soya and alfalfa TMR (total mixed ration) diet, calving all year round. I went to one, rare, grazing herd. The same thing struck me when I was in New Zealand: again there is basically one system: seasonally calving grazing herds.

The fact that the UK has a more diverse dairy industry is no bad thing, but it can lead to confusion and perhaps the tendency for some hybrid farms having the cost base of an intensive system without the returns, or the wrong type of cow for the system. From a dairy vet's point of view, it also means there is more to understand, as there is no one-size-fits-all approach to our work. UK vets have been slow to adapt to the vet inputs required in the grazing systems, for example.

Ugly truth

I was really pleased to spend a lot of time discussing aspects of lameness control with Nigel Cook. Nigel and his colleagues have done some of the best research in the world concerning risk factors of the non-infectious types of lameness, for example sole bruising and sole ulcers. Whereas historically diet was predominantly blamed for these types of lesions (the confusion made worse by the use of the term "laminitis", which in effect is taken from the equine world), environment, cow comfort and lying times are now recognised as having far more relevance. Nigel has some compelling evidence for using sand beds in freestalls in place of mattresses to increase cow comfort and reduce lameness. Here is a classic example where the vet has an absolutely crucial role in getting the science out to where it is needed: on dairy farms the world over. Concurrently, there may be many mixed messages reaching farms, driven by commercial bias (for example cubicle/ mattress manufacturers).

The first stage, inevitably, is for the science to permeate through the vet profession: this is all quite new stuff. Often new science will be promoted by industry which has something to gain, for example new vaccines or other pharmaceuticals are promoted by the pharmaceutical industry; GM technology by the biotech industry; advances in milk harvesting equipment by the milk machine manufacturers. It is an ugly truth that no one stands to gain by promoting something like sand bedding (or any other good husbandry measure), and so it does not happen. Something which could have the potential to improve cow happiness and farm profitability more than any single drug or new piece of equipment could ever have is lost in the blurred world of forgotten science.

The might of commerce

I hear the same argument in the UK from proponents (disciples!) of pasture based dairy systems. They correctly point out that there are whole industries whose dependence on the more intensive, higher yielding systems have a combined marketing might which makes it hard for people to make the switch. Arguably, the feed industry, machinery industry, semen industry (dependent on Holstein genetics), the dairy consumables industry, and the veterinary and pharmaceutical industries, all have a vested interest in maintaining the *status quo* of high input farms.

It is interesting to consider that if it wasn't for the LIC (Livestock Improvement Corporation) which has a vested interest in selling New Zealand genetics for grazing farms, there would arguably be far fewer such systems in the UK. LIC has had a concerted campaign, including very successful facilitation of farmer discussion

groups, which has had a powerful influence, particularly with the “innovators” of the industry.

The “First Steps” example

At the dairy science group of Madison University Veterinary School, all research work is commercially sponsored; there are virtually no central public funds allocated. So who sponsors the lameness work? Several large feed companies mainly. What do they stand to gain? Perhaps some deserved diversion of attention away from feed as the blame for lameness, but also potential sales and a “way in” to farms. Nigel’s lameness research work has been developed into a lameness reduction plan called “First Steps”, or more correctly, “First Steps by Zinpro Performance Minerals”. Although there is no specific research evidence that Zinpro minerals (Availa-4 in the case of dairy cows) has any influence on lameness incidence, the association of the lameness reduction plan with the product has been made.

In the UK, First Steps has recently been launched whereby we have a handful of trained plan providers (all selling Zinpro minerals) delivering the programme. So does that matter? The First Steps plan is well researched, takes a comprehensive overview of relevant risk factors for lameness on dairy farms, and results in a tailor made action plan for farms which is sound advice. You decide.

Personally, I think it is a commercial reality. On balance I would rather have First Steps than nothing at all – any efforts to improve lameness must be welcomed. There is nothing to stop veterinary advisers getting in on the act and delivering lameness reduction plans themselves, but they will not necessarily be playing on a level playing field. The independent vet adviser will not have access to the neat “package” and support materials that a programme like First Steps offers, but more importantly, they will not be selling a product to support their fee charges, like the First Steps providers.

Independy what?

What is the relevance of this to vets and knowledge transfer? I believe it represents a fundamental aspect: a circle which must be squared. Vets are dependent on selling stuff to make a living. Selling independent advice is never an easy task, particularly perhaps with farmers. Who, in fact, really does offer truly independent advice to farmers, and relies fully on fees to farmers for that advice? How many nutritional consultants rely on fee income as opposed to commission? What proportion of income from consultancy groups comes from private fee income as opposed to commission or government grant schemes? How reliant are vets on selling pharmaceuticals rather than services?

The American model is very much a market led economy, and is a great example to study these types of interactions. Everything, it seems, is wrapped up in product sales – from research at the vet school, to vets in private practice, to mastitis consultant vets (working for dairy chemical companies), to consultant vets working for the large pharmaceutical industries.

Vet? What vet?!

There is a particular example I would use to illustrate this phenomenon. I made a visit to an 8000 cow unit. This new, massive, impressive, well managed operation was an eye-opener in so many respects. Here was a farm which had so many basics right: good cow comfort (sand beds, spacious cubicles, state of the art ventilation, small

group sizes and one feed space and lying space per cow); good labour management (one man per 80 cows); excellent organisation; good nutrition, and health protocols in place. It was great to see so many cows looking so well and the farm deserved to be successful.

When I asked about how they use their vet, I was met with a scoff. “Vet? What vet? We don’t need a vet!” I wasn’t necessarily expecting that a vet did much in the way of clinical work there: I already knew that it is common for large-scale US dairies to perform their own surgery, their own pregnancy testing and other fertility work, and anything which doesn’t respond to the usual medicines would be shot – arguably sound economics. But what about setting up health protocols? Staff training? Advice on medicines? “Ah, yes, *that* sort of vet!” was the reply.

It seems that the advisory vet input came entirely “free of charge”. There was the vet from a pharmaceutical company (in this case Pfizer) who devised their fresh cow protocol, a vet from a dairy chemicals company who advised on their milking routine, and the vets from their animal health company (Animart) who helped them work out their “medicine budgets”. No wonder, then, that the fresh cow protocol revolved around daily rectal temperatures and injections of “Exceed” (a Pfizer antibiotic), and that the drug was purchased by the pallet load directly from the manufacturer.

Rules governing supply of vet medicines in the USA are remarkably similar to the UK: namely that a vet must provide a prescription for those medicines and can only do so if those animals are “under his/her care”. In this case, the Pfizer vet prescribed the Exceed, and the Animart vets prescribed the other medicines. In the UK, the internet pharmacy is a relatively new thing: stateside, veterinary pharmacies have been around for a while. I was keen to visit one, to see how it all worked.

Irony

Animart is an operation providing vet medicines from a single depot to around 900,000 dairy cows on around 1000 farms, primarily in Wisconsin and Illinois; a small player by US standards. Owned by a vet husband and wife team, it focuses on customer service and “exceeding expectations”. Running on very tight margins in a competitive environment, it is a company always striving to offer that little bit more.

Medicines can only be dispensed if a vet has provided a prescription. As is usual in the US, a small kickback is offered to prescribing vets in practice. However, the other way the animal health companies can supply drugs is to prescribe the medicines themselves. Depending on your point of view, these vets are either called “specialist consultants” who visit the farm periodically and perform a “medicine audit” and write a “medicine budget” which will list all the quantities of medicines a farm is likely to need in the next 3-6 months, or they are called the “travelling sales team”.

Of all the vets I met in Wisconsin, the guys at Animart were the most interested in the subject of knowledge transfer. In fact, developing KT was currently their big project. It was seen as a way of differentiating themselves from the competition, but also had two further benefits:

- As a marketing tool, being involved with farmer education is seen as very beneficial. Animart is a key sponsor of PDPW (Professional Dairy Producers of Wisconsin, www.pdpw.org), a farmer led organisation which promotes and organises CPD (continued professional development) for herdspeople.

- Animart has been finding that with dairy farmers having less and less contact with local vets, a bottleneck occurs whereby farmers are not aware of new medicinal products coming onto the market. Having a dedicated team of knowledge transfer vets overcomes this, and inevitably financial support is available from the pharmaceutical companies.

I was struck by the irony of the situation that was developing. In the UK, an argument can be made to “decouple” veterinary advice from selling medicines: in other words, encourage a more free market for the supply of medicines and a situation where farmers have an account with their vet for advice and clinical services, and an account with a pharmacy for their medicines. This could reduce the tendency (if it exists) for vets to base their advice on selling medicines, and also encourage more realistic fee charges to be made by vets. Yet here in Wisconsin, the situation had come full circle where many dairy farmers’ only vet input was *wholly* dependent on medicine purchase: the fee entirely wrapped up in product sales.

The Future in the UK?

When I hear talk of “failure in the market place”, I have often wondered what that means. Possibly, my Wisconsin experience illustrated it to me. On the one hand, I like the idea of people taking their own decisions and risks, and as little regulation as possible. On the other hand, Wisconsin showed me a dairy veterinary profession stifled and manipulated by the big money, and a dairy industry which was not necessarily benefitting from the best possible, unbiased science. Such is human nature.

Is there anything wrong with this American model where everything is commercially driven? Are we actually so different in the UK? We may see a future of veterinary advice on dairy farms coming more and more from vets employed by the supply companies and less and less by vets in private practice. The trend has already begun, for example with Genus/RMS offering veterinary support in fertility management to support their semen sales. Similar veterinary support emanating from the pharmaceutical and feed companies is perhaps a natural progression, arguably filling a vacuum left by private veterinary practices failing to adequately meet the changing needs of evolving dairy farms.

Having seen the American scenario, my advice to UK dairy farmers would be “be careful what you wish for”. The squeeze on the independent vets (through loss of medicine sales) has no doubt shaken things up, but I don’t believe it has resulted in a healthier situation for the dairy industry over there.

NEW ZEALAND

Setting the scene

Whilst America represents a possible glimpse into the future of dairy vets in the UK, New Zealand's vets in practice still bask in the security that comes with no rivalry for medicine sales. That is not to say that the profession is resting on its laurels, and New Zealand showed me some great examples of vets in private practice developing their non-clinical work, and embracing the vet's role in advisory and knowledge transfer work.

Most dairy vet practices in New Zealand rely on 80% of their turnover and around 65% of their gross profit derived from medicine sales. New Zealand dairy cows typically consume far less medicine product than their UK counterparts, with mastitis rates around 15-20% (compared with 50-75% in the UK), and generally less health problems all round with their lower output system. However, these healthy cows also require less clinical veterinary input than their UK cousins. For example, a cow may typically see a vet twice only per year, for around 30 seconds each: one rectal examination at the pre-breeding check, and one for pregnancy diagnosis. This compares with a typical UK cow which may see a vet four or more times a year at a fertility check and have an additional 10%-20% chance of a longer visit because of getting sick, requiring surgery to correct a displaced abomasum, or requiring veterinary intervention when lame. Therefore, in a NZ practice, there are a leisurely 8-10,000 dairy cows per vet, whilst in the UK the typical dairy vet will be kept very busy indeed with around 3000 adult cows.

The relevance of this is that in New Zealand, the margin on sales of preventive medicines such as dry cow therapy and routine vaccinations go a long way in covering the cost of employing each vet, whilst in the UK, even with more treatment medicines sold per cow, there is typically a greater reliance on fee income or, traditionally, more margin per medicine.

Equally, though, the more progressive NZ vet practices are highly aware of their vulnerability to third party suppliers of prescription medicines, especially the preventative "biggies" which could be deregulated and are very keen to safeguard their businesses by developing services to farms.

Valuing CPD: an alien concept for UK dairy farms?

My first stay was with Bryan McKay and Sue Mackie, vets in a consultancy company (Dairy Production Systems Ltd, DPSL) offering primarily nutritional advice nationwide but based in the Waikato region. Bryan and Sue are not involved in selling medicines and so are more dependent on fee income, with some supplementation from feed sales.

DPSL are heavily involved with knowledge transfer, and an important component of their business is running a 10 day training course (one day for ten consecutive months) which they sell to farmers, vets and nutritionists around the country. The course was entirely funded by the delegates (around \$NZ 5000 each) and had the added benefit of marketing Bryan and Sue's obvious expertise such that many farmer delegates later became customers, and more advisory work also arose from the feed companies.

I was fortunate to be invited along to one of the training days, which consisted of lectures/ tutorials and a farm visit. With the seasonal nature of NZ dairy farming, the subject of each month's training day was centred on a specific and most relevant part of the cows' production cycle. There were 15 delegates on the course, many of whom travelled half a day or more each month to attend. I was struck at the enthusiasm and keenness to learn shown by the mainly farmer delegates. As is typical in NZ, many of these farmers had chosen their career rather than having been born into it, and perhaps this accounted for some of their positive attitude. Certainly, it would be an interesting proposition to offer a similar course in the UK: would farmers be keen to pay such a significant amount in time and money for their CPD (continued professional development)? Would UK farmers value the concept in the same way? Would there be such an appetite for learning?

My time spent with Bryan and Sue was incredibly valuable, not only to see their training work, but also to accompany them on some consultancy visits and to learn so much about NZ dairy farming, and particularly grazing management and where supplementary feeding can fit in so successfully on the NZ model – a controversial subject in NZ and at home.

New veterinary roles

Whilst staying in the Waikato region, I also visited two large and progressive dairy vet practices, VetEnt and the Animal Health Centre (AHC). It was interesting to share experiences: both practices faced remarkably similar challenges and opportunities to our vet practice at home, such as recruiting and retaining quality farm vets, balancing fee income and medicine margin to reflect farmers' expectations and meet business costs, and managing practice growth whilst meeting farmers' varied and evolving requirements for vet input.

Both practices were meeting some of these challenges by creating different roles for some of the veterinary team. At the AHC, I met up with Katrina Roberts who having worked as a clinical vet across two of the practice's clinics, now works as a Herd Health veterinarian for all the clinics. This position is an advisory position in the areas of herd-level mastitis, reproduction and lameness work. Her advisory work utilizes resources such as DairyNZ's InCalf and Healthy Hoof programmes in conjunction with data analysis. DairyNZ is very similar to the UK's DairyCo.

Her fee income consists of one-on-one consultancy, facilitating farmer action groups (akin to discussion groups), farmer training, and some funded work for DairyNZ. The majority of her work, however, is "referred" from the 45 other vets in the practice group.

In addition to direct fee work, the practice recognizes that there is value in offering a "support role" for some of the other services and products provided by the practice: for example free-of-charge reviews of fertility performance for clients who use the practice for all their routine fertility treatments and pregnancy scanning.

Katrina's role is supported by other vets in the practice who combine a mix of consultancy and normal clinical work, and Katrina is also able to offer experienced back-up and support to these vets.

Having vets who are non-clinical is not new to the AHC, which also has a very successful clinical research division, separately branded as "Cognosco". Cognosco is involved in

several projects, many of them in collaboration with pharmaceutical companies, or Universities. One such study which caught my attention was looking into the success or otherwise of DairyNZ's In-Calf programme (a scheme to facilitate fertility improvement using a series of workshops, one-to-one advice and data analysis, and training materials). The study was in its pilot stage, but one of the outcomes will hopefully be a better understanding of how vets can better engage farmers in such programmes and achieve better compliance with advice – one to watch.

The DVD and experience swap-shop

From the Waikato, I headed west to Taranaki to meet up with Neil Chesterton, a vet in practice with a well established reputation for lameness work. We were bound to have a lot in common, and after a week in Neil's company, attending a training course he delivered and accompanying him on farm visits, our conversations were going as strong as ever.

In the UK, I have been involved with training vets and farmers in lameness prevention, hoof care and trimming techniques for several years. In partnership with another vet, I instruct an "advanced lameness" course for other vets, so the opportunity to go along to Neil's antipodean equivalent was one which I could not pass up.

Neil, in fact, has been involved in lameness prevention training for many years, and though he is a partner in a private practice, he also has a smaller company called "VETS" (Veterinary Education and Training Services) which provides training DVDs and other material which Neil has developed. I have also made a hoof trimming DVD in the UK – so as parting gifts for each other, we swapped our DVDs. (Though I think I got the better deal, with Neil's package of 5 DVDs covering all aspects of lameness control for my single one on hoof trimming alone!)

Here was a vet who was very actively involved with knowledge transfer. Neil is an enthusiast for his subject, and that combined with his experience and carefully recorded (and filmed) observations of the interactions between cow behaviour and lameness have ensured that Neil is a very popular speaker and trainer around the whole of New Zealand, and even internationally.

Spreading the good word

The particular interest I had with Neil, though, was how he had helped to develop DairyNZ's Healthy Hoof programme, designed to develop this knowledge transfer beyond the scope of those farmers that Neil alone could reach.

A later meeting with Charlotte Glass, who works for DairyNZ and was the instigator of the Healthy Hooves project, threw more light onto the origins of the programme. Charlotte explained that there was no initial intention to involve vets. Indeed, DairyNZ (in its previous form as Dexcel) already had widespread experience in farmer training, usually involving its established network of extension officers and farmer action groups. However, aware of limited successes with previous KT projects, and on canvassing farmers, it became apparent that vets were key opinion formers when it came to cow health subjects, such as lameness.

It was perhaps with some trepidation that DairyNZ decided to work with the vet profession – not least because it would alter the way in which it related to farmers. Whereas previously, the relationship had been DairyNZ →Farmer, it was now Dairy NZ →Vet → Farmer. It also had to develop training material for vets to use in order to then train farmers.

Unconscious incompetence

Meanwhile, simultaneously in another department of DairyNZ, vets were being involved in the delivery of the InCalf programme. Both projects have been going for around 3 years, and DairyNZ is keen to learn from the experiences so far. Neither could be described as a run-away success in terms of engaging farmers, and the jury is out in terms of successful delivery of improvements where the plans are being used.

Whilst a project is underway looking at the delivery of InCalf, a smaller scale assessment by researchers at Massey University of the Healthy Hooves project was also in progress when I was visiting the country. I spoke to one of the field researchers who was interviewing farmers after their experience with Healthy Hooves. For me, one of the more telling questions being asked was where farmers perceived the bottlenecks in improving lameness on their farms. Farmers were asked to rate (score 1-5) whether bottlenecks were lack of time, money, equipment, facilities, investment from farm owners, weather conditions or lack of knowledge/ understanding of lameness conditions. Out of over 30 farmers already interviewed, not a single one had rated lack of knowledge or understanding above 1 out of 5 (most rated it zero).

When it comes to lameness control, in the UK at least, I would rate the biggest bottleneck as lack of knowledge/ understanding – not just farmers', but for us all. There are too few certainties which will improve lameness, and too many uncertainties in the causes of lameness amongst the experts, let alone the individual farmer.

There is a well known model showing the four steps to competence:

- 4: Unconscious Competence
- 3: Conscious Competence
- 2: Conscious Incompetence
- 1: Unconscious Incompetence (don't know what you don't know)

This model suggests that to advance to becoming competent, one must first at least realize that you aren't competent (step 2). I wonder how many of those farmers that scored lack of knowledge/ understanding as a bottleneck to lameness are at step 1, rather than 3 and 4?

Adrian's light bulb moment

There would appear that there is much work to be done:

- in training vets to be effective trainers *and* marketers of these new services
- in encouraging farmers to consider what they might gain from these services

In this sense, there is a lack of supply, *and* a lack of demand, when it comes to vets skilled in knowledge transfer. It might be questioned, therefore, whether there is a need at all, and why bother?! Certainly, where is the change in the dynamic likely to come from?

One answer could lie in another of my veterinary hosts in NZ, Adrian Evans. Adrian described to me how two years previously, he had had a “light bulb moment”, during a conference for dairy vets. Having spent the day listening to presentations about preventative herd health, he realised that for as long as he remained in practice as a clinical vet, dealing with the day-to-day routine of responding to farmers’ requests for short-term problem-based work – sick cows, difficult calvings, treating lame cows, fertility examinations and the like, he would never realise his ambitions to provide the solutions-based advice that he would like to.

That evening, he slipped out for a moment from the conference dinner and phoned his boss to hand in his notice. It was now or never!

Two months later, Adrian started his own company, Compass Veterinary Advisory Services. He became trained in the DairyNZ In calf and Healthy Hooves programmes, and began to slowly build up a client base to deliver the more useful but less valued services that he had wanted to do. With no medicine sales to support his income, and a hard slog to market his services, it was tough going.

Meanwhile, Adrian’s previous employers were receiving grief from their clients: why had they let such a good vet go? Some also found it awkward using Adrian for advice, but having to seek clinical services and medicines from the practice. The old practice offered Adrian a position to continue his work, but within the practice. Therefore, akin to the larger VetEnt and AHC practices I had visited in the Waikato region, the practice now provided two very different veterinary offerings to its dairy clients: the wellies and stethoscope vet, or the flip-chart and lap-top vet.

Win/ win

Some of Adrian’s clients found it hard to initially accept that Adrian was no longer available to see their sick cows, but with time, Adrian has been increasing the amount of advisory input for these same farms. In addition, the practice has found that they have increased their involvement with particularly their larger clients whose veterinary needs were very different to what the practice was offering previously. I accompanied Adrian on a visit to one of these farms, to deliver some staff training as part of the Healthy Hooves plan. It was great to see Adrian using his new facilitation and training skills with such good effect, and to hear the positive feedback from the farmer whose view of the practice had been transformed from a place he bought his drugs, to a service provider which can help his business truly develop. A win/ win situation.

Win/ win was the same phrase used by DairyNZ when they described to me how working with vets has changed the relationship they now have with many of the farmers they serve. After years of working through a paid network of extension officers, they now recognise that a good farm vet can be an integral part of the farm team and a key deliverer of new ideas and practices: “a trusted animal specialist who has a big influence in key on-farm decisions”. Meanwhile, vets such as Katrina and Adrian, and potentially a raft of others like them, now have tools to make their advisory job more effective, and can lift “packages” directly off the DairyNZ shelf to market to clients. As one vet from the AHC commented, “We couldn’t just sit down

and write a national fertility programme; we just don't have the resources. Whereas if it is done at a national level we can use that to benefit our clients, and so can every other vet practice in the country."

The commercial perspective

The integration of KT services into private vet practices was really encouraging to see: there were many lessons here that I thought could be used at home. It was giving practices another string to their bows and helping to forge stronger working relationships with their clients. This last point was particularly interesting: farm vets get on to farms in NZ far less often than in the UK, so the opportunities for strong relationships to develop are fewer, which could potentially make the practice more vulnerable to client loss, or loss of medicine sales. It was interesting that none of the practices I visited felt that the new advisory services they were offering could stand on their own two feet financially (any more than could clinical services), but that the added support they were offering clients was more likely to safeguard their custom, and of course the medicine sales.

New Zealand, like USA and UK, could also see an increasing amount of veterinary involvement coming directly from the large dairy supply companies. I met up with John Howie, a vet who worked for Pfizer. His role included providing technical support for vets in practice for the Pfizer products, but also increasingly involved farmer training. Whereas in the USA, vets working for the pharmaceutical industry worked directly with farmers, John always operated through the local farm vet. His mastitis consultancy, in particular, was a valuable support service which local vets could offer to some of their clients.

Being cynical, from Pfizer's perspective, as long as John's role supported their product sales, it didn't matter. Whilst the *status quo* exists that the local vet is effectively the sales team, or at least the link between farmers and Pfizer, it is important that Pfizer keeps the local vets "on side". However, should there ever be a widespread change in supply of medicines in NZ, such as has occurred in the USA, Pfizer would be in a good position to ramp up their in-house veterinary support team to provide more direct on-farm presence and ensure they maintained their sales.

And finally...

My last contact in New Zealand was perhaps an opportunity to glimpse as far into the crystal ball as possible. Dave Campbell is a vet working for Synlait farms. Synlait is not your usual dairy farm operation, being a fully integrated dairy company, from milking the cows to processing the milk, to selling the final products. It has around 13,000 cows on its own farms and an additional pool of non-owned supply farms.

Dave was initially employed to take over some of the clinical work from the local vet practices, and also prescribe and supply medicines more cheaply than the local vets. This is a model used to some extent in the UK pig industry, and one group of dairy and poultry farms in the South West of England, whereby the savings on medicine costs go part of the way in covering the vet's salary. Potential downsides to the arrangements are:

- recruiting, retaining and paying for a vet of high enough calibre
- providing a 24-hour, 365-day service with only one vet

- the inherent risks associated with reliance on a single vet advice source (who may become out-dated, insular or lazy).

However, the potential advantages are:

- potentially cheaper medicines (though only if bought on scale, when there then may not be enough vet man-power to deal with the workload; more employed vets then mean more salary costs)
- head-hunting a high calibre specialist who is better than previous vet input
- being able to fully integrate a vet into the farm business
- having a vet entirely focussed on one business and gaining particular expertise in the operations of that one business
- not having to share a quality vet with other customers

I guess similar arguments for and against out-sourcing of any professional services could be made by any commercial enterprise.

In the future, because we are likely to see larger dairy farm operations in the UK, the likelihood of those farms choosing to employ their own vet will increase. Alongside this big change to the way dairy vet provision might occur, will be an equally large shift away from clinical work towards more advisory and training work.

I said that Dave was initially employed to provide the clinical services for the Synlait farms which were previously provided by the local vet practices; that role has now changed entirely. The Synlait farms have returned to the local vets for the “wellies and stethoscope” work, because Dave could not physically cover that type of unpredictable vet work on all the farms during working hours, let alone out-of-hours. Once Dave had settled into his job, his employers at Synlait soon recognised that Dave’s strength was in getting to grips with the health and production performance of the individual farms like no-one ever before, implementing stockperson training, and reducing levels of lameness and mastitis on each unit. This led to the development of standard operating procedures, taking the best practices from each farm and implementing them throughout the group, and also using the DairyNZ InCalf and Healthy Hooves plans to raise performance further.

Meanwhile, Dave gets the support of the Synlait board when it comes to recommending investments for better cow health. He can recommend treatments and routine vaccinations and the herd managers can be confident that this advice is truly independent as Dave is not dependent on any margin on medicine sales. Dave has the luxury of never having to send a bill to the farmers, but perhaps the insecurity that his salary must always be justifiable.

This, then, was a role which I envisage could be an important part of the future for dairy vets. The “flip-chart and lap-top” approach is a more effective use of a vet’s time and skills when it comes to financial value to the farm.

Some questions still remain:

- How will the ambulance work be fulfilled? – will it be by vets, by para-professionals working alongside vets, by herds people, by accredited and

trained staff, or by untrained and unaccredited individuals?

- How will animal welfare be safeguarded? - will it be potentially better by having trained and competent stockpersons always available, or should vets always be considered the best option to treat the sick?
- How will vets be employed? – as part of private practice (out-sourced), by large farms and farm groups, by milk buyers/ processors, or by dairy supply companies offering product support?
- What will drive the changes? – demand or supply?

SOME OF MY KEY FINDINGS

I have been struck just how relevant and timely I have found my study to be, both at home, and in each of the countries visited. Perhaps people were just being awfully polite, but they certainly seemed interested and keen to discuss the issues. Most of my contacts wanted to know the answers to the questions I was asking them just as much as I did.

It was gratifying to find some successful niche providers of dairy veterinary KT and consultancy. Often this is outside the structure of normal veterinary clinical practice, for example VetVice in the Netherlands (originators of CowSignals), Dairy Production Systems Ltd (DPSL), in New Zealand, and Evidence Based Veterinary Consultancy in UK. In addition, vets are advising dairy farmers more and more in a capacity of working for dairy supply companies. This was particularly evident in America, and could lead to less independent advice reaching farms.

In terms of more traditional practising vets becoming involved in knowledge transfer, the best examples were in a few of the larger New Zealand veterinary practices. Here, they are experimenting with roles for non-clinical vets (i.e. not the arms-up-backsides-of-cows variety) to become dairy advisors and trainers, and this could provide a successful model to follow in the UK.

The above examples illustrate how the *supply* of vets more skilled in knowledge transfer is being met, but the *demand* for such vets has been difficult to gauge.

In New Zealand, there would appear to be a more developed culture for dairy farmers wishing to pay for their continued professional development (CPD) than in the UK. It was here that I found farmers paying \$NZ 5000 and investing equally heavily in time to attend quality CPD offered by the DPSL vets. Do UK dairy farmers share the same culture and values for CPD?

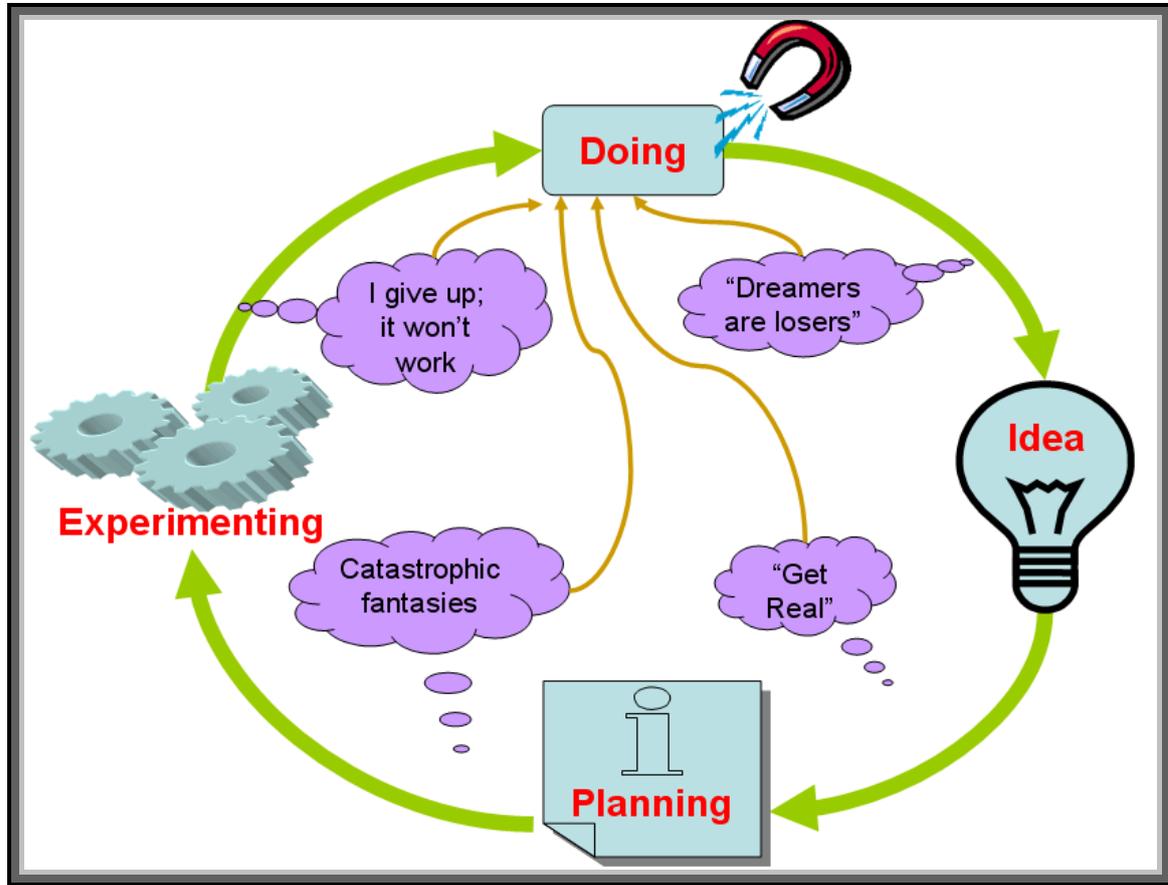
In Wisconsin, I encountered an organisation called PDPW (Progressive Dairy Farmers of Wisconsin) which is a large farmer led charitable organisation set up to allow farmers to take control and responsibility for their own CPD and staff training, much of it delivered by vets. Again, this would suggest that there is a culture for valuing CPD. Whilst the organisation receives no government or levy funding, commercial sponsorship is never far away, which seems to be a continual theme in America. With the pharmaceutical and feed industries heavily subsidising much of the training, the independent nature of this could be questioned.

During the course of the year, I have also learned a huge amount about communication skills and the social science aspects of KT. Many new subjects have been introduced to me, including the subtleties of facilitation skills, rather than advisory skills; the process of behavioural change; adult learning styles; factors affecting motivation, and novel communication techniques. I have discovered a whole new vocabulary, including “free actor networks”, “participatory epidemiology” and “participatory learning activities”. This new soft and fuzzy world often seems a long way away from the traditional hard-edged world of veterinary science. But I like it!

A stark realisation I had is that “knowledge transfer” is not as important as facilitating change. Facilitating change is a far more complex, but more valuable issue to explore.

The Cycle of Change

To help understand the process of change, and how a vet may influence it, I discovered a model which has been proposed, originally to describe the process of quitting addiction. This is termed the “cycle of change”.



Change is a fascinating process. Some people do it readily, others less so. For most people, the status quo “doing phase” acts like a magnet, and there are many reasons for returning there – many of them good. There are also individuals, farmers included, who embrace change and will take themselves round the cycle repeatedly, and rapidly, in many different areas of their lives. There is no “right” or “wrong” type of person, but for a vet trying to influence change for a farm client, it may help to understand what type of person he or she is.

Imagine a big change. Perhaps the decision to get married, change jobs, change career, or move country. Imagine buying a camper van to travel overland to India.

To pursue the dream and complete the change will involve a whole range of thoughts and emotions. The process may take a long time, or be rapid; it may or may not be completed of course.

With any change, we all start at the beginning: the “doing” phase. This is the here and now. It is the getting up, going to work; walking the dog; fetching kids from school; supermarket shopping; eating; washing; going to bed; going out; doing the garden. It is living our current lives.

The first requirement for change to happen is to have an idea: the imagination and the dream. Some people find this very easy to do. You probably know someone just like this; always full of mad-cap ideas, enthusiasm and plans. You may be like this yourself. Other people, however, do not find this easy. They belong to a “heads-down, just get on with it” camp. They may lack the confidence to dream, or they are just conditioned to think “dreamers are losers”. You may be able to think of a farmer who does something a certain way because his dad did it this way, and his dad’s dad before him. Certainly, for many things, getting started on the cycle is not worth it, and there is very often nothing wrong with contentment with the status quo. Sometimes, though, it may be the vet’s role to encourage change; show a farmer that another way is possible, and coach him to take this initial step.

OK, so we get to the idea stage. We at least have the dream. We at least imagine that buying a camper van is in the realm of fantasy, if not reality. But what if we want to take the dream to the next stage? We then have to start to prepare. Oh, but no way! Throw in a good job to go off travelling?! No chance! You must be mad!...Welcome to the “get real” feeling.

An example in a vet-farmer relationship could be when sound advice to convert to sand cubicles to reduce a lameness problem is met by 101 reasons why this would be wholly impractical, nay, impossible, for this particular farm, and didn’t you know, by the way, that sand and muck spreaders don’t mix?! Get real! The change is nipped in the bud: back to stage one, pronto! ...Unless the vet has the ability to coach the farmer beyond this initial fear phase.

So perhaps progression to the planning stage could occur. This is the rational stage of change. It is when pros and cons are weighed up. Lists are drawn, advice is sought. The costs of giving up work for 6 months and buying the camper van are calculated. Often there is no right or wrong, just a balance of probabilities and thorough examination of risks. No-one can be guaranteed that life will be better after travelling to India in a camper van; it may get worse: you may be kidnapped in Pakistan or break down in Bulgaria. However, it could be the adventure of a lifetime!

For the farmer with the sand cubicles, an obvious role exists for the vet in assisting the decision process. The farmer will consult with builders, lenders, other farmers who have sand bedding. The vet will give advice, cost benefits, and data analysis of the lameness situation.

It may be that the cons outweigh the pros. Whether the decision to stick to “doing” is based on rational argument or irrational fear of catastrophe will depend largely on the individual and the quality of input in the planning stage. It is perfectly healthy to get this far around the change cycle and then dismiss the idea. It may be true that in this case, the problems of dealing with sand in the slurry do outweigh the potential benefits of better cow comfort. It may also be the case that giving up work for 6 months is totally unaffordable and impractical – and anyway, the idea of a camper is probably a lot more romantic than the reality!

Conversely, the farmer may take the plunge. At some point, the planning phase moves to a point of “no return”. This is described as “crossing the Rubicon” – the point where a binding commitment is made to the change. For the farmer, that may be arranging the finance, appointing the builder, and pulling out the old cubicle mattresses. For you with your camper, it could be handing in your notice at work.

Then, you, and the farmer, move into the “experimentation phase”. The change is not completed, and it would be foolish to think differently. For the farmer, he must

experiment with different amounts of sand, frequency of bedding and overcome teething problems. The vet will be very necessary in ensuring that this phase is successfully negotiated.

Meanwhile, you still have a lot to do to complete your change: you have to sort permits and visas; you have to ensure you know how to keep the camper running, and you have to work out a sensible route to avoid any hiccups with the Taliban. In short, you have to make your decision work for you.

After a while, though, both the farmer and you will be back to the “doing phase”. It will be normal everyday life for you to wake up, drive a few hundred miles, find somewhere to re-fuel, somewhere safe to stop for the night, and soak up the adventures of the trip. It will also be routine for the farmer to manage his new sand cubicles, deal appropriately with the slurry, and hopefully enjoy having happier, less lame cows. At this stage, you have both completed the cycle of change.

CONCLUSIONS

1. The free market can lead to market failure. Dairy farmers ought to have available to them independent veterinary advice and input, in order that they are not railed into a high-dependency system of farming. There is a real danger that veterinary input (and research) in the future becomes wholly dependent on supporting sales of products (as is becoming the case in USA). To avoid this, farmers must recognise the value of paying for independence, and be mindful of changes that are occurring in the viability of delivering private veterinary practice.
2. Vets must invest in new skills. It is not sufficient to have the knowledge; vets must learn to be more effective communicators and consultants. They must learn to market their new selves effectively. Private practice should expand their service offerings to include “facilitation and flip-chart” vets alongside the “muck and magic” vets, to better cater to farmers’ needs.
3. The industry must develop and support advisory “products”. Learning from the success of DairyNZ’s InCalf, HealthyHooves and mastitis reduction programmes, having defined packages with quality support materials and training are very valuable in enabling vets to engage more effectively in improving dairy cow health. These tools also facilitate marketing this new advisory approach, and make it easier for the farmer to see what he is paying for.
4. Dairy farmers and vets must strive for a more *intelligent* veterinary input. Paying vets to plug holes in a breaking system is not as effective or valuable as paying vets to help improve the system. Ultimately, we should strive for an industry less dependent on veterinary clinical input, and fewer vets per 10,000 dairy cows. This will involve greater use of trained para-professionals and greater professionalism of the herdsman.

OUTCOMES

My year has been marked by a fantastic time travelling and thinking. At all times, the question at the forefront of my brain has been how can farm vets become more effective at improving the health of the UK dairy industry?

Specifically, there are four opportunities at home where I have tried to influence some change:

1: FarmSkills

XLVets is a group of forty six independently owned, progressive veterinary practices that are all committed to the future of the UK livestock industry. As a XLVet member, I was elected to chair its Working Group on knowledge transfer. Last year, we launched “FarmSkills” (www.farm-skills.co.uk), a veterinary-led training organisation offering practical stock-person training across the UK, tailored to farmers’ requests. A key aspect of FarmSkills is that all trainers are themselves trained trainers, which is significant progress towards vets developing key communication skills for successful KT delivery. So far, approximately sixty “XL” farm vets have completed a bespoke training course in order to learn how to be better trainers, with many going on to gain a Lantra training qualification. In itself, I see this development as fantastic progress in developing a farm vet’s role to encompass greater skills in facilitation, and lead to far more effective work than traditional clinically-based activities.

2: A national programme for lameness reduction

Stemming from my previous interest in lameness prevention and the experiences of the past year, I produced a simple poster titled “No More Lane Excuses”, describing the elements needed to successfully bring about changes on farms to reduce lameness. This was presented at the 2010 national Cattle Lameness Conference, where it caught the imagination of the delegates sufficiently to win an award. Working as part of a team, I am helping develop this into a national DairyCo lameness reduction plan. The first-hand knowledge of the USA First-Steps and NZ Healthy Hooves programmes which I gained during my travels is invaluable in this project. Last year, DairyCo launched a national Mastitis Control Plan, involving trained vets and non-veterinary advisers. So far, the implementation of this plan has exceeded DairyCo’s expectations. I hope that a national lameness reduction plan will be equally, if not more, successful, and that these DairyCo products can shape the future of dairy vetting as much as those I witnessed by DairyNZ which are changing the way New Zealand vet practices are operating.

3: Promoting the value of communication skills amongst farm vets

Spurred on by my experiences in the Netherlands, I have written an article about communication in farm animal veterinary practice. This was peer-reviewed and published by “In Practice” magazine. This is the main CPD journal for UK practicing vets and the sister journal of The Veterinary Record, published by the British Veterinary Association. This article has been well received, and will hopefully highlight some of the benefits of good communication in the veterinary profession, as well as serve as a useful reference source.

4: Changing the way we work in our practice

Our practice strap-line is “First in the Field”, and we aim to be some of the most farsighted and entrepreneurial farm vets in the country. We are keen to implement some of the best practices learned during my travels. Part of this will be to experiment with ways to successfully integrate non-clinical and clinical work within a practice environment to better meet our clients’ needs.

For my part, when I swap the usual tools of my trade, stethoscope, rectal gloves and a tray of medicines, for new tools, my ears, eyes, mouth, and possibly a flip-chart, I am confident that a very different, but more effective veterinary service for dairy farmers can be delivered. I am enjoying this diversification from clinical work and am relishing the challenges of marketing this new type of vetting to an evolving dairy industry.

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Disclaimer

The views expressed in this report are entirely my own and do not necessarily represent the views of the Nuffield Farming Scholarships Trust, or my sponsor (The Trehane Trust) or any other sponsoring body.

ACKNOWLEDGMENTS

This study has only been possible due to the generosity of time given by all the many people that I met and talked to along the way. Many of those individuals have been referred to by name in the report, but there are many more who have not. I hope that those whose name I did not mention do not feel that my time spent with them was any less useful: I learned something from everyone.

For those who are mentioned by name, I hope that you feel I have not misrepresented you or your comments or beliefs in any way. I made notes at the end of each day during my study, and tried to summarise what I learned, but it is possible that some things were lost in summarisation which could alter the sentiment of what was said, or I have interpreted in a way which does not reflect the same reality. Or I may just have got my facts wrong.

In addition to generosity of time, many of my contacts were also incredibly generous in taking me into their homes for a night, or up to week or more, incorporating me into their lives and families without complaint. In particular, I would like to thank Joep Driessen, Jan Hulsen, Dave Wieckert, Bryan McKay, Neil Chesterton, Adrian Evans, John Howie and Jason Darwen, and their families. I enjoyed the company of you all and your hospitality made this study so much more rewarding than if I was spending each evening alone.

I am very grateful to my partners and veterinary colleagues at work who allowed me to take so much time away from the practice, much of it at a time when it was particularly busy with already one vet down. Similarly I am grateful to everyone else who works at Lambert, Leonard and May who has helped me by taking interest in my trips and encouragement along the way, and also because I know that it creates more stress for everyone when we are short of vets on the ground. I am particularly indebted to Dan Stevenson who lost over a stone in weight and some of his last remaining hair whilst taking on the bulk of my routine work in my absence in addition to his own.

Whilst most of our farm clients would not have noticed my absence, there are particular individuals who I visit on a regular basis – my “routines”. I am grateful to these farmers for their support throughout the year, and again for their patience during any disruption caused by my absence. And for not being too abusive when I returned in January with a perma-tan fresh from the Antipodes. One of these farmers, Arthur Fearnall, deserves particular thanks for pointing me in the direction of a Nuffield Scholarship in the first place.

I am very grateful to the Nuffield Farming Scholarships Trust, and my sponsors, The Trehane Trust, for their generosity in awarding me the scholarship. The whole experience has been incredibly rewarding, from the initial interview onwards, and I feel entirely fortunate that I have been able to benefit from it.

Above all, I thank my wife, Laura, and three children, Dylan, Jude and Lola, who all had to stay behind in cold, wet November whilst I jetted off on my exciting travels, and who have given up a shed load of my attention for my “Nuffield” without too much moaning at all. I am especially grateful to Laura – I find being a single parent to our three hard enough for half an hour, let alone a month or more!

Thank you, too, for taking the time to read this report. I hope you enjoyed it.