Preparing tomorrow’s vets

The Embryo Vet School was set up in 2005 to give schoolchildren a realistic view of what it is like to work in the veterinary profession. One of its directors, Tony Andrews, discusses its aims.

Traditionally, there has been a strong demand for places at veterinary schools, despite an increase in student numbers and the establishment of Nottingham vet school.

In the distant past, many of those planning to study veterinary medicine had had exposure to farming, and were aware of the activities of veterinary surgeons on farm or at the local practice. Increased urbanisation of the population has meant that most wishing to enter the profession have limited knowledge of veterinary work except from work experience.

While work experience can be helpful, it is, at best, a snapshot of veterinary work and may exaggerate a glamorous side to the profession. This ‘exciting’ image has been perpetuated by a number of television programmes, from ‘All Creatures Great and Small’ through ‘Vet School’ to ‘The Bionic Vet’, with others in between. While these programmes help to sustain the good general image of the profession, they tend to make the career appear more exciting and less mundane than much of the day-to-day work actually is. It is, therefore, not surprising that many wishing to enter the profession may have a skewed impression as to what the profession does and what is involved.

This lack of exposure to veterinary work and rural or farm life prompted the creation of Embryo Veterinary School (EVS). Its aim was to give older schoolchildren an introduction to some of the realities of veterinary practice and show them what working with farm and companion animals is like. Another aim was to try to help them to determine whether they really did want to be a vet, while promoting farm animal practice as a career for those that did.

We felt that, with the increased education of farmers and the sophistication of approaches to animal health and preventive medicine, it was too late to expect most undergraduates to learn enough at veterinary school to give them the competence and confidence to enter large animal veterinary practice. The best way to tackle this was to create an interest in farm animals and allow them to obtain further experience before they entered university. Then, as undergraduates they could build on their experiences throughout their veterinary training.

The course

The course is held on a farm in Devon over a long weekend. It is intensive and has small numbers to allow a good staff-student ratio. This makes it relatively expensive to run, which is not helped by a lack of affordable local accommodation.

It is a mixture of practical sessions, group interactive exercises and didactic learning. Students are exposed to the main species of farm animals, including cattle, sheep, pigs and poultry, as well as companion animals – horses, dogs and cats. They learn to handle the animals and how to do certain routine tasks. They become involved in dissections, as well as seeing postmortem examinations. They are shown how their A level biology relates to the animals that they are dissecting and seeing at postmortem examination.

In the teaching periods, mention is made of different veterinary careers, with advice on being realistic about their expectations of the profession. Topics considered include the financial costs of studying veterinary medicine, alternative careers with animals, preparing to apply for veterinary school, the problems experienced by veterinary surgeons, and why some leave the profession or change career. The students also have the chance to hear from undergraduates who describe their experiences at college.
Ten-minute chat

Joe Brownlie is Emeritus Professor of Veterinary Pathology at the Royal Veterinary College and head of two active research groups, one on bovine viral diarrhoea virus and the other on canine infectious coronavirus disease. He developed the first BVDV vaccine that gave fetal protection.

What got you interested in pathology/BVDV?
I didn’t start my career thinking that I would do either pathology or viral disease research. In fact, I was just relieved to qualify. I wanted to complete a year or so in mixed practice and then return to take a PhD in biochemistry. I thought this was where the exciting science was, but, during the course of this study, I realised that I wanted to do immunology. I obtained a Royal Society fellowship to work in Australia, where I studied recirculating lymphocytes in sheep and the cannulation of afferent and efferent lymphatic ducts of every kind – even fetal lymphatics. This experience of working in the medical school in Australia was a ‘career-changing experience’.

Arriving at the Institute for Animal Health (IAH), Compton, I was keen to put my new found skills and knowledge to best effect. I wanted a veterinary disease that had an immunological question to answer and I chose bovine viral diarrhoea virus (BVDV) infection, but this was refused by the director as not being an important virus or important endemic disease. My persistence, like the virus itself, gradually won through. Joined by two IAH colleagues, we proposed and proved the aetiology of mucosal disease in 1983/4.

So then I became interested in pathogenesis and, because of this, studied virology and pathology. Our interests moved on to fetal infections with BVD, and that meant I needed to train in embryo transfer and embryological techniques. At the same time, we moved into the molecular mechanisms of viral mutation between (and within) BVD biotypes and this required a deeper knowledge of molecular virology. Since then we have discovered new viruses in cattle and dogs, and had some fun along the way. I think we have supported about 30 PhD students during this time along with many student projects.

How did you get to where you are today?
The truth is I didn’t really know where I was going except I was truly fascinated by the science of disease, particularly veterinary diseases. What has been liberating has been not only having a research career but one that has not been restricted to a single discipline. During some 40 years in research, I have picked up skills in immunology, pathology, etc., that permitted us to answer complex questions of pathogenesis.

Veterinary education gives us a broad vision and the confidence to direct multi-disciplinary research.

What do you like about your job?
The challenge of solving problems, working with fine colleagues and occasionally having some impact or influence on policy both at home and overseas. I have a strong commitment to a One Health agenda, particularly as it affects Africa.

What do you not like?
The precariousness of supporting young researchers, and have the opportunity to be an active member of our profession, has given me huge pleasure. I am proud to be an outstanding mentor in your early career – forget about salaries as far as you can.

What do you not like?
The challenge of solving problems, working with fine colleagues and occasionally having some impact or influence on policy both at home and overseas. I have a strong commitment to a One Health agenda, particularly as it affects Africa.

What was your proudest moment?
That’s just too difficult to answer. I have had a number of moments that have given me huge pleasure. I am proud to be an active member of our profession, to be in the company of clever young researchers, and have the opportunity to speak with and to many audiences.

. . . and your most embarrassing?
While working at Compton, IAH, I had to enter the high security unit with my male PhD student. Before entry to the unit, you needed to pick up a watertight box, collect into it your protective clothing, strip, shower and go through to ‘the other side’. On this occasion on reaching ‘the other side’, I opened my box only to discover it contained frilly ladies underwear. I wasn’t going to return through the showers so, with a serious look, I told my student I always wore them. I possibly wish I had paid more attention before entering the shower that morning!
Ten-minute chat

Joe Brownlie

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