



Cornell University Leadership Program for veterinary students

The need for scientific research to advance veterinary knowledge is a universally accepted concept in veterinary education. Yet the vocational commitment of veterinarians to clinical practice and the limited exposure of veterinary students to discovery through research, means that few veterinarians embark on research careers. In 1997, an enquiry into veterinary research in the UK expressed concern "that undergraduate veterinary education is so focussed on preparation for practice that it does not give students a proper understanding of the roles of research in advancing veterinary science".¹ This view was forcefully endorsed by Ogilvie in the 1998 Wooldridge Memorial Lecture in which she expressed the need for a culture change in approaching veterinary research.² Despite this, there is still considerable research being done in the general field of animal health and welfare, but much of it is undertaken by scientists without veterinary qualifications. Of course there is nothing wrong with non-veterinary scientists using their skills to solve veterinary problems. However, veterinary graduates, with their broad biological knowledge base and training in comparative medicine, can have a special aptitude and insight for biomedical research. Their reluctance to join in efforts to solve problems through research, surely limits the rate of advancement in knowledge of veterinary science.

A recognition of the small proportion of veterinarians in biomedical research and the lack of interest by veterinary students in careers in science, was the stimulus for Douglas McGregor of the College of Veterinary Medicine at Cornell University to address this problem.^{3,4} He decided to raise the awareness of students about the way knowledge was generated from fundamental research and to provide guidance about the possibilities of careers in veterinary research. In 1990, he established the annual Cornell Leadership Program for Veterinary Students, which selects up to 25 gifted students from veterinary schools around the world. Each student is given a biomedical research project under the supervision of a distinguished mentor, with the expectation that significant new knowledge will be discovered during the 10 weeks of residence at Cornell University. The generous stipend and accommodation costs received by each student are funded by sponsoring US Government agencies, private foundations and industry. Apart from providing research experience, the Cornell Program fosters the development of skills in communication, in decision-making and in the critical analysis of complex issues.⁵ There is special emphasis on the challenge which emerging diseases pose for veterinary research and the students are especially encouraged to

learn from eminent scientists who are invited to engage them in wide-ranging discussions.

Most of the group activities require preparation in advance by the students, followed by oral presentations where they explain the strategies they have developed to meet particular tasks. One exercise, for example, is to design, develop and market a new drug to prevent or treat a common animal disease. The students, in competing teams of hypothetical pharmaceutical companies, demonstrate their knowledge of pathology, molecular physiology and pharmacology in the presence of real pharmaceutical experts who provide feedback on the strategies proposed. In all aspects of the Program, the underlying message is the importance of seeking postgraduate training of the highest quality, if these prospective veterinarians are to best use their talents in the advancement of knowledge through research.

Over the 16 years the Cornell Program has been running, 359 students from 54 veterinary schools around the world have been selected to participate. Of these, 66 have come from Australia (Table 1). It is still too soon in the life of some of those who have graduated to determine how the Cornell experience has affected their choice of career. Nevertheless, many of the Australian alumni have spoken of the great impact the experience had on forming their personal ambitions. As can be seen in Table 1, about 40% of these have proceeded to formal research training in PhD or masters degrees and over 20% of the alumni have undertaken residency training to obtain specialist veterinary qualifications.

Perhaps the ideal career path envisaged by the Program organisers is that of a translational scientist, where the graduate acquires both veterinary specialist and scientific research qualifications and who then has the rigorous skills required to unravel the mysteries of animal disease. At the moment it appears that about 40% of the Cornell Program alumni from Australia are in the process of establishing themselves in academic or research positions while a similar percentage have followed the traditional path of veterinary practice. These figures are remarkably similar to those for the Program alumni as a whole, and suggest that the Cornell experience was influential in shaping the careers of these veterinarians. Regardless of the impact that participation might have had on their future professional activities, all of the alumni from Australia have expressed the view that the experience of living together with like-minded students from around the world in this privileged, intensive research training programme, has created life-long friendships and greatly enriched their appreciation of veterinary science.

Table 1. Details of Australian veterinary students who have participated in the Cornell Leadership Program

No. of participants	
University of origin	
Melbourne	2
Murdoch	3
Queensland	15
Sydney	46
Total from Australia	66
Postgraduate Training	
	Percentage
PhD degree	34.8
Masters degree	6.1
Internship	19.7
Residency	21.2
Current career paths	
Private practice	39.4
Academia & research	40.9
Industry & other	6.1
Early career or undecided	13.6

The selection of veterinary students to participate in this programme is made by a committee at Cornell University in January each year. A wide range of criteria is applied rigorously by the committee in choosing those who are to receive offers of a place in the next Cornell Program. The basic eligibility requirements are that applicants should have completed at least one year of a veterinary degree by the start of the programme in June; they should be at least 6 months from graduation and they should have a strong interest in research to solve veterinary and biomedical problems. For veterinary students at Australian universities, there is a special limitation on when an application can be made. This is imposed by the constraints of each Australian veterinary curriculum, which determines when students would be able to work at Cornell University from June to mid-August, without missing essential tuition in their degree. Details about the Cornell Leadership Program for Veterinary Students and how to apply, can be found on the Cornell University web site:
<http://web.vet.cornell.edu/public/research/leadership>.

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