

Rethinking Veterinary Education

31 August 2022

A Review of Veterinary Education in Australia and New Zealand

Veterinary Schools of Australia and New Zealand (VSANZ) comprises the eight veterinary schools of Australia and New Zealand, who work together to advance veterinary education and research in the region.

VSANZ has commissioned a comprehensive review of veterinary education in Australia and New Zealand by an independent expert panel. This review, the first of its kind in Australasia, has been prompted by rapidly changing veterinary and educational challenges, and recognition that the model of training and registering veterinarians has not fundamentally changed for decades.

Expert panel

The review is being conducted by an expert panel comprising:

Dr Helen Scott-Orr AM PSM (Chair) – former Chief Veterinary Officer of NSW, Hon. Associate Professor University of Sydney and Australian Inspector-General of Biosecurity;

Professor Grant Guilford – former Head of the Institute of Veterinary, Animal and Biomedical Sciences, Massey University & Vice-Chancellor of Victoria University of Wellington, current Chair of the New Zealand Veterinary Association; and

Professor Susan Rhind – Principal Fellow of the Higher Education Academy, Chair of Veterinary Medical Education and Director of Veterinary Teaching at the Royal (Dick) School of Veterinary Studies, University of Edinburgh.

Making a submission

Many different stakeholders play important roles in veterinary education. To ensure sustainability of veterinary education and secure Australasia's future in 'One Health', biosecurity, food production and animal welfare, each of these stakeholders will need to contribute to positive change via their various mandates. You are strongly encouraged to make a submission to the review, addressing some or all the terms of reference.

This discussion paper aims to canvass stakeholder ideas on if and how veterinary education needs to change to meet the foreseen demands of the next decade and beyond. Questions that include and expand upon those asked in the Review terms of reference have been broadly categorised into stakeholder groups, but many questions are relevant to multiple stakeholders. Please feel free to comment on any questions, not just those appearing in your stakeholder section. Parties wishing to make a submission to the review need not address every question.

Submissions are required by close of business on Friday, 28 October 2022 and should be emailed to veteducationreview@vsanz.org.

Further details on the review can be found at <https://vsanz.org/review-of-veterinary-education>. The review secretariat can be contacted at veteducationreview@vsanz.org.

Review Terms of Reference

The global veterinary profession faces enormous challenges meeting the growing needs of farmers, pet owners and governments to safeguard biosecurity, animal welfare and population health. These well-documented challenges have been building for many years, but COVID-19 has brought them into focus and added urgency to calls for major strategic change to the way countries approach veterinary education, research, regulation and service delivery.

Veterinary courses are among the most expensive of all university professional programs to deliver. The high cost reflects the demands of delivering a comprehensive clinical training program across a range of animal species and external accreditation standards, which are driven in turn by the high regulatory standards set by domestic and international veterinary education accrediting bodies acting on behalf of veterinary regulators. Accreditation standards include numerous delivery requirements not faced by most professional courses, including strict student to staff ratios and the condition that students can experience clinical teaching for both large and small animals through either University owned veterinary teaching hospital facilities or in collaboration with external partners.

The Australian Government's Job-ready Graduates changes to higher education funding provided a welcome seven per cent net increase in funding for each new Commonwealth-supported student from 2021. However, for some Australasian veterinary schools there remains a substantial gap between total funding received for each enrolled domestic veterinary student and the cost of educating them. The Job-ready Graduates package also changed the way universities are funded to support core veterinary science research, effectively removing the 'base research' component from the Commonwealth Grants Scheme (CGS) and implied from student contribution amounts. Australasian universities have for decades covered their funding shortfall for veterinary teaching and research through a range of strategies, including: increasing enrolments to dilute fixed costs; the provision of full fee-paying places for domestic and international students; reductions to central overhead charges and, ultimately, by cross-subsidising from revenues earned by other faculties, philanthropy and other sources.

The pandemic and the prolonged international border closures of Australia and New Zealand have profoundly impacted the operations of the nations' universities and eight schools of veterinary science. Each veterinary school operates in a different institutional, funding and regional context and has experienced the effects of the pandemic differently. However, well before this crisis they had acknowledged collectively through VSANZ that continuing with current approaches to veterinary science education, accreditation and research would not be sustainable, nor would it see them capable of delivering on Australasia's long-term needs for workforce renewal and enhanced research capability. It is within this context that the Review will consider the following key questions: -

1. What are the key skills, knowledge and attributes that veterinarians will need in the next decade? How can accrediting bodies, the profession, Australasian universities and governments work more effectively together to ensure that students leave veterinary schools equipped with transferable competencies needed for long and successful careers as veterinarians, as well as take account of the continued financial pressures faced by universities to sustain high-quality veterinary science programs?
2. Looking ten years out, what are the key challenges and opportunities that veterinary schools in Australia and New Zealand face in terms of their responsibilities to educate and train their future veterinary workforces? What needs to change to ensure the schools can address the identified challenges and take advantage of the opportunities over the next decade? Specifically:
 - What opportunities are there for structural reform to make Australasian veterinary schools financially sustainable? What have been the key learnings from the disruption to veterinary schools caused by COVID-19?
 - Is there a place to develop a new kind of professional Australian and/or New Zealand veterinary qualification, which has modularisation/specialisation (e.g. companion animals, livestock, equine, poultry, exotic) options – whether at an early or post-primary-qualification stage – focused on the requirements of the nation? If so, how should this be achieved?
 - Can we make changes of the kind described above and still retain the ability of Australia and New Zealand to contribute to a global, mobile veterinary workforce with mutual recognition of qualification and freedom of movement, that is, to continue to attract overseas students and practitioners?
3. How strong is the research performance of Australasian veterinary schools in the global context? What is the nexus between a veterinary school's research capability and its capacity to educate veterinarians suited to the modern workforce? What could be done to optimise the education / research mix of veterinary schools?

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The changing contribution of veterinary graduates to society

Veterinarians today make a critically important contribution to society. They provide care for the health and welfare of companion animals, livestock, performance animals such as horses, laboratory animals and wildlife. They help to ensure livestock production systems are efficient yet maintain high welfare standards. Vets also play vital roles in defending the high biosecurity status of Australasia, protecting public health, assuring food safety, and conserving wildlife species.

The veterinary profession and its supporting education system developed in the early twentieth century strongly focussed on maintaining healthy horses and farm livestock, because of their critical roles in transport and in food and fibre production. Part of veterinary training linked strongly to agriculture as vets needed to understand farming systems. They had to be able to handle large animals in the field, to diagnose and solve their health problems, with few specialist facilities.

While horses' transport roles were superseded by cars and trucks, horse racing and horse riding remained embedded in Australasian society. Today, equine veterinary practice has become more specialised reflecting the high value of horses and greater application of complex diagnostic and treatment procedures for them.

After the Second World War, farm livestock production (for meat, milk, eggs, wool and leather) remained very important to the Australasian economy for both domestic and international trade. There was growing demand for better animal health and welfare, to deliver these products efficiently, safely and humanely. Several serious and zoonotic diseases were eradicated, and food safety and public health standards were continuously improved. Veterinarians in government and later in industry led these programs, working with international counterparts to create defensible quality assurance standards. The veterinary curriculum was expanded to incorporate research findings in many disciplines that supported these developments. Nevertheless, as good farm practice and herd / flock health programs have been adopted widely, the proportion of veterinarians servicing farm livestock has declined, both in Australasia and internationally. Lifestyle choices can also contribute to a desire for more veterinarians to work in urban areas.

Since the late twentieth century, the population of working dogs, traditionally used to muster sheep and cattle, has diminished, though specialised sectors of guard dogs, sniffer dogs and assistance dogs remain critical for different needs. Dogs, cats, and other small animals have become ever more important as companion animals, increasingly filling social needs as societies urbanise – a trend that has been hugely magnified during pandemic lockdowns. This has increased demand for sophisticated medical and surgical, and even psychological, treatment of pets, analogous to human medicine, and so has increased pressure on universities to produce graduates who are skilled in these fields.

An emerging area has been veterinary involvement in wildlife biology and conservation. In zoos and aquaria, in national parks and the wider environment, managing diseases and preservation of endangered wildlife have become ever more important, to prevent expanding our unenviable extinction record.

A significant proportion of veterinary graduates participate in society and the economy through roles outside veterinary clinical and veterinary non-clinical practice work. A veterinary degree provides a strong foundation for careers in research, education, policy development, regulation, and the pharmaceutical and other industries. Macro trends in the economy, environment and society argue for an even greater role for veterinary graduates in coming decades. These include increasing frequency and severity of extreme weather events; a greater risk of biosecurity threats and emerging infectious and zoonotic diseases such as COVID-19; growing pressure on wildlife populations; higher expectations of society in respect to animal welfare; and increasing reliance on companion animals.

The changing face of the veterinary profession

The veterinary profession in Australasia (and globally) has changed significantly over recent decades. Veterinary students are some of the brightest and most idealistic of all new entrants to university. The admissions process for students continues to select for those of ever higher academic performance, due to competition for scarce places. Given the low drop-out rates that characterise most veterinary programs, admissions decisions effectively define the future make-up of the profession. Yet the profession suffers from limited diversity and a current looming or already realised recruitment crisis. There is relatively little robust empirical research on the effectiveness of current admissions processes.

The gender mix of students has reversed. Students were almost exclusively male in the early days of veterinary schools. Gender parity was reached by around 1990 and the proportion of females has increased ever since. Currently, almost 80% of veterinary students are females. This shift is 'washing through' the veterinary workforce. In the Australian Veterinary Association's workforce survey of 2021, over two-thirds of respondents were female. In New Zealand in 2019, the median age of male and female veterinarians was 51 and 38 years respectively. Similar trends in the number and gender of graduates are observed in the UK and US.

The number of veterinary graduates per year has increased dramatically. Three of the current eight veterinary schools opened within the last 20 years and existing schools have increased their intake, so that the number of veterinary degree completions in Australasia is projected to rise from less than 500 in 2008, to over 900 by 2025 (of whom around 20% are international students). Yet, despite the large increase in the number of graduates, the profession is currently experiencing an acute shortage of practitioners, a global phenomenon.

Accreditation and graduate registration

To practise, veterinary graduates must be registered under relevant legislation as veterinary practitioners by the veterinary boards of all Australian states and territories and the Veterinary Council of New Zealand.

Most veterinary schools in Australia and New Zealand are accredited by the Australasian Veterinary Boards Council (AVBC), an entity formed by, and acting on behalf of, the different boards. Accreditation recognises a school as producing graduates eligible for veterinary registration in any of these jurisdictions.

The AVBC maintains a series of Standards against which schools are assessed. The recently reviewed Standards meet current international best practice, support quality veterinary education and ensure all veterinary graduates meet agreed 'day one competencies' (DOC), also recently reviewed¹. This process has been highly effective in ensuring Australian and New Zealand veterinary schools produce graduates recognised internationally for their high quality. Indeed, the qualifications of graduates of AVBC-accredited schools are recognised by the United Kingdom, North America and other parts of the world, and Australasian schools train many international students each year. However, some argue that the Standards and underpinning legislation of AVBC (and other accrediting bodies such as the UK's Royal College of Veterinary Surgeons and the American Veterinary Medical Association) constrain the ability of schools to be more flexible and innovative in the way they train veterinarians.

A basic principle is that veterinary graduates must demonstrate a certain level of competence in the medicine and surgery of all major species – the 'omnicompetent' vet. This paradigm prevails across the world. Yet, an increasing proportion of graduates will work only with small animals. However, others may move from an initial period in veterinary practice to other roles that draw on the complex understanding of animal health in different species that is produced by the omnicompetent model of veterinary education.

¹ <https://avbc.asn.au/accreditation-standards-review>

Veterinary education: structure, curriculum and teaching

Evolution of veterinary curricula internationally

Last century, most veterinary curricula followed a similar linear pattern – a five-year course, with early years of fundamental sciences, moving from understanding how healthy animals worked, to how disease processes and agents operated, and in then later years translating this into the skills of clinical diagnosis, medicine and surgery. This was similar to medical curricula, with possibly more emphasis on developing underpinning pre-clinical or analytical skills to solve presenting problems in many different animal species from first principles. There was overlap with agricultural training in livestock nutrition, genetics and management; and with medical curricula in many subjects, especially histology, pathology, microbiology, pharmacology and epidemiology. An emphasis on practical training in handling and management of large and small animals has remained an essential element of Australasian veterinary curricula, for both safety and effectiveness of veterinary practice.

There is now much more integration within curricula and generally less division between 'preclinical' and 'clinical' subjects. These changes reflected recognition of content overload and the need to rebalance factual knowledge with the clinical and problem-solving skills and professional attributes required to succeed in the profession. Some schools have also introduced graduate entry models where a relevant general science degree allows access to a shorter a three- or four-year Doctor of Veterinary Medicine.

Most veterinary curricula now address clinical, problem-solving, communications and professional skills from first year, although clinical rotations occur mainly in the final year. There is increasing emphasis on concepts of one health, global health and sustainability, and on small- and large-animal clinical skills teaching and assessment, often supported by well-resourced clinical skills laboratories.

Some schools adopt a 'distributed' model in which clinical experiences are provided by relationships with partner practices rather than through the school's own University hospital. University faculty may be employed in these practices to ensure continuity of experience and appropriate quality assurance of assessment and feedback. However, whether a traditional or distributed model exists, learning outcomes should be similar, as guided by the relevant competency outcomes.

A topic of heated debate is 'tracking', to allow increased student choice in the curriculum so they can decide earlier what area of the profession they wish to work in. Calls for more curricular flexibility to permit greater student choice, possibly linked to limited registration, have been around for over 20 years. They run up against the 'omnicompetent' vet model of accreditation and registration described above. This area needs review, due to financial pressures on institutions and curriculum content overload and considering economies of scale that may be achievable through collaboration across institutions.

Research / teaching nexus

The research programs of Australasian veterinary schools make a modest but significant contribution to global veterinary research, but a very important contribution to veterinary research outputs in Australia and New Zealand. They focus predominantly on animal health, welfare and production, and on public health, biosecurity and trade issues that are most important (or unique) to Australasia. It would be foolhardy to believe that animal health researchers in other countries will understand our farmed and natural ecosystems, our public health challenges, and our indigenous knowledge systems – let alone be able to define the most pressing research priorities.

The research-enriched teaching model has defined university-level learning since the early 19th century and is legally enshrined in several countries including New Zealand. Research-active staff ensure students benefit from cutting-edge knowledge that is strongly evidence-based. Many of these staff have a curiosity and enthusiasm for their subject that enriches their teaching and inspires their students. However, high demands placed on leading researchers can at times distract some from a focus on their students.

This labour model is not cheap. Research-active staff usually spend 40% or more of their time pursuing their research activities. There are few full-cost-recovery veterinary research opportunities, so most labour and indirect costs of veterinary research must be cross-subsidised from teaching revenue. As well, high-impact researchers increasingly undertake mission-led, multidisciplinary research in large programs and often rely on costly equipment, facilities and technical support. Meeting expectations of the research funders is very demanding. These demands can at times deny researchers the time they need to prioritise student pastoral care, teaching quality, innovation in teaching, and the maintenance of a curriculum of relevance to employers.

Protection of staff wellbeing is another critical issue. Demands on staff have continued to grow in line with expectations of students, parents, research funders, clients, universities, and governments. Resultant competing pressures are felt hardest by staff with a broad spectrum of duties, such as those delivering research and teaching, or research, teaching and clinical service.

Hence there is a progressive move away from an exclusive reliance on traditional research-active academic roles towards 'disaggregation' of research-led teaching, via other career paths, including: casual part-time, fixed-term roles (including contractors rather than employees); teaching-only or research-only pathways; clinical service-teaching roles; non-academic management roles; and outsourcing of clinical teaching.

These newer career paths remain contentious, have several pros and cons, and require considerable leadership and management expertise to meld into a unified faculty that expertly delivers the diverse outcomes expected of world-class veterinary schools.

Disaggregating research-led teaching into specialised teaching-only and research-only pathways has variable impacts on research. Experience suggests that research will thrive if they are kept in balance with each other and with the traditional research-active-teaching pathway. However, research will suffer if teaching-only pathways or part-time, fixed-term, or contractor roles come to dominate the staffing of a school. Similarly, if outsourcing of clinical teaching is taken too far, clinical research is detrimentally affected.

The cost of veterinary education

Veterinary courses are the most expensive of all university professional programs to deliver. The most recent 'transparent costing exercise' conducted for the Australian Government by Deloitte in 2019² showed that the average cost to deliver the veterinary undergraduate course, per Equivalent Full Time Student Load (EFTSL), was 149% of the funding received by the university from government and student fees. A significant gap between funding and cost of delivery is also recognised at Massey University in New Zealand.

The high cost reflects the demands of delivering a comprehensive clinical training program across a range of animal species and external accreditation standards, which are driven in turn by high regulatory standards set by domestic and international veterinary education accrediting bodies acting on behalf of veterinary regulators to meet community expectations. Accreditation standards include numerous delivery requirements not faced for most professional courses, including strict student to staff ratios (for safety while handling animals) and the condition that universities directly provide clinical teaching for both large and small animals through veterinary teaching hospital facilities.

The pandemic and the prolonged international border closures of Australia and New Zealand have profoundly impacted the operations of the nations' universities and eight veterinary schools. Each school operates in a different institutional, funding and regional context and has experienced different pandemic effects. However, well before this crisis they had acknowledged collectively through VSANZ that current approaches to veterinary science education, accreditation and research would not be

² <https://www.dese.gov.au/higher-education-publications/resources/2019-transparency-higher-education-expenditure-publication>

sustainable if they are to remain capable of delivering on Australasia's long-term needs for workforce renewal and enhanced research capability.

A major driver of the high cost of veterinary education is the need for intensive, face-to-face tuition to develop practical pre-clinical and clinical skills, with high staff: student ratios for adequate supervision and to protect student safety. In contrast to human medical training, there is no public hospital network available to facilitate this skills development. Veterinary schools may run their own teaching hospitals, which usually operate at a considerable loss due to the time required to provide students with closely supervised, hands-on, clinical experience. Alternatively, veterinary schools pay external parties to provide clinical training on behalf of the school. Specialised plant and equipment such as dissection laboratories and animal handling facilities are needed, as is access to animals. Schools have high capital costs.

Australasian universities have for decades covered their funding shortfall for veterinary teaching and research by various strategies, including increasing enrolments to dilute fixed costs; providing full fee-paying places for domestic and international students; streamlining delivery models; sharing resources between schools; reducing central overhead charges, and; cross-subsidising with revenues from other faculties, philanthropy and other sources. Despite this, they continue to be cross subsidised by other parts of their host universities.

Opportunities for structural reform

Many opportunities for structural reform to enhance the financial sustainability of Australasian veterinary schools are already being fully or partially implemented in some ways. These structural reforms have differing strengths and weaknesses with regard teaching and research quality, relevance and impact.

Building scale

Scale can be increased by enrolling more domestic and/or international veterinary students; by transferring parts or all veterinary programs from one university to another; by diversification (e.g., expanding for-credit and not-for-credit postgraduate education); or by teaching cognate programs such as animal science, biomedical science, and veterinary nursing).

This can increase facility utilisation and efficiency, reduce the cost per graduate, and improve earnings, providing the school (and its university) more resilience and financial flexibility in the face of downturns. Universities may use improved earnings by reducing internal cross-subsidisation or by re-investing them in enhancing quality or accessibility of veterinary education or research.

Increasing scale also increases the number of graduates entering the profession and the number of research-active academic staff employed to advance knowledge. More research-at-scale not only provides undeniable benefits to future generations, but also leads to improved research quality and relevance and builds the school's international reputation. This creates a virtuous cycle in the school's ability to attract top staff, highly able students, high-end philanthropy, and collaborations with highly ranked institutions.

Resource sharing

Resource sharing aims to reduce costs of individual schools by apportioning them across several entities, improving resource utilisation and financial sustainability. This may occur with other schools/programs within the same university; other veterinary schools; and organisations with overlapping interests to veterinary schools (e.g., veterinary practices, clinical pathology companies, research organisations, government departments, private training providers etc.).

Resource sharing is usually beneficial to research as it widens access to high cost, specialised physical facilities (such as infectious disease containment laboratories) and expensive equipment. As well, higher usage rates improve the prospect of replacing specialised facilities and equipment when needed because both the non-financial and financial elements of the business cases are enhanced.

Sharing services between veterinary schools is likely to be of most benefit with veterinary-specific services (e.g., specialised clinical services, clinical facilities, clinical pathology facilities, research facilities, library resources, and specialised courses of study). However, the wide geographic spread of Australasian veterinary schools may increase costs borne by students and staff.

More generic services (e.g., corporate services) may be more cost-effectively centralised in each university or outsourced to corporations who supply such services more widely.

Outsourcing of clinical teaching

The costs of teaching clinical skills – even to achieve graduate entry-level standards – far outstrip the costs of teaching other veterinary subjects. As well, the demands of running client-focussed veterinary teaching hospitals are not well understood by many university hierarchies or government funding agencies. Unlike medical schools, veterinary schools do not have the privilege of leveraging the public health system for clinical training, or benefit from targeted ‘vote health’ funding for clinical training (such as that paid by the Ministry of Health in New Zealand).

These financial challenges and questions of ‘fit’ (of teaching hospital within universities), along with a determined drive to provide clinical training relevant to modern-day private practice, has led to varying degrees of outsourcing of clinical teaching to the private sector and other universities.

This outsourcing can incur challenges with accreditation authorities and requires careful relationship management with the contracted practices. However, if well managed, it offers veterinary schools the ability to offset weakness in the breadth or depth of clinical caseload.

To ensure sustainable contracted teaching, the funding of outsourced teaching should at least be sufficient to meet the costs incurred by the private teaching practices. Currently, these costs are met by veterinary schools but there is an opportunity for central or state governments to provide direct funding to practices for high quality outsourced clinical (and pathology) teaching experiences in areas of national or state priority. Importantly, this provides governments with an ability to directly influence graduate destinations but also meet other government priorities. For example, supporting the viability of rural veterinary practices through providing teaching revenue will help ensure the preservation of biosecurity and animal welfare services in rural communities.

Changing the delivery mode

In recent years, Australasian universities have significantly enhanced their ability to deliver online education and student services. Veterinary schools can now offer their courses to a diverse array of off-campus students - time-poor adult-learners, and students from offshore or from far-flung rural communities. This opens opportunities in postgraduate education and continuing professional development, in international education, and in building scale, resource sharing and out-sourcing. It also allows schools to enrich (but not replace) face-to-face undergraduate learning experiences and to build resilience in the face of disasters.

However, ‘virtual veterinary schools’ will not be a viable option. School-leaver students need face-to-face support and encouragement of peers and teachers, while many veterinary subjects require hands-on practical rather than online learning. As well, all universities of any substance wish to develop student ‘social capital’, ‘creative capital’ and ‘global citizenship’, over-and-above the ‘intellectual capital’ of a high-quality professional education. These graduate attributes are hard to develop without on-campus experience for at least part of a student’s education. And, of course, most

veterinary research and clinical teaching cannot be conducted virtually, so any consideration of fully 'virtual veterinary schools' must come with the realisation that most research will cease.

Online delivery modes also pose threats to Australasian veterinary schools. Transnational education could be provided into Australasia by 'elite' global universities. An elite university could partner with a second-tier local provider to provide classroom tutoring, pastoral care and peer-to-peer experiences. To counter this challenge Australasian veterinary schools must build their global brands and research excellence to avoid being victims rather than beneficiaries of transnational education.

Transition to the workforce

At the 'other end' of the curriculum, transition to the profession is an equally challenging area with many studies highlighting the difficulties faced by many new graduates and the importance of early mentoring and support. Much has also been published in this area on the mental health, wellbeing and resiliency challenges during this transition phase.

Recently, the UK has introduced a Veterinary Graduate Development Programme (VETGDP) where new graduates are assigned a trained VetGDP Adviser, who works on a one-to-one basis with the new graduate to provide support in the workplace. Whether this is desirable in Australasia needs consideration.

Questions for Stakeholders

This discussion paper aims to canvass stakeholder ideas on if and how veterinary education needs to change to meet the foreseen demands of the next decade and beyond. Questions that include and expand upon those asked in the Review terms of reference have been broadly categorised into stakeholder groups, but many questions are relevant to multiple stakeholders.

Please feel free to comment on any questions, not just those appearing in your stakeholder section.

Parties wishing to make a submission to the review need not address every question.

Questions for prospective employers of veterinarians

1. How is the demand for veterinary services changing in Australasia and the rest of the world?
2. Are there roles in which veterinary graduates are under-represented, despite being well qualified to fulfil them?
3. Does the current curriculum equip veterinary graduates with the necessary breadth and depth of skills and knowledge needed to successfully contribute to the sector?
4. Do governments believe that enough veterinarians graduate each year in Australasia to meet the expected workforce capacity in the face of a severe exotic disease outbreak such as foot and mouth disease?

Questions for AVA, NZVA and veterinary practice employers

5. Is the omni-competent new veterinary graduate still the preferable educational goal for veterinary schools or would employers prefer graduates with narrower but deeper knowledge and skills?
6. What options exist for structural reform in relation to induction/ transition to the profession?
7. Is more formal mentoring and support required for new graduates, perhaps similar to the UK's Veterinary Graduate Development Programme) model?
8. Should the veterinary profession play a greater role in the education of veterinarians and if so, in what way?

Questions for Accreditation and Licensing authorities

9. What is the realistic breadth and depth of skills, knowledge and attributes that veterinarians will need in the next decade and beyond? E.g. will Australasia be better served by omnipotential graduates with narrower and deeper entry-level competencies or by omnicompetent graduates with broad but shallow entry-level competencies?
10. Do accrediting bodies unnecessarily constrain the ability of schools to be more flexible and innovative?
11. Is there an opportunity for vet schools to work with accrediting bodies to develop a more outcomes-based approach to evidencing of standards?
12. Is there an opportunity for more transparent articulation by the accrediting bodies of the expectations in relation to omnipotential/omnicompetence?

13. Should accrediting bodies accredit veterinary workplaces as well as veterinarians to provide better oversight of the transition of new graduates into the profession?

Questions for Deans and Veterinary Schools

Veterinary education: structure, curriculum and teaching

14. Is there a place to develop a new kind of professional Australian and/or New Zealand veterinary qualification, which has modularisation/specialisation (e.g. companion animals, livestock, equine, poultry, exotic) options – whether at an early or post-primary-qualification stage – focused on the requirements of the nation?
15. Can we make changes of the kind described above and still retain the ability of Australia and New Zealand to contribute to a global, mobile veterinary workforce with mutual recognition of qualification and freedom of movement, and continue to attract overseas students and practitioners?
16. Have veterinary schools enhanced their capabilities in online education during the COVID-19 epidemic and, if so, do these capabilities offer any opportunities to:
 - increase the accessibility of their education to off-campus students such as those in the workforce, those studying from offshore ('transnational education') or those in remote rural communities?
 - enrich face-to-face learning experiences in the undergraduate curriculum?
 - establish collaborations with staff with specialist subject-area expertise employed by other universities/organisations?
 - build resilience in the face of disasters?
17. What other opportunities for veterinary education are yet to be grasped – from technology or elsewhere?
18. Does online delivery pose any threats to Australasian veterinary schools? E.g., from overseas universities recruiting more Australasian students onto partially remote programmes? If so, how can these be mitigated?
19. How should veterinary schools address the increasing incidence of student mental health problems and support optimal student wellbeing?
20. Should the process of admissions be reviewed? Would a combined Australasian approach to admissions provide efficiency savings and enhance opportunities to increase diversity in both the applicant pool and those admitted.

Research

21. How important is the nexus between a veterinary school's research capability and its capacity to educate veterinarians suited to the modern workforce?
22. How important is the research of veterinary schools to securing Australasia's future in 'One Health', biosecurity, food production and animal welfare?
23. Could the research performed by veterinary schools be performed by other organisations?

24. What could be done to optimise the education / research mix of veterinary schools?

Questions for Vice-Chancellors and Central Administration

Cost of veterinary education

The most recent 'transparent costing exercise' conducted for the Australian Government by Deloitte in 2019³ showed that the average cost to deliver the veterinary undergraduate course, per Equivalent Full Time Student Load (EFTSL), was 149% of the funding received by the university from government and student fees.

25. What are the consequences to the university of the cross-subsidisation required to address this funding deficit?
26. If Government increased the funding rates for veterinary education, would that funding boost be invested in enhancing the quality and accessibility of veterinary education and the excellence and relevance of veterinary research, or would it be used for other purposes?
27. The funding deficit of veterinary science has been known about for many years. Why do you think Government hasn't addressed this deficit?
28. Do you feel that the needs of accrediting bodies put unrealistic demands on the University in relation to the cost of facilities, required staff: student ratios, etc?

Research/teaching labour model

29. Do you foresee any changes in the labour model used in professional schools like veterinary science e.g. a move away from an exclusive reliance on traditional research-active academic roles towards a variety of other career paths such as:
 - Part-time, fixed-term roles (including contractors rather than employees);
 - Teaching-only or heavily teaching focussed pathways;
 - Research-only or heavily research focussed pathways;
 - Clinical service-teaching roles;
 - Non-academic management roles; and
 - Outsourcing of clinical teaching to private practices.
30. If so, do you have any views on the pros and cons of these non-traditional career pathways?
31. What are the main impediments to their uptake?
32. Can the research-teaching nexus be protected when utilising these new career paths? E.g., by teaching teams including a research-active academic?
33. Can research quality and intensity be maintained when utilising these newer career paths?
34. Can international reputation be maintained when utilising these newer career paths?

³ <https://www.dese.gov.au/higher-education-publications/resources/2019-transparency-higher-education-expenditure-publication>

35. What are the consequences of these newer career paths on staff wellbeing and career development opportunities?

Efficiencies

36. Are there any other changes to veterinary education the University would recommend to improve cost-effectiveness and reduce the tuition subsidy and fee burden on government and students, respectively?

Questions for government agencies funding education

The most recent 'transparent costing exercise' conducted for the Australian Government by Deloitte in 2019⁴ showed that the average cost to deliver the veterinary undergraduate course, per Equivalent Full Time Student Load (EFTSL), was 149% of the funding received by the university from government and student fees.

37. The funding deficit of veterinary science has been known about for many years. Why hasn't Government addressed this deficit? E.g., does Government not accept the contribution of veterinary graduates to society/economy/environment? Other reasons?
38. Will Government continue to support the training by veterinary schools of international as well as domestic students in the post-COVID environment?
39. Is there an opportunity for vet schools to work with government agencies to ensure Australasia has competitive immigration settings and pre-study/post-study work rights for international students?
40. Unlike medical schools, veterinary schools cannot rely on a public hospital system to provide clinical training for their graduates. Is there an opportunity for vet schools to work with government to develop a network of publicly funded veterinary clinical training facilities in communities that align with government investment priorities e.g., rural or indigenous communities?

General Questions

41. Is there any substance to the view that the dominant educational model - whereby veterinary schools select students from academically privileged backgrounds that do not mirror society, further limit educational accessibility by requiring on-campus delivery, and consume significant resources to equip 'omni-competent' graduates with knowledge and skills they may never use - may no longer be fit for purpose?
42. How can accrediting bodies, the profession, Australasian universities and governments work more effectively together to ensure that students leave veterinary schools equipped with transferable competencies needed for long and successful careers as veterinarians, as well as take account of the continued financial pressures faced by universities to sustain high-quality veterinary science programs?

⁴ <https://www.dese.gov.au/higher-education-publications/resources/2019-transparency-higher-education-expenditure-publication>