

## INQUIRY INTO VETERINARY WORKFORCE SHORTAGE IN NEW SOUTH WALES

**Organisation:** Educators for the Allied Veterinary Health Professions in Higher Education (Australia)

**Date Received:** 20 July 2023

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## **The Inquiry into the Veterinary Workforce Shortage in NSW**

Portfolio Committee 4 – Regional NSW inquire into and report on the veterinary workforce shortage in New South Wales, and in particular: the shortage of veterinarians across the profession, including clinical (small and large animal practice), government, academia, research, industry, and pathology.

**Submission by:**

***Educators for the Allied Veterinary Health Professions in Higher Education (Australia)***

**21 July 2023**

This submission has been prepared by the *Educators for the Allied Veterinary Health Professions in Higher Education (Australia)*.

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### **About us**

#### ***Educators for the Allied Veterinary Health Professions in Higher Education (Australia)***

Established in January 2021, *Educators for the Allied Veterinary Health Professions in Higher Education (Australia)* (*The Educators*) comprises a group of 10 educators including current and former teaching, research and clinical academics associated with bachelor's degree programs in veterinary technology or veterinary nursing, respectively. They include:

#### **Bachelor of Veterinary Technology, The University of Queensland, Gatton, Queensland**

- Professor Paul Mills, Program Coordinator
- 1. Dr Trish Clarke, inaugural lecturer and Final Year Coordinator
- 2. Ms Trish Farry, Lecturer, Clinical Instructor and Final Year Coordinator

#### **Bachelor of Veterinary Technology, Charles Sturt University, Wagga Wagga, New South Wales**

- Dr Geoffrey Dutton, Senior Lecturer and Associate Head of School (Veterinary Science)
- Dr Esther Calcott, Lecturer and Head of Discipline

#### **Bachelor of Veterinary Technology, The University of Adelaide, Roseworthy, South Australia**

- Dr Courtney Baskerville, Senior Lecturer and Program Director
- Mr Brett Smith, former Lecturer and Acting Program Coordinator

#### **Dr Robert Hedlefs**

- Former Associate Professor, School of Veterinary Science, James Cook University, Townsville, Queensland and past President, Australian Veterinary Association (Queensland Division)

#### **Melbourne Polytechnic in partnership with La Trobe University, Melbourne, Victoria**

- Dr Bridget Naughton, Senior Lecturer and Acting Head of Program Veterinary Nursing Higher Education
- Ms Angela Chapman, Lecturer and Graduate Researcher

See Appendix 1 for biographies of *The Educators*. *The Educators* are unified by a desire for collaboration and innovation in advancing allied veterinary health disciplines in higher education and preparing professional graduates to meet societal needs and complement the role of veterinarians in interprofessional veterinary teams (clinical and non-clinical).

## Glossary of Terms

This glossary has been provided to improve the reader’s understanding of the titles ascribed to bachelor’s degree qualified graduates from the Bachelor of Veterinary Technology and Bachelor of Veterinary Nursing in Australia— distinct from the Certificate IV and Diploma qualified veterinary nurse whose training is based in the Vocational Education and Training sector.

<b>Term</b>	<b>Definition</b>
Veterinary technologist	A graduate of a three-year Bachelor of Veterinary Technology (AQF Level 7*) in Australia: based on definitions by the American Veterinary Medical Association (AVMA 2023). Not commonly used.
Veterinary technician	Refers to a commonly used title for a graduate of the Bachelor of Veterinary Technology.
Graduate veterinary nurse	Refers to qualified veterinary nurses with a two-year Associate degree or a three-year Bachelor of Veterinary Nursing.
Allied veterinary health professionals	A group title for all bachelor’s degree qualified graduates (Bachelor of Veterinary Technology and Bachelor of Veterinary Nursing) in Australia.
Veterinary nurse	According to the Veterinary Nurses Council of Australia, a ‘veterinary nurse’ is one who holds a formally recognised veterinary nursing qualification. The current Australian national qualification for Veterinary Nursing is the Certificate IV in Veterinary Nursing at AQF Level 4*. Additional qualifications include a Diploma of Veterinary Nursing General Practice, Emergency and Critical Care, Surgery and Dentistry (VNCA 2023a) at AQF Level 5.
Higher education	Australia’s higher education (HE) system is made up of universities and other institutions that play a critical role in fuelling innovation, driving productivity and giving students the skills, they need for future success (Department of Education, Skills & Employment 2021).
Vocational education and training	Vocational Education & Training (VET) sector qualifications are outcome-based and focus on the occupational skills and competencies, and are provided by government institutions, called Technical and Further Education (TAFE) institutions, as well as private institutions (Australian Government 2023). The Certificate IV and Diploma of Veterinary Nursing are VET Qualifications.

\*Australian Qualifications Framework (AQF) - the national policy for regulated qualifications in Australian education and training.

## **Introduction to the Bachelor of Veterinary Technology and Bachelor of Veterinary Nursing**

In Australia, currently three universities offer a Bachelor of Veterinary Technology qualification: The University of Queensland (2001- present), Charles Sturt University (2015-present), and The University of Adelaide (2020 - present). The Bachelor of Veterinary Nursing has been offered by Melbourne Polytechnic in partnership with Latrobe University since 2018.

The Bachelor of Veterinary Technology is a three-year applied science degree comprising foundation sciences such as biology, anatomy, physiology, microbiology, and chemistry combined with courses providing clinical nursing knowledge and skills. The Bachelor of Veterinary Nursing is a three-year vocational degree. All degrees have embedded the Veterinary Nurses Council of Australia's Day One Competency Standards and Day One Skills in curriculum (VNCA 2023a).

Equipped with the graduate attributes of an in-depth knowledge of their field, critical thinking, problem-solving, creativity, lifelong learning, and an ability to use evidence-based practice, Australia's graduate veterinary technicians and veterinary nurses have the ability to streamline veterinary clinic operations and client interactions whilst providing high-end support to veterinarians. Graduate veterinary technicians and nurses 'value-add' to veterinary services in clinics and in the broader allied animal health fields. They possess the scientific and veterinary nursing knowledge to improve clinical outcomes and provide potential therapeutic outcomes by conducting veterinary clinical research across a vast array of fields.

Currently, it is estimated there are almost 11,000 veterinary nurses employed in Australia (Labour Market Insights 2023) with strong prospects for growth, and around 1000 bachelor's degree qualified veterinary technicians and nurses (P Clarke 2023, pers comm. 17 July). National registration and regulation of prescribed duties for graduate veterinary technicians and nurses, along with vocational qualified veterinary nurses, will transform veterinary services in Australia by raising standards of care which is in the public interest and in the best interests of animal health and welfare.

## The Educators' Recommendations to the Inquiry

As part of a multi-pronged, collaborative, evidence-based approach to the veterinarian shortage, *The Educators* urge the NSW Government to:

- a. Conduct legislative reforms which include national mandatory registration and regulation of prescribed duties for veterinary technicians and veterinary nurses to underpin an interprofessional team-based approach for veterinary care that is in the public interest and in the interests of our animals' health and welfare.
- b. Conduct legislative reforms to increase the scope of practice for graduate veterinary technicians and veterinary nurses, and experienced vocational veterinary nurses, via an Advanced Veterinary Nurse role characterised by increased responsibility and autonomy.
  - A mid-tier professional positioned between the veterinarian and the vocational veterinary nurse (Kogan & Stewart 2009): using an interprofessional team-based approach with approval to perform a range of lower-level veterinary procedures in collaboration with veterinarians.
- c. Provide resources to fund a think tank involving key stakeholders (NSW Government, educational institutions, professional bodies and employers) to develop an innovative interprofessional team-based model for veterinary care that is sustainable and fully utilises the capabilities of registered veterinary technicians and veterinary nurses to alleviate the veterinarians' workload and stress.
- d. Enable greater cooperation between the VET and HE sectors facilitating credit transfers and articulation pathways between sectors to allow career progression for veterinary technicians and veterinary nurses as integral members of the interprofessional veterinary team.
- e. Commit funding to the Australian Veterinary Association's Thrive Project to support veterinarians, veterinary technicians, veterinary nurses and other staff to experience satisfying, healthy and prosperous careers.
- f. Consider introducing a 'Medicare' type scheme for veterinary services and/or develop strategies enabling all pet owners ease of access to quality pet insurance.

We believe it is time for innovative reforms using successful models from other health professions.

*...given the exponential growth in medical information and the rapidly changing social environment, it is clear that veterinarians cannot continue to do it all or do it alone* (Kogan & Stewart 2009, p. 200).

## ***The Educators' Response to the Inquiry Terms of Reference***

### **1. The shortage of veterinarians across the profession, including clinical (small and large animal practice), government, academia, research, industry, and pathology**

*The Educators* support the Australian Veterinary Association's (AVA) recommendations on alleviating the shortage of veterinarians and its impact across the profession, including clinical (small and large animal practice), government, academia, research, industry, and pathology.

*The Educators* also strongly advocate for a multi-pronged approach to this crisis that concurrently considers additional strategies in increasing utilisation while increasing the number of veterinary technicians and nurses and their scope of practice. Bachelor's degree qualified veterinary technicians and veterinary nurses have the capacity to help alleviate veterinarian shortages across many of the veterinary and allied animal health fields.

Although, the majority of bachelor's degree graduates work in clinical practice as veterinary nurses, with some in practice management, many are employed in other allied animal health fields such as government agencies (biosecurity), veterinary pharmaceutical and nutrition companies, animal welfare agencies, veterinary diagnostic laboratories, and in animal research and teaching (vocational and university) (Clarke, Schull & Coleman 2009; Clarke et al. 2018). Most will be found working in veterinary-led teams. As an example, The University of Queensland veterinary technology graduate, Christopher Inwood, is Senior Biosecurity Officer with the Department of Agriculture and Fisheries (Queensland) and Russell Hunter is a strategic leader and senior manager in animal welfare in Biosecurity, Tasmanian Division—demonstrating the capacity of these graduates to work collaboratively and synergistically with veterinarians in many fields.

### **2. The challenges in maintaining a sustainable veterinary workforce, including recruitment and retention rates**

*The Educators* support the AVA's recommendations on addressing the challenges in maintaining a sustainable veterinary workforce, including recruitment and retention rates.

In addition, *The Educators* strongly advocate for a multi-pronged approach that involves additional strategies such as increased utilisation and increasing numbers of veterinary technicians and nurses and their scope of practice. Bachelor's degree qualified veterinary technicians and veterinary nurses have a great capacity to help alleviate veterinarian shortages in clinical practice and in non-clinical roles.

Following the lead of human health care, *The Educators* advocate for a greater emphasis on the veterinary interprofessional team where registered and regulated veterinary technicians and veterinary nurses play an integral role in the delivery of veterinary services (clinical and non-clinical) (Kinnison, May & Guile 2014). As in human healthcare, the specialised skills of the veterinarian alone are no longer enough to deliver quality care (Sargeant, Loney & Murphy 2008; Kogan & Stewart 2009; Kinnison, May & Guile 2014). Veterinarians now lead teams with highly educated veterinary technicians and veterinary nurses as key members, along with practice managers, veterinary specialists, animal physiotherapists and other

affiliated professionals (Kinnison, May & Guile 2014). This is also the case in non-clinical veterinary fields, such as biosecurity mentioned in Terms of Reference 1. In an innovative team-based model, veterinarians could delegate some of their more routine tasks, such as blood collection in cattle, performing metrichecking in cows, trimming hooves, inducing anaesthesia in small animals, performing euthanasia of wildlife, or performing local nerve block (under varying degrees of veterinary supervision), to highly trained veterinary technicians and veterinary nurses with a science-based university education.

Furthermore, there is a proven link between use of credentialled veterinary technicians and business revenue. An Ontario Veterinary Medical Association study showed that clinics with higher non-veterinarian to veterinarian ratios (from 2.9 to 4.2 per FTE veterinarian) function more effectively and have a higher net practice income (Osborne & Richardson 2006). Another similar study in the US found a \$78,118 increase in revenue for every additional technician per veterinarian (Shock, Roche, Genore & Renaud 2020). It could be extrapolated that increasing the veterinary technician/veterinary nurse to veterinarian ratio in Australia would similarly transform veterinary businesses to make them more cost-effective, profitable and accessible without compromising quality.

### **3. The burn-out and mental health challenges facing the veterinary profession**

As reported in the AVA's Wellness Strategy Final Report (2021) coupled with evidence from academic research and veterinarians, themselves, Australia's veterinary profession is experiencing a mental health crisis with the rising risk of suicide highlighted. Findings revealed a complex range of challenges including high workloads, long hours, unsatisfactory remuneration, client abuse, financial stress, and generational differences (AVA 2021).

*The Educators* strongly agree with veterinarians seeking NSW Government support to help alleviate the current veterinarian shortage that is exacerbating their workload and stress levels, particularly for rural veterinarians (AVA 2021, Porter 2020) and escalation is inevitable unless decisive action is taken. That said, the veterinarian shortage is a global phenomenon (Cushing 2022; RCVS 2022) that is accompanied by an increasing veterinary nurse shortage (Hagen et al., 2022). The latter adding further strain to all members of the veterinary team. For these reasons, it is imperative that Governments adopt a multi-pronged approach with an emphasis on generating local solutions.

Some of these local solutions can be found in the recommendations of the Australian Government's Frawley Report on rural veterinary services from 2003. Frawley's evidence-based recommendations are worthy of revisiting today. The report revealed that rural mixed practices had difficulty attracting and retaining veterinarians—a long term situation that has deteriorated even further in the current crisis. *The Educators* urge the NSW Government to implement Frawley's recommendations, particularly those regarding the registration and increased utilisation of qualified veterinary nurses (and now to include bachelor's degree veterinary technicians and nurses), to alleviate rural veterinarians' workloads and stress levels. Of note is the following recommendation:

#### *Recommendation 9 (d)*

'Formal recognition of the professional qualifications of veterinary nurses and the range of veterinary tasks that can be appropriately delegated (as in Western Australia, UK and USA)' (Frawley 2003, p.4).

Frawley also drew attention to the practice of qualified ‘veterinary technicians’ in the US volunteering and training to support veterinarians in the American equivalent of Australia’s AUSTVETPLAN (Animal Health Australia 2023). US paraprofessionals (stock inspectors and laboratory technicians) also formed an integral part of the provision of non-clinical animal health services (Frawley 2003, p.76). It is suggested that Australian bachelor’s degree graduate veterinary technicians and veterinary nurses are similarly ideally suited to swell the ranks of the veterinary workforce in rural areas in both clinical and non-clinical roles (e.g., stock inspectors).

*The Educators* urge the NSW Government to consider the value of these graduates in augmenting the veterinary workforce, particularly considering the threat of exotic diseases like foot and mouth disease in neighbouring Indonesia, or of African swine fever. An outbreak of either of these diseases would be catastrophic for Australia’s economy, animal health and export trade (DAFF 2023). Crisis calls for innovation: harnessing the capacity of veterinary graduate technicians and veterinary nurses to work synergistically with veterinarians in an advanced capacity is the way forward. Again, as demonstrated by the interprofessional team approach in human healthcare—...*it is clear that veterinarians cannot continue to do it all or do it alone* (Kogan & Stewart 2009, p. 200).

#### **4. The role of, and challenges affecting, veterinary nurses**

Vocational and bachelor’s degree qualified veterinary technicians and veterinary nurses are key members of the veterinary healthcare team in both clinical and non-clinical settings. Although, the majority of bachelor’s degree graduates work in clinical practice as veterinary nurses, many are employed in other allied animal health fields such as government agencies (biosecurity), veterinary pharmaceutical and nutrition companies, animal welfare agencies, veterinary diagnostic laboratories, in animal research and teaching (vocational and university) (Clarke, Schull & Coleman 2009; Clarke et al. 2018). It is time for the veterinary profession to adopt a workforce model of the interprofessional team forged in human healthcare (i.e., doctors, specialists, nurses, physiotherapists, occupational therapists, radiographers and others). The increasing complexity of veterinary health care (Kinnison, May & Guile 2014), driven by a society increasingly concerned with animal health and welfare, creates a demand for all in the team to be qualified, registered and regulated professionals. As in human healthcare, the specialised skills of the veterinarian alone are no longer enough to deliver the quality complex care (Sargeant, Loney & Murphy 2008; Kogan & Stewart 2009; Kinnison, May & Guile 2014) demanded by clients who view their pets as members of the family (Fogle 1999; Barker & Wolen 2008). Furthermore, the reality is that veterinary clinical services are now delivered by veterinarian-led healthcare teams with highly educated veterinary technicians and veterinary nurses as pivotal team members along with practice managers, animal physiotherapists and other affiliated professionals (Kinnison, May & Guile 2014).

##### *Challenges for veterinary technicians and nurses*

Veterinary technicians and nurses face many of the challenges that veterinarians do. These include poor remuneration, high attrition rates, and high levels of work-related stress (AVA

2021). Unlike veterinarians, graduate veterinary technicians and veterinary nurses are not registered, regulated professionals in Australia (except in Western Australia). There is therefore no protection of the title of ‘veterinary nurse’ or ‘veterinary technician’ leaving the way open for unqualified persons to work as veterinary nurses. For reasons previously stated, this is not in the interest of the public who view pets as members of the family, and it is not in the interests of animal health and welfare. This lack of professional recognition has contributed to underutilisation, reduced job satisfaction and a lack of a structured career pathway for veterinary technicians and veterinary nurses. This in turn creates workplace stress and reduces their capacity to effectively support veterinarians in the delivery of veterinary services: counterproductive to the sustainability of both professions. When veterinarians are well supported to focus on their diagnostic practices, veterinary technicians and nurses can focus on providing their complementary skills in caring for animals and reap the benefits of being recognised for the unique expertise they have (Kinnison, May & Guile 2014)—a ‘win-win’ situation for all.

To add to this, due to their university education and training, bachelor’s degree qualified veterinary technicians and veterinary nurses have a greater capacity to work autonomously and take on increased responsibility (Wibrow 2022) than they are currently allowed. If this group were given more responsibility and autonomy, we could see the veterinary profession flourish!

## **5. The role of, and challenges affecting, overseas trained veterinarians**

Overseas veterinarians have a role to play in helping to resolve the national veterinarian shortage. However, they face many challenges, and their recruitment is not ‘the total solution’ to this crisis. Overseas veterinarians who must complete the Australasian Veterinary Boards Council requirements face lengthy periods of study/preparation and substantial costs (in the order of \$12,000) (AVBC 2023), while not being able to earn a veterinarian’s salary. Additionally, for many, English is their second language so meeting the IELTS Academic test for English, necessary for professional registration (IELTS 2023), poses a challenge and a further cost. Recruiting overseas veterinarians is not a ‘quick fix’.

*The Educators* advocate for Governments to adopt a multipronged approach to resolve the current crisis that is in fact a global phenomenon. Looking to the United Kingdom (UK), the Royal College of Veterinary Surgeons has devised a seven-point Workforce Action Plan ‘setting out the key areas in which the veterinary sector, including representative organisations, employers, charities and other stakeholder groups, can work together to mitigate the impact of the ongoing workforce shortages in the professions’ (RCVS 2022). Australia should follow their lead.

As *The Educators* for bachelor’s degree programs in veterinary technology and veterinary nursing, we draw your attention to one of these points:

*Greater responsibility for veterinary nurses: this includes demonstrating the capabilities of the veterinary nursing role; ensuring clear career pathways for veterinary nurses; and continuing to progress the need for legislative change which would see veterinary nurses gain more autonomy and responsibility.*

Advocacy for greater utilisation of veterinary nurses and veterinary technicians is not limited to the UK. In the US in 2019, the Veterinary Futures Commission was set up by the American

Veterinary Medical Association in collaboration with the Association of American Veterinary Medical Colleges to identify priorities for the veterinary profession in response to societal needs. One of their key recommendations was to better leverage the whole healthcare team by promoting team-based care to increase efficiency, effectiveness, profitability and reduce burn-out (Veterinary Futures Commission 2019, p. 17-18). Australia has a valuable and underutilised resource in graduate veterinary technicians and veterinary nurses (and vocational nurses) who could contribute significantly more to relieve the veterinarians' workload—if allowed to under the mantle of mandatory registration and regulation including a prescribed list of duties.

## **6. The arrangements and impacts of providing after-hour veterinary services**

Understandably, the veterinarian shortage has negatively impacted the capacity of the veterinary profession to provide after-hours veterinary services with staffing of veterinarians and veterinary nurses and technicians a major issue. *The Educators* strongly support the AVA's recommendations regarding arrangements for providing after-hours services.

*The Educators* also strongly advocate for a multi-pronged approach involving additional strategies in increasing utilisation and increasing the number of veterinary technicians and nurses. With shorter training and education periods (an average of two years for vocational qualified veterinary nurses and three years for bachelor's degree qualified veterinary technicians and veterinary nurses), the number of veterinary technicians and veterinary nurses could be increased much faster than a five- or six-year trained veterinarian.

Bachelor's degree qualified veterinary technicians and veterinary nurses are highly sought after by after-hours veterinary emergency centres because of the graduate attributes (in-depth knowledge, critical thinking, problem-solving, creativity, evidence-based practice, and commitment to lifelong learning) (R Webster 2020, pers. comm., 21 January). Likewise, university graduates are known to progress more rapidly into supervisory roles with more autonomy (Wibrow 2022), which reinforces their capability for more advanced roles to alleviate the veterinarian's workload and make veterinary care more cost-effective and accessible.

## **7. The impact of the current legislative and regulatory framework on veterinarians**

*The Educators* support the AVA's recommendations on the impact of current legislative and regulatory framework on veterinarians including the expansion of the regulatory framework to include veterinary nurses and technicians.

*The Educators* strongly advocate for national registration of veterinary technicians and nurses to improve standards of veterinary practice, safeguard the public interest and health, in the best interests of animal health and welfare, and to align with international standards (VNCA 2023b.) In the UK since 2015, the Royal College of Veterinary Surgeons (2023) has regulated the veterinary nursing profession through the Veterinary Surgeons Act 1966, the Royal Charter, and the Veterinary Nurse Conduct and Discipline Rules 2014'.

Like the veterinary profession in Australia, recognition of veterinary nursing as a profession is essential, not optional, as it is in the best interests of public health, animal health and animal welfare.

## **8. The particular challenges facing the veterinary profession and the shortage of veterinarians in regional, rural and remote New South Wales**

*The Educators* support the AVA's recommendations on the challenges facing the veterinary profession and the shortage of veterinarians in regional, rural, and remote NSW.

*The Educators* also see an increasing role for bachelor's degree-qualified veterinary technicians and nurses with an advanced scope of practice training as rural technicians to relieve the workloads and stress levels of veterinarians in rural, regional and remote NSW. Three universities are now graduating what could potentially become a new mid-tier veterinary professional analogous to the (human) nurse practitioner or physician assistant models from human healthcare (Kogan & Stewart 2009).

Even in their current state of training and education, the graduate veterinary nurses and technicians are well-equipped to assist veterinarians, and this could improve if they were legally allowed to do more. A National Centre for Vocational Education Research report (Wibrow 2022) comparing outcomes for VET qualified and university graduates in the same occupation, showed that university graduates more commonly progressed into supervisory roles with more autonomy. This evidences the graduates' suitability for taking on more responsibility in advanced roles: reinforcing the value of the graduate attributes previously mentioned (in-depth knowledge, critical thinking, problem-solving, creativity, lifelong learning, evidence-based practice) .

Graduate veterinary technicians and nurses could be trained (and already have the basis for this) to perform some of the more routine veterinary procedures such as blood collection in cattle, trimming hooves in cattle and horses, disbudding of goats, nerve blocks, identifying cows with endometritis, pregnancy testing/scanning, and administering dry cow therapy, vaccination and microchip implantation in small and large animals, weight management in small animals, to name a few. This would leave the veterinarian to undertake the more complex procedures thus alleviating their workload. Some of these procedures would involve a level of veterinary supervision that may involve the use of technology, if required. We need to work smarter, not harder.

## **9. The role played by veterinarians in providing care to lost, stray and homeless animals, injured wildlife and during emergency situations**

*The Educators* support the AVA's recommendations on the challenges veterinarians face in providing care to lost, stray and homeless animals, injured wildlife and during emergency situations in NSW.

Veterinarians perform an enormous amount of 'pro bono' work in all these areas. Anecdotally, it is an expectation by the public that they do this. As professionals, veterinarians are altruistic and are dedicated to working in interests of the public and the animal's health and

welfare. As an example, a large mixed Veterinary Hospital in Brisbane has averaged 10 wildlife cases per day during summer including native birds, lizards, an occasional koala, echidna, snake and many possums (P Clarke, 2021 pers comm, 10 October).

Caring for stray and homeless animals is also a common part of the veterinary practice's daily routine which takes time away from the veterinarian's core business and eroding profit margins which are already notoriously low. Why? Because veterinary practice is very 'labour-intensive' with no Medicare to reduce the costs to clients. Our patients can't speak, need to be held, restrained, supported and cared for by qualified veterinary technicians and veterinary nurses; ideally at least two per veterinarian. Veterinary practices are a 'one-stop shop' where the veterinarian is the doctor, the surgeon, the radiologist, ophthalmologist provides the medical laboratory and more. Hence, overheads are very high and veterinarians should be financially supported for this essential work they perform in caring for wildlife and managing strays and homeless animals

Similarly, in times of national disasters, the health and wellbeing of companion, production animals and wildlife mainly falls to the veterinarian and the veterinary-led team. Governments need to take this into consideration in providing funding to what are essentially mainly small to medium businesses.

#### **10. The impact of the current veterinary shortage on animal welfare, including the impact on the economy, members of the public seeking veterinary care for animals, pounds and shelters, the animal agribusiness industry, companion animal breeders and others**

*The Educators* support the AVA's recommendations on the challenges veterinarians face relating to animal welfare created by the veterinarian shortage.

Increased pet ownership during the pandemic, plus the veterinarian shortage results in longer waits for veterinary care, and potentially poorer animal health and welfare outcomes. Increased pet relinquishment at shelters and fewer vets lead to longer wait for health checks, veterinary care and rehoming, further increasing the risk of development of behavioural issues or disease transmission in shelter environments. Graduate veterinary technicians and nurses have the capacity to significantly improve animal welfare outcomes in shelters. Using a veterinarian-led team model, veterinary technicians and nurses have the ability to perform routine health checks and their level of education allows their scope to be broadened to administering vaccinations, implanting microchips, tattooing of animals in shelters and more.

Their bachelor's degree also allows graduates to enter into agribusiness industries to assist with nutrition consultation, herd management, and farm biosecurity thus raising economic prospects by increasing production on farms.

Additionally, in an economic environment with increasing costs of living due to inflation and rising costs of house mortgages, 'something has to give' in the household budget and that often is pet care. However, pets are not disposable. Research evidence on the human animal bond and the place of the pet in the family substantiates this (Fogle 1999; Barker & Wolan 2008). Veterinary technicians and nurses have a clear role to play in improving veterinary business economics as previously noted in TOR 2 that clinics with higher non-veterinarian to

veterinarian ratios (from 2.9 to 4.2 per FTE veterinarian) function more effectively and have a higher net practice income (Osborne & Richardson 2006). The NSW Government needs to seriously consider this in making recommendations regarding this inquiry into the veterinarian shortage. Veterinary healthcare is a team effort ripe for innovation as seen in the dental and human healthcare fields.

#### **11. Current barriers to accessing veterinary care for members of the public, particularly those with lower incomes or who live in regional, rural and remote locations**

*The Educators* support the AVA's recommendations on the barriers to accessing veterinary care for members of the public, particularly those on low incomes or living in rural, regional and remote locations, with lack of public funding being the most significant impediment.

*The Educators* also advocate for an Advanced Veterinary Nurse role (mid-tier veterinary professional) to utilise the capabilities, knowledge and skills of bachelor's degree qualified veterinary technicians and veterinary nurses more fully. Advanced level veterinary nurses could triage onsite or be employed in a telehealth capacity to provide care under veterinary direction. Models used in dentistry where oral health therapists and dental hygienists work in an integrated dental care system to increase access to dental care could be replicated (Dentistry 2023). Similarly, the use of the nurse practitioner or physician assistant in human healthcare provide a sound model. In this time of national crisis for the veterinary profession, innovative reform is required. Why not tap into the existing and underutilised work force of veterinary technicians and nurses who are ready and eager for a long overdue and expanded role in the delivery of veterinary healthcare.

#### **12. Strategies to support the current veterinary workforce, as well as ways to increase the number of practicing veterinarians particularly in regional, rural and remote New South Wales**

*The Educators* support the AVA's recommendations concerning improving access to veterinary care in regional, rural and remote NSW.

Furthermore, *The Educators* suggest to the NSW Government that the current veterinary workforce can be supported through greater use of graduate veterinary technicians and nurses and vocational veterinary nurses. Models of human healthcare with innovative service delivery involving the use of a mid-tier professional such as the nurse practitioner/ physician-assistant exemplify how an Advanced Veterinary Nurse role could improve access to veterinary care. In Australia and New Zealand, it has been reported that the integration of dental hygienists and dental therapists into the dental workforce has significantly improved access to dental care (Dentistry 2023). If given the chance, graduate veterinary technicians and nurses and vocational nurses could also be an integral part of the access to veterinary care solution in Australia—particularly graduate veterinary technicians and nurses if allowed to perform to the level of their AQF level 7 qualification.

### 13. Any other related matter.

Bachelor's degree qualified veterinary technicians and veterinary nurses have a pivotal role to play in client education while working in veterinary-led teams. The high-level communication skills inherent in a university education (written and oral), as well as the skills to research and critique the literature, equip the graduate veterinary technicians and nurses to develop evidence-based policies and procedures which increase practice efficiencies and productivity. However, in many cases, we currently have a valuable, highly educated resource that is not being fully utilised. In making recommendations from this Inquiry, *The Educators* urge the NSW Government to consider the benefits that would ensue if an innovative model for the veterinary interprofessional team was developed—relieving the veterinarian's workload while enhancing job satisfaction and career prospects for other key members of the veterinary team.

...given the exponential growth in medical information and the rapidly changing social environment, it is clear that veterinarians cannot continue to do it all or do it alone (Kogan & Stewart 2009, p. 200).

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## Appendix 1

### Biographies:

#### **Professor Paul Mills, BVSc PhD MACVSc GCEd MPhil (Vet Ed) PFHEA**

Paul Mills is the UQ Veterinary Technology Program Coordinator. In this role, his primary responsibilities are to support and guide the directions of the program. His research interests include veterinary pharmacology and therapeutics, with special interest in transdermal drug delivery, pulmonary therapeutics and the control of inflammation. An additional interest includes wildlife ecology and therapeutics.

Professor Mills has attracted over \$7 million in funding from research (ARC, NHMRC) and education (Carrick Institute, Office of Learning and Teaching (OLT)) sources, with over 170 scientific publications. He received two National (OLT) Teaching Excellence awards and several institutional awards, and is the Australasian representative on the Council for International Veterinary Medical Education (CIVME). He has served a term on the editorial board for Journal of Veterinary Medical Education and is the current editor-in-chief for Journal of Veterinary Pharmacology and Therapeutics.

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#### **Dr Patricia Clarke BVSc (Hons IIA) PhD Grad Dip Ed**

After graduating from The University of Queensland (UQ), Trish worked as a small animal veterinarian for 15 years. Trish completed a Graduate Diploma in Education at UQ in 1990 which led to a full-time teaching career in the vocational training of veterinary nurses with TAFE Queensland from 1993. In 2002, Trish was appointed as the inaugural coordinator and lecturer of the final year of the Bachelor of Applied Science (Veterinary Technology) degree at the School of Veterinary Science, UQ. Trish's teaching interests lie in veterinary technology professional studies and professionalisation of veterinary nursing/veterinary technology. Trish was awarded a PhD by UQ in 2019. Her thesis examined the role of higher education in the advancement of veterinary technology in Australasia, focusing on the history and professionalisation of veterinary nursing and veterinary technology in Australasia and Asia, and curriculum design.

Trish has published in the veterinary, veterinary nursing and higher education literature in Australia and internationally. Currently, Trish is the Chair and Australian Veterinary Association representative on the National Industry Advisory Group for Veterinary Nursing, and a member of the AVNAT Regulatory Council. Trish was awarded a UQ Excellence in Teaching Award in 2006 for her contribution to veterinary technology teaching and learning. In 2023, Trish was made an honorary member of the Veterinary Nurses Council of Australia for her long-term contribution to veterinary nursing in Australia.

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#### **Dr Robert Hedlefs BVSc Grad Cert Public Sect Mgmt, FAVA**

Dr Hedlefs is a long term resident of north Queensland with a keen interest in the cattle industry and the management of endemic and exotic diseases in tropical regions.

Dr Hedlefs has worked in private practice mainly with cattle in Victoria and Queensland and undertaken research on disease surveillance systems for production animals in PNG, Fiji and the Solomon Islands. With the introduction of an undergraduate veterinary degree Associate Professor Hedlefs developed and delivered the Public Veterinary Medicine and Cattle Health and Production component of the undergraduate veterinary degree at James Cook University.

Dr Hedlefs also chaired the review of the Veterinary Surgeons Act for Queensland in 2012 and maintain an active interest in veterinary ethics, education and mentoring.

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**Dr Esther Callcott** BMedSc(Hons) PhD Cert IV VN

Esther is a Medical Biochemist with extensive research experience in both veterinary and human medicine. Esther completed her Certificate IV in Veterinary Nursing in concurrence with completing a Bachelor's in Medical Science with Honours in 2009. Esther has over 15 years clinical veterinary experience in both general practice and specialist clinics. Esther is the Head of Discipline and Lecturer for the Bachelor of Veterinary Technology at Charles Sturt University (CSU). Esther is responsible for managing the academic operations of the course which includes engaging with external university partnerships with Goulburn Ovens TAFE, Victoria, that delivers the Certificate IV in Veterinary Nursing integrated into the Veterinary Technology program. She leads a team of academics in delivering a student-focussed undergraduate program aimed at producing industry-ready Veterinary technologists proficient in day-one clinical competencies. She is a member of the NSW Division of the Veterinary Nurses Council Australia.

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**Ms Trish Farry** RVN AVN VTS (Emergency and Critical Care & Anaesthesia/Analgesia) Cert IV TAA, GCHEd

Trish Farry is a registered veterinary nurse with specialist qualifications in emergency/critical care and anaesthesia/analgesia. She is a lecturer and clinical instructor at The University of Queensland, and co-coordinates final year and postgraduate subjects in the Bachelor of Veterinary Technology program. Her areas of teaching include emergency medicine, anaesthesia, analgesia and clinical practices for undergraduate veterinary and veterinary technology students. Trish has published numerous textbook chapters and journal articles and is regularly asked to lecture at national and international conferences. Professional positions held include: President of the Academy of Emergency and Critical Care Technicians and Nurses (AVECCTN) and past Board members of the Academy of Veterinary Technician Anaesthetists (AVTAA), the International Veterinary Academy of Pain Management (IVAPM). In 2018 she was honoured to receive both the VNCA Veterinary Nurse of the Year and the AVECCTN Speciality Technician of the Year award. Trish currently serves as Vice-President of the VNCA, a Director of the Veterinary Emergency and Critical Care Society (VECCS) and incoming (2023) as a Board member of the North American Veterinary Community (NAVC). Trish is currently enrolled in a MPhil with her research titled "Safe Anaesthesia in Laboratory Zebrafish".

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**Dr Bridget Naughton** BVSc (Hons), MSc (Veterinary Education), FHEA

Bridget Naughton is the acting Head of Program of the Bachelor of Veterinary Nursing at Melbourne Polytechnic/ La Trobe University. She graduated with a Bachelor of Veterinary Science from The University of Melbourne in 2000. While working in a variety of Veterinary Practices both in Australia and the United Kingdom she developed an interest in Veterinary Nursing education within the clinical setting. She started work as a part time sessional at Melbourne Polytechnic in 2015, teaching into the Associate Degree of Veterinary nursing during its inaugural year. She continued to work in practice and teach part time into the course before gradually transitioning over to a full-time teaching position. She studied through the Royal Veterinary College to gain her MSc in Veterinary Education from the University of London. Her areas of interest are reflection, Work Integrated Learning and professional identity formation.

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**Ms Angela Chapman RVN Dip AVN VTS (Emergency & Critical Care) Dip HE CVN Mmgt**  
Angela graduated as a veterinary nurse in the UK in 2003 and shortly after began to work night and weekend shifts in a busy 24/7 GP/emergency clinic, where she discovered her passion for Emergency and Critical Care (ECC). In 2010, Angela moved to Australia after completing her Advanced Veterinary Nursing Diploma and worked in a number of ECC clinics around Australia before taking on the role as Head Nurse of ECC at the University of Melbourne, where she established a continuing education fund for Veterinary Nurses and was Co-Chair of the University of Melbourne Veterinary Nursing Conference. Whilst there she completed her Veterinary Technician Specialist qualification in ECC, and then had the opportunity to move on and take a teaching role in the Bachelor of Veterinary Nursing, run in partnership with Melbourne Polytechnic and La Trobe University. Since starting this role in 2016, Angela has completed a Masters in Management and has been invited to speak at multiple veterinary nursing conferences within Australia and has authored a number of book chapters and journal articles on a variety of veterinary nursing topics. She has been a member of a number of committees including the AVECCT credentials and AVECCT nursing standards committees and is passionate about promoting continuing education for veterinary nurses. Angela is currently enrolled in a PhD with La Trobe University. Her topic is, 'Organisational factors and intervention strategies to address burnout in veterinary nurses'.

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**Dr Courtney Baskerville CertII EqStudies BBiomedSc (Hons) PhD GCertHE**

Courtney Baskerville is the current Program Director for the Bachelor of Veterinary Technology Degree at the University of Adelaide. Courtney has a Certificate II in Equine Studies, an Undergraduate Degree with Honours in Biomedical Science and a PhD investigating equine laminitis from the University of Melbourne. Courtney also has a Graduate Certificate in Higher Education and has been teaching into Bachelor of Veterinary Nursing/Technology programs in Australia since 2016. Courtney was a member of the team awarded the Excellence Award for Higher Education Teaching and the Excellence Award for Partnering for Economic and Community Success in 2019 from Melbourne Polytechnic.

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**Mr Brett Smith B. Applied Science (VetTech), Post-Grad Dip in Education (Adult Education)**  
Brett Smith graduated from The University of Queensland with a Bachelor of Applied Science Veterinary Technology and was employed during his final semester at UQ's veterinary teaching hospital's emergency afterhours service. Brett worked as a Veterinary Technologist and student clinical mentor for two years prior to taking up a Lectureship at Massey University, New Zealand teaching into the newly established Bachelor of Veterinary Technology. During his time at Massey Brett completed a Postgraduate Diploma in Adult Education. Brett enjoyed an eight-year association with Massey University teaching and assisting in the management of the Bachelor program. Brett has also taken the opportunity to teach vocationally with TAFE Qld, Open Colleges and UQ Skills delivering the Cert IV of Veterinary Nursing. In 2019 Brett joined the University of Adelaide to teach into their newly offered Bachelor of Veterinary Technology degree and was involved through to the graduation of the first cohort from The University of Adelaide.

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**Dr. Geoff Dutton** BVSc, BSc, PGDip (Conservation Biology), GCULT, PhD

Dr Geoff Dutton is currently Associate Head of School – Veterinary Science which encompasses the Veterinary Science, Veterinary Technology and Equine degrees within the School of Agricultural, Environmental and Veterinary Sciences at Charles Sturt University, Wagga Wagga.

Geoff first completed a Science degree in Biological Sciences at the University of Newcastle before moving onto a Veterinary Degree at the University of Sydney. As a new graduate he worked at the RSPCA, Newcastle. At the time a very busy 3 person practice servicing the RSPCA shelter, councils in the area and the public. This involved not only small animal work but also farm work After this Geoff worked in Tasmania for a short period in mixed practice in Devonport before returning back to Newcastle. First with the RSPCA for a while then as a locum on the Central coast. An interest in wildlife/conservation then took him up to the University of Queensland to study a Post graduate Diploma in Conservation Biology which then led to his PhD at the University of Sydney entitled “Methods of measuring marine mammal reproduction.” During this time, he tutored Veterinary Anatomy in the then Department of Veterinary and Pathology, as well as filling in teaching Anatomy to Agriculture and Veterinary students.

Geoff then moved to Massey University in NZ where he again taught Veterinary Anatomy and Histology to Veterinary students and the new course at the time to veterinary nurses. In 2004 he returned for a short stint in Sydney then progressed to the new CSU Veterinary School in 2005. Here he helped to set up the early parts of the course. With the help of other staff, he helps to set up the early years of the course and its progression. He continued to teach most of the Veterinary Anatomy course until late 2021 when he took up the position of Associate Head (Veterinary Sciences) within the School of Agricultural, Environmental and Veterinary Sciences. He has continued his dedication to teaching and wildlife research/care throughout this time as well as ensuring that the University produces ground ready graduates.

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