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Exploring the experiences and expectations of allied veterinary professionals in New Zealand

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Abstract

Since the start of the 19th century veterinary nurses have played an increasingly pivotal role within the veterinary healthcare team. Veterinary nurses, and all allied veterinary professionals, are considered an essential component to any veterinary team today. Veterinary Technology is an emerging profession affording graduates a broad curriculum typically at bachelor-level, and a wider clinical skillset than traditional vocational veterinary nursing programmes. Massey University launched its Bachelor of Veterinary Technology (BVetTech) programme in 2009, and it ran successfully until 2021 when the programme closed. One of the key drivers for undertaking this research was to investigate the experiences of graduates of the BVetTech programme, and their contributions to the veterinary industry.

The purpose of this research was to:

- 1) Explore the experiences of Veterinary Technology graduates in the workplace
- 2) Investigate the contributions graduates make to the veterinary and allied animal health industries

Whilst there is considerable literature surrounding veterinary nurses in clinical practice in the New Zealand context (Gates et al., 2021; Harvey & Cameron, 2019; Kimber & Gardner, 2016), there is a paucity of literature encompassing veterinary technologists and their experiences in the workplace. This research is the first qualitative study of the BVetTech graduates from Massey University and explores their employment experiences in depth.

The study sample group comprised 15 graduates of the programme, employed in both veterinary clinical practice and allied animal health fields. This case study utilised semi-structured interviews to explore their experiences of employment, their expectations of the role, their perceptions of the BVetTech programme, and the challenges they have faced in the industry.

These findings affirm comparative literature for allied veterinary professionals in clinical practice, within which BVetTech graduates are a small cohort. This research highlights the need for greater qualification recognition and utilisation of AVPs in the workplace. It also highlights the importance of professional identity and the pivotal role that BVetTech graduates can, and could more extensively, play in addressing veterinary workloads and staff shortages.

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Abbreviations

AUD	Australian Dollar
AVA	Australian Veterinary Association
AVMA	American Veterinary Medical Association
AVP	Allied Veterinary Professional
BAppSc	Bachelor of Applied Science
BVN	Bachelor of Veterinary Nursing
BVNA	British Veterinary Nursing Association
BVSc	Bachelor of Veterinary Science
BVT	Bachelor of Veterinary Technology
BVetTech	Bachelor of Veterinary Technology
CPD	Continuing Professional Development
DVN	Diploma of Veterinary Nursing
HE	Higher Education
NAVTA	National Association of Veterinary Technicians in America
NZD	New Zealand Dollar
NZVA	New Zealand Veterinary Association
NZVNA	New Zealand Veterinary Nursing Association
OIE	Office International des Epizooties
RAT	Rural Animal Technician
RCVS	Royal College of Veterinary Surgeons
RVN	Registered Veterinary Nurse
SPCA	Society for the Protection of Cruelty to Animals.
UK	United Kingdom
UQ	University of Queensland
US	United States
VN	Veterinary Nursing
VNA	Veterinary Nursing Assistant
VT	Veterinary Technologist

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Chapter One: Introduction

1.1 Background

The allied veterinary professional is a valued and integral part of the veterinary team. In New Zealand, allied veterinary professionals (AVPs) include veterinary technologists, veterinary nurses, and rural animal technicians. Historically, this has evolved from more humble beginnings to being a highly trained profession. Since the 1960s, with the commencement of the first veterinary assistant training schemes, the role of the veterinary assistant has accelerated and evolved significantly to the present day (Kinnison et al., 2015). The role of the AVP is increasingly important, and closely affiliated with veterinarians in companion animal health, food safety, livestock animal health, and clinical practice (Clarke et al., 2019). Allied veterinary professionals occupy a niche and broad space, with employment opportunities spanning many areas of the workforce including veterinary clinical practice, education, biosecurity, and allied animal health fields. The World Organisation for Animal Health state that animal paraprofessionals are involved in disease control activities in the field including both ante and post-mortem inspection, food safety, and investigations of zoonotic disease (WOAH, 2021).

Veterinary nursing is a traditionally vocational profession, where many nurses initially received training whilst employed. The first veterinary nurses in New Zealand graduated in 1976 (Hennessey, 2005). A key movement in the 1990's in the United Kingdom resulted in the academisation of selected vocational professions including human nursing, veterinary nursing, and midwifery (Findlow, 2012). In Australia, Veterinary Technology commenced in 2001 at the University of Queensland, which coincided with the global shift in higher education accessibility (Clarke et al., 2019). The emergence of veterinary technology is regarded as a mid-tier tertiary qualification, bridging the divide between veterinary science, and vocationally based veterinary nursing (Clarke et al., 2015).

The Bachelor of Veterinary Technology (BVetTech) was launched in 2009 as a three-year qualification for allied veterinary professionals at Massey University. Since undertaking this thesis, the programme has unfortunately been closed by the University due to funding and financial limitations. The last intake of students completing their final year in 2021. Veterinary Technology occupies an exciting niche and is considered an emerging profession in both the veterinary and allied animal health fields (Clarke et al., 2015). Advantageously, the three-year programme allowed the training of a broad array of clinical skills in a shorter timeframe than veterinary science (Gates et al., 2021).

The nomenclature surrounding veterinary teams also varies across the literature and is worth mentioning. In New Zealand, veterinary nurses are typically employed in companion animal practice,

whilst animal technicians, or veterinary technicians typically are employed in production animal practices. BVetTech graduates are known as veterinary technologists. Table 1.1 below provides an overview of the current veterinary qualifications in New Zealand. Further information on the tertiary providers for each qualification can be found in Appendix A. There has been a conscious shift to move away from the term ‘paraprofessional’ as this alludes to someone who assists professionals but is not a member of the profession themselves (Hamlin, 2013), whereas the term ‘technician’ denotes someone whose occupation involves training in a specific technical process (Reader, 2012). The more recent term of ‘Allied Veterinary Professionals’ (AVP) is considered appropriate (AVPRC, 2022), and is the term utilised throughout this study.

Qualification	Level	Credits
New Zealand Certificate in Animal Care	3	70
New Zealand Certificate in Animal Management	4	120
New Zealand Certificate in Animal Technology (Veterinary Nursing Assistant)	5	120
New Zealand Diploma in Veterinary Nursing	6	120
Bachelor of Veterinary Nursing	7	360
Bachelor of Veterinary Technology	7	360
Bachelor of Veterinary Science	7	600

Table 1.1 Veterinary qualifications in New Zealand in 2021.

Several key issues plague AVPs in the industry. These include poor remuneration, lack of formal recognition, attrition, compassion fatigue and burnout. Consistently high workload demands can negatively impact allied veterinary professionals (Kimber & Gardner, 2016) putting them at greater risk of compassion fatigue and burnout (Deacon & Brough, 2017). Veterinarians are not immune to this however, with several recent studies examining reasons for the current veterinary staffing shortage and attrition from the industry (Arbe Montoya et al., 2021; Gates et al., 2020; Hagen et al., 2020). This is of relevance as the veterinary industry is currently facing a shortage of veterinarians, for multiple reasons including long work hours, relationships with colleagues, stress and the emotional impact of euthanasia (Gardner & Hini, 2006). Given this, a plausible solution could be increased utilisation of allied veterinary professionals, to help alleviate some of the current stressors faced. An increase in AVP utilisation and a redelegation of some technical tasks would permit veterinarians more time to focus on veterinary-only procedures including prescribing medication, diagnosing disease, and performing surgery (Chadderton et al., 2014).

1.2 Research motivation

As both a graduate of the BVetTech programme, and a former lecturer for the programme, I have a vested interest in gaining greater understanding of the current climate and experiences of the graduates. While a relatively new qualification is likely to be challenging for graduates to forge a path ahead in terms of articulating identity within the profession and defining the role in the workplace, discussions with latter cohorts revealed this was still largely the case.

This research sought to investigate the experiences of graduates, to capture the current climate of the profession and to see how the graduates were placed in the industry. Until recently there was little data related to the graduates of the programme. Garnering a greater understanding of the current situation of the graduates could help to inform future decisions for professional learning and career pathways.

1.3 Research methodology

A qualitative approach was taken for two key reasons. Firstly, it allowed for exploration of the graduates' experiences in depth. Secondly, it would be the first qualitative study focused on the Veterinary Technology graduates in New Zealand. The sample population comprised graduates of the Bachelor of Veterinary Technology programme from Massey University. All graduates of the programme (n=269) were invited to participate in the study, including those working in both veterinary clinical practice and allied animal health fields. Geographically the study was not limited, however all respondents were employed in New Zealand. In total fifteen graduates responded to the invitation and were interviewed. The study was conducted utilising a semi-structured interview technique over Zoom.

1.4 Outline of this thesis

Chapter One is an introduction to the vocational profession of veterinary nursing, and its history and evolution to allied veterinary professionals. The introduction also explores the foundational philosophy underpinning this thesis.

Chapter Two comprises a critical review of the current literature encompassing allied veterinary professionals, both within New Zealand and drawing on international comparisons. It identifies gaps in the literature about experiences of veterinary technologists in New Zealand, that this research seeks to address.

Chapter Three discusses the methodology, from both a theoretical standpoint and practical application. Case study methodology is introduced, alongside the study aims, research questions, and how the research is to be conducted. This section also examines the ethical considerations for this study, as well as validity, reliability, and integrity of the research results. This chapter includes participant recruitment and selection criteria, data collection and analysis processes.

Chapter Four reports the findings of the research. Each section addresses different interview themes in order to answer the research questions.

Chapter Five discusses the findings from this study. This chapter examines the findings for convergence and divergence from published literature. It identifies areas of contribution to current literature and areas for future research.

Chapter Six the Conclusions chapter summarises and highlights key outcomes of the study, discusses limitations of the scope of the research, identifies areas for future research, and provides recommendations for future professional policy and practice.

Chapter Two: Literature Review

2.1 Introduction

This literature review provides a brief overview of the history of veterinary nursing. The review then explores what is currently known about veterinary technology graduates in Australasia. There is a paucity of literature surrounding veterinary technologists, so these studies are limited in nature. The review compares several prominent studies of veterinary technology graduates and highlights clear themes that have emerged from them, including employment destinations, career challenges, career advancement, and utilisation. The chapter concludes with a summary and highlights the gaps in literature which have helped to formulate the research questions.

2.2 History of Veterinary Nursing

The veterinary paraprofession, like any profession, took time to establish itself to where it is today. Prior to the establishment of the Royal College of Veterinary Surgeons (RCVS) in 1844 in the United Kingdom, veterinarians in England typically only treated large animals, whilst dogs and cats were treated if time permitted (Turner, 1994). Often the maid or spouse of the veterinary household tended to the nursing duties, which at this time comprised reception and greeting owners (Bassett et al., 2018; Turner, 1994).

During the start of the twentieth century several key movements occurred: the Dogs Protection League, and the Canine Nurses Institute. The Dog's Protection League was operational in London and catered to dogs belonging to poorer members of society. This league had several nurses employed, all of whom wore uniforms, and were highly regarded for their work (Turner, 1994). The Canine Nurses Institute trained nurses and followed a code of conduct. The code outlined key veterinary nursing ethical principles including discretion, abstention of diagnoses or treatment, and the need to not 'divulge the private affairs of others' (Turner, 1994).

Small animal practice accelerated after World War II. Foremost, veterinary nursing appeared as a chapter in the newly revised *Hobday's Surgical Diseases of the Cat and Dog* (1947) (Jones, 2011). In the 1960's the first training programme was recognised for veterinary nurses in the UK, with the first Animal Nursing Auxiliary (ANA) qualified in 1962 (RCVS, 2021). In 1965 the British Veterinary Nursing Association was formed; however, this became the British Veterinary Nursing Auxiliaries Association due to tensions surrounding the use of the word 'nurse' (RCVS, 2021). The title of nurse was protected

by human nurses and midwives until 1984 (Turner, 1994) when the title of 'Veterinary Nurse' was first issued (RCVS, 2021). Formal recognition was gained with the amendment of the Veterinary Surgeons Act (1966) in 1991 to include the role of the veterinary nurse (RCVS, 2021). Finally, the RCVS commenced nationally recognised qualifications in 1997 (RCVS, 2021).

In the United States, acceptance of veterinary technicians as members of the profession also took time (Chadderton et al., 2014). The very first animal technician course was orchestrated for the enlisted Air Force members (Chadderton et al., 2014), with several 'Veterinary Corps' graduating a year later (Lukens & Walsh, 2015). In the 1960's Veterinary Technology was in its infancy in the US, and the first formal University-led programme commenced (Bassett et al., 2018). The graduates were known as Animal Technicians, and in the large animal context performed skills such as foot trimming. In 1989 that the AVMA approved the use of the term veterinary technician to replace animal technician (Chadderton, et al., 2014; Bassett, 2018).

2.3 Theme One - Employment

Analysis of the employment destinations, or where veterinary technology graduates are employed within the veterinary industry revealed various trends in employment. Several graduate surveys have been performed by the University of Queensland (Clarke et al., 2009; Clarke et al., 2019). The first three cohorts (2003-2005) to graduate through the University of Queensland BAppSc (Veterinary Technology) programme were surveyed (Clarke et al., 2009) to determine both the graduate demographic and employment destination of the students. Unsurprisingly, 93% of respondents (n= 69) were female. This echoes the Veterinary industry worldwide, which has seen a dramatic shift in the number of female graduates relative to male. Just over half (52%) of participants were employed within a veterinary clinical role (35% general practice, 17% specialist practice). A further 26% were employed in a variety of related industries such as allied animal health, government departments, wildlife parks/zoos, and teaching or demonstrating at the tertiary level. The results demonstrated 87% of participants were employed relevant to their Veterinary Technology qualification, demonstrating the strong potential for the profession in Australia at the time.

A similar study was undertaken by The University of Queensland (Clarke et al., 2019) investigating the socio-economic status, employment status and satisfaction, industry preparedness and feedback from their Veterinary Technology graduates. The cohorts from 2003-2010 were included in this survey. From this graduate survey, 48% were employed within veterinary clinical practice (including general, specialist and teaching hospitals). Overall, 88% of respondents were employed within both the veterinary or allied animal health sectors, and of this 30% were in advanced roles (such as head nurse,

practice manager, or nursing manager). These findings are consistent with their earlier findings, and further demonstrates the strong employability of the graduates in Australia. In the New Zealand context, two previous studies have been conducted exploring the BVetTech graduates (Gates et al., 2021; Squance 2014). Gates et al, (2021) surveyed the Massey University BVetTech graduates (2011-2018) and concluded similar demographic findings to the UQ studies. The majority (82%) of respondents were employed in a veterinary related position, and of this the many graduates (44%) stated they were working in a small animal practice. These figures again reflect the earlier findings from the UQ studies.

	UQ graduates (Clarke et al., 2009)	UQ graduates (Clarke et al., 2019)	MU graduates Squance, 2014	MU graduates (Gates et al., 2021).
Respondents employed in veterinary and allied animal health fields	89%	88%	89%	82.4%
Veterinary practice				
Small animal	35%	48%	28%	44%
Production animal			20%	8.8%
Equine				2.4%
Mixed animal				15%
Specialist practice	11%		11%	0.8%
Exotic/Zoo practice	3%			2%
Teaching in higher education/academia	5%	8%	9%	9.6%
Research			6%	2.4%
Government	8%	14%	3%	1.6%
Allied animal health roles		18%	12%	
Not working as a veterinary technologist			3%	23.2%

Table 2.1: Comparison of employment destinations.

Analysis of those employed outside the typical clinical setting proved intriguing, as this is an area that sets Veterinary Technology graduates apart from vocationally trained Veterinary Nurses. Several graduates stated they were employed in a teaching capacity, such as within a teaching hospital, or in an academic role. Gates et al, (2021) found 9.6% of the respondents were employed in such a capacity, compared with 8% (Clarke et al., 2019), and 5% from the Clarke et al, (2009) survey. Other roles

graduates are employed in include veterinary practice management, wildlife hospitals and zoos, animal behaviour management, animal welfare agencies, veterinary diagnostic laboratories, biosecurity inspection in government agencies, large animal health, animal health technology (research), veterinary nutritional and pharmaceutical companies, and veterinary nurse educators (Clarke et al., 2009). Comparisons can be draw to New Zealand graduates, with respondents also stating they are employed as research technicians, a territory manager for a pharmaceutical company, a lecturer in higher education, retail managers, a field officer for the Society for the Protection of Cruelty to Animals (SPCA), a teat sealer, an ultrasound scan technician, a teaching technician, and a sterile supply technician (Gates et al., 2021).

2.4 Theme Two – Career Challenges

Any career has its share of challenges, and the veterinary profession is no exception. A US conference of various representatives of veterinary technicians in the US was held in 2011, which included academic representation, colleges offering veterinary technology programmes, government, industry, and specialty academies (Chadderton et al., 2014). The members convened to discuss and “identify the future needs and shape the direction of veterinary technology education” (Chadderton et al., 2014, p. 96). Within their open format of discussion at the conference, one theme resounded across all conversations – the role that veterinary technologists play is critical to the veterinary profession.

They highlighted several prominent issues commonly plaguing the industry:

- Underutilisation by veterinarians and clients
- Skills underutilised in private practice and rural sector
- Low salary relative to the skills and training they acquire, irrespective of the calibre of the qualification they hold
- Veterinary technologists hit the ceiling of the profession quickly, leading to career burnout within an average span of 5-7years
- Educational opportunities within a college setting (higher education) are limited.

(Chadderton et al., 2014).

These themes are pivotal and consistent through much of the relevant literature and are mirrored by strongly by Clarke et al, (2019). In their study, they revealed seven career challenge areas for further investigation; including recognition by both the veterinary nursing profession and the veterinary profession, equitable salary, acceptance in the workplace, lack of opportunity for career advancement, job burnout and continuing professional development (Clarke et al., 2019). The New

Zealand graduates reported the three worst aspects of their work as being: perceiving themselves as being overqualified for their roles, low remuneration, and the issue of compassion fatigue and burnout (Gates et al., 2021).

2.4.1 Lack of formal recognition

In Australia, some UQ graduates felt the lack of recognition by the official regulatory bodies (Australian Veterinary Association (AVA), and Veterinary Nursing Council Australia (VNCA)), as barriers to career development and progression (Clarke et al., 2019). In accordance with their findings, some graduates “having to complete a lower-level course to be recognised to work as a vet nurse, despite having a degree” (Clarke et al., 2019 p. 134). This parallels with the New Zealand study, with a common theme among those respondents who stated they were dissatisfied with their role in the workplace was due to being significantly underutilised (Gates et al., 2021).

2.4.2 Colleague resistance

Another resounding theme throughout the literature, is the notion that some members of the profession are resistant to change and have a so-called ‘patch-protection’ over their roles. Some graduates of the UQ survey (Clarke et al., 2009) reported they felt they were a threat to both veterinarians and veterinary nurses, “this may be a control issue or a trust issue on behalf of the veterinarian” (Clarke et al., 2019, p. 134). A further suggestion is that the lack of recognition from the veterinary profession plays a role in this complex issue, as the programme is still a relatively new arrival to the industry. Feedback from the recent Massey University survey highlighted an intriguing generational divide, with younger veterinarians reportedly more amenable to utilising veterinary technologists in practice, whereby more experienced veterinarians “seem to be a bit more stubborn and stuck in their ways” (Gates, et al., 2021, p. 6).

2.4.3 Low remuneration

The theme of low remuneration is echoed in the work by Gates et al (2021) as the median reported salary was \$42,640 NZD, whilst the median reported wage was \$20/hour NZD, which is considered low when compared to the current national average wage of \$21.20/hour NZD (MBIE, 2021). As a direct comparison, the New Zealand Veterinary Nursing Association (NZVNA) have recently published their wage guidelines, which recommends a starting wage of \$25/hour NZD, climbing to \$30/hour NZD with four more years’ experience (NZVNA, 2022). The median salary from the 2019 UQ study is equivocal to the years of experience since graduating, ranging from a median salary of \$44, 500 AUD for of whom completed their studies between 2007-2010, whilst those who completed their studies 2003-2006 had a median salary of \$60,000 AUD (Clarke *et al* 2019). Even with the understanding the

data collection for this study occurred in 2011, this is still well above the findings from Gates et al., (2021). Several of their respondents mentioned they're working outside of veterinary clinical practice, with the strongest factor for this being the attainment of a higher salary (22/26) in areas such as government roles.

2.5 Theme Three – Career advancement

A lack of career advancement is a theme strongly echoed across multiple graduates' surveys in the literature, with multiple posited explanations including an unawareness of career opportunities (Chadderton et al., 2014), a lack of recognition by the profession (Clarke et al., 2019), and a consistent understaffing of veterinary nurses (Turner, 1994). In Australia, Clarke et al., (2019) found that a lack of career advancement was the most important challenge faced by veterinary technologists. It was noted in the studies that many graduates had completed further education, possibly in response to this limitation of career advancement. The majority of respondents (Clarke et al., 2019) had either completed or were currently completing further qualifications, including postgraduate study in a variety of subject areas (veterinary parasitology, emergency management, animal science, adult education, business, nutrition, dietetics, human parasitology, veterinary microbiology, animal genetics, education, public health), veterinary science, or a vocational qualification in veterinary nursing (most commonly Cert IV in Veterinary Nursing). A large proportion (40%) of all respondents had undertaken further vocational training inclusive of veterinary nursing, sales and marketing, meat inspection, and canine training (Clarke et al., 2019). Chadderton et al., (2014), suggested several areas for career development, foremostly the upskilling on clinical skills, or other areas such as practice management, business training, leadership training and marketing. No comparable statistics regarding advanced clinical roles were generated from the New Zealand study by Gates et al., (2021) and this would be an area for future investigation.

2.6 Theme Four – Underutilisation

A fourth theme of utilisation emerged from the literature. Gates et al., (2021) noted the utilisation and further development of skills as a key factor in role satisfaction, alongside forming positive relationships with clients, colleague and patients, and feeling they were achieving a meaningful difference in their work. The theme of positive contributions in the workplace is echoed by Chadderton et al., (2014) who noted that these contributions aren't always visible or accessible to clients, with a possible suggestion including enhanced visibility of qualifications and skills. Furthermore, Gates et al., (2021) found a common theme amongst those who were dissatisfied with

their work as being underutilised in clinical practice and suggested this could be due to the poor awareness of veterinary technology in clinical practice. A survey of NZ veterinary nurses (Harvey & Cameron, 2019) compared the perceptions of veterinarians and veterinary nurses in clinical practice, and the expectation of tasks conducted and found while many clinical skills were carried out by allied veterinary professionals, they found discrepancies in skills such as intravenous catheterisation and microscopy.

2.7 Summary

Whilst it is evident there is minimal literature of veterinary technologists in New Zealand, this provides ample opportunity to identify and contribute to this area of research. The paucity of literature is likely attributed to the fact it is a relatively recent qualification. Several themes emerged from the literature including common employment destinations, with many graduates working outside of clinical practice. Several participant comments indicate challenges may contribute to this decision to work outside of clinical practice, such as poor remuneration, lack of recognition and underutilisation. It also highlighted those working in clinical practice, and their experiences. These career challenges will be explored further in this author's study. Another important gap to be addressed in the literature is reporting participants' perspectives, since the studies reported above used quantitative research methodologies. The current research study will use a qualitative case study approach to address this gap – with fuller explanation of the rationale and methodology in the next chapter. This research offers an opportunity to investigate the veterinary technology graduates in depth, and to seek understanding of the current experiences of the graduates in the workplace.

Chapter Three: Study Design and Methodology

3.1 Introduction

The broad aim of the study was to explore the experiences of veterinary technology graduates in the workplace. This chapter discusses the rationale for conducting qualitative case study methodology, and details the research questions, research boundaries, and participant selection. The chapter then outlines qualitative data collection methods, and the rationale for conducting semi-structured interviews to explore and examine the experiences of the graduates. Ethical considerations are discussed, before concluding the relevance of the research design to address the research questions.

3.2 Qualitative and Quantitative Methodology

The dichotomy between quantitative and qualitative approaches to research is not a new phenomenon. Qualitative researchers seek to understand complex interrelationships amongst the world (Stake, 1995). Qualitative research designs employs many forms of data, including observation, interviewing, and the analysis of documents (Hammersley & Traianou, 2012). This methodology typically occurs in natural settings and often takes researchers in close, and in some cases involved with long-term relationships with people (Hammersley & Traianou, 2012). Quantitative research designs, on the other hand, are often viewed by their practitioners as being more objective, and respondents are categorised into rigid criteria (Abusabha & Woelful, 2003). Quantitative researchers look for explanation and control (Stake, 1995), which is achieved typically by means of testing a hypothesis. Data in this form is structured in such a manner that it can be used to objectively measure outcomes of pre-determined objectives (Hammersley & Traianou, 2012). Simplistically, many hold the view that quantitative research relates to the analysis of numbers, whilst qualitative research analyses words.

Three major differences in qualitative and quantitative emphasis deserve attention according to Stake (1995):

- 1) the distinction between explanation and understanding as the purpose of inquiry;
- 2) the distinction between a personal and impersonal role for the researcher, and;
- 3) a distinction between knowledge discovered and knowledge constructed.

“The key to understanding qualitative research lies with the idea that meaning is socially constructed by individuals interacting with their world” (Merriam & Grenier., 2019. p.3). Qualitative researchers may study things within their own settings, becoming immersed in it, to attempt to make sense of the phenomena, through a variety of tools like life story, case study, personal experience, and interviews

(Denzin & Lincoln, 2018). Qualitative research seeks depth and understanding (Paterson, 2019). For this study, I am wanting to explore a social phenomenon in-depth, and investigate graduates' stories and experiences, to help to understand the graduate's role within the veterinary industry. Utilisation of qualitative methodology provides a rich insight into this phenomenon and, as detailed in the following descriptions, was considered particularly appropriate for this study.

3.3 Qualitative Methodology

Qualitative research methodology includes ethnography, narrative studies, action research, and case studies. Each method is a different way of collecting and analysing empirical evidence (Yin, 2014).

Ethnography

Ethnography is the study of the way of life of some identifiable group of people, including individuals, events and customs that are of anthropological interest (Punch & Oancea, 2014; Wolcott, 1990). The understanding of customs and culture does fit with this study, particularly from a professional cultural examination lens.

Case studies

Case study methodology differs again and has several defining features. These characteristics include investigating a phenomenon that is bounded, or easily defined, and by addressing 'how' and 'why' questions. Alpi and Evans (2019) highlight case study research as having the following distinctions: clarity of the role of the investigator, the research definitions and delimitations (boundaries) of the case, the rigor of gathering and combining research, and the contextualisation of the results. As this study is looking into phenomena (experiences of BVetTech graduates in the workplace) in a natural setting, and is bounded by time (graduate cohort), place and personnel (graduates of Massey University), case study research is the most suitable methodology for this thesis.

3.4 Case Study Methodology

Qualitative case study methodology is an exploration of a time and space-bound phenomenon (Alpi & Evans, 2019) and a desire to understand complex social phenomena (Yin, 2009). It aims to understand the case in depth, importantly in its natural setting, while recognising its complexity and its context (Punch & Oancea, 2014). Case study methodology permits researchers to focus on a case, while maintaining a holistic and real-world perspective (Yin, 2014). This may include neighbourhoods, organisational processes, or group behaviour (Yin, 2014). Yin (2003), a prominent researcher in this area, defined a case study as "an empirical inquiry that investigates the case or cases by addressing the 'how' and 'why' questions concerning the phenomenon of interest" (Yazan, 2015 p.138).

In accordance with Yin (2003) case study research design should be considered when you;

- a) aim to follow both 'how' and 'why' questions,
- b) cannot manipulate the behaviour of those involved in the study;
- c) want to cover contextual conditions because you believe they are relevant to the phenomenon under study; or
- d) the boundaries are not clear between phenomenon and context.

(Baxter & Jack, 2008 p.545).

There are several features of case study which can be further refined, according to Miles, Huberman and Saldana (2020). Firstly, a case is a phenomenon occurring in a bounded context. The case may be an individual, small group, community, organization, or a nation. Secondly, the term 'bounded' indicates it has clearly defined research boundaries. A bounded system is given, within which issues are indicated, discovered or studied so that a full understanding of the case is possible (Adelman et al., 1976). Typical boundaries relate to time, location, and types of personnel involved, and the topic, or research question(s) that focus the study.

Case study methodology serves several purposes, which influence the design. Yin (2003; 2014) broadly characterises these purposes as explanatory, exploratory, descriptive, in which the design may be single or multiple-case studies. Stake (1995) on the other hand theorises these purposes as intrinsic, instrumental, and collective case study approaches.

Explanatory case studies

If the research question focuses on 'what' questions, this often leads to an explanatory case study approach (Yin, 2014). This approach is suitable when looking to explain the causal links between phenomena, that are deemed too complex for a survey or experimental methodology (Baxter & Jack, 2008; Yin, 2003). In the explanatory approach the researcher must remain open to new revelations and discoveries throughout the process (Mills et al., 2010).

Exploratory case studies

An exploratory case study is suitable if the research questions are "how and "why" based, which lead to operational links traced over time (Yin, 2014). This differs from tracing frequencies or incidences (Yin, 2014). It is used to explore scenarios in which the situation or intervention being assessed is novel, has no set expectation, or outcome (Baxter & Jack, 2008; Yin, 2003).

Descriptive case studies

This type of case study is utilised to describe a phenomenon in its natural setting (Baxter & Jack, 2008; Yin, 2003), with the goal of detail and depth (Mills et al., 2010). Descriptive studies focus on connections, patterns, and links to theoretical propositions. This is a distinguishing feature, whereby the design aims to 'articulate a descriptive theory' (Mills et al., 2010).

Multiple-case studies

Multiple-case design utilises several bound case studies, to develop a deeper understanding of a phenomena (Mills et al., 2010). This allows for an exploration between (and within) cases, with the goal to facilitate replication of findings across cases (Baxter & Jack, 2008; Yin, 2003). Given this, the cases need to be carefully considered in order to attain a greater understanding of a theory, or the research question (Mills et al., 2010).

To an extent, it is possible for all types of case study to overlap and complement one another. Mills, Durepos and Wiebe (2010) suggest this is a possibility, as all methods follow similar aims:

1. To depict the relatively incontrovertible details of the people, place, events, transactions, and processes of the case – a description that others would likely make if they had been there;
2. To give a clear picture of what is happening, without making judgements – an organised and coherent presentation of the phenomenon, and;
3. To develop and expand on relevant concepts

Stake (1995) theorised case study methodology into three similar categories: intrinsic, instrumental, and collective.

Intrinsic

Intrinsic case study designs are used when a researcher has a genuine interest to better understand a case (Baxter & Jack, 2008; Stake, 1995). The case is considered unique, peculiar, and the researcher seeks to understand the case itself. The findings are not considered general and applicable across cases and could be coined an exploratory investigation (Mills et al., 2010).

Instrumental

Instrumental case study research focuses on studying a case to generate an overarching theory, or to confirm previous generalisations. Importantly, the case facilitates and contributes to the perception of other cases studied (Mills et al., 2010). It helps to provide insight for application across other cases, or to refine a theory (Baxter & Jack, 2008; Stake, 1995). The case itself is secondary to understanding the specific phenomenon in question (Mills et al., 2010).

Collective

In this instance, comparisons are drawn between cases. This is a very similar approach to Yin's 'Multiple-case study' approach (Baxter & Jack, 2008; Yin, 2003). The cases themselves may be within the same institution or environment, or they may be comparing two different units across multiple sites (Mills et al., 2010).

Overall, qualitative case study methodology entails great complexity. Case study research remains one of the most challenging of all social science endeavours (Yin, 2014). Case study methodology is far from simply an exploratory method of research and has far-reaching applications within social science. Importantly, case study research is an approach that facilitates exploration of a phenomenon in depth, within its own natural setting (or context), whilst utilising a variety of data sources (Baxter & Jack, 2008). This methodology allows for a far greater depth of appreciation of the phenomena, as one is viewed the case through multiple lenses, allowing for multiple facets to be revealed and understood (Baxter & Jack, 2008).

3.5 Limitations with Case Study Research

Any research methodology encompasses both positive and negative attributes, and case study research isn't immune to this. Understanding and reporting the case study can prove difficult, due to the complex methodology involved. Often, the study reveals a broad array of information, which can be difficult to report concisely (Baxter & Jack, 2008). Case study research is often labelled as limited and is a common critique of the methodology (Punch & Oancea, 2014). The generalisability, or its application to the wider population can be viewed as troublesome.

Case studies are successful in informing researchers of the complexities surrounding educational and social phenomena, however there is often a problem of representation (Hodkinson & Hodkinson, 2001). Due to the size of the sample, and the data being non-numerical in nature, this results in the perceived inability to utilise the data as representative of a larger population (Hodkinson & Hodkinson, 2001). In order to counter this, to avoid generalisability, the case study can inform the theoretical development, refinement, or to alter propositions to current thinking (Punch & Oancea, 2014). Depending on its purposes, and especially on the way its data are analysed, a case study can inform theoretical development that can be potentially applicable to other cases (Punch & Oancea, 2014).

The role of the researcher is a second limitation in this case. Trustworthiness is implicitly important in qualitative studies, as it encompasses rigor, validity and credibility (Paterson, 2019). The primary researcher for this study was a member of the inaugural class of 2011 and commenced employment in a teaching capacity in 2012. This has resulted in a unique position where the researcher knows all

graduates of the BVetTech programme personally, having taught them in some capacity. Whilst this is a useful attribute, as it results in a positive rapport with graduates, it can also be problematic and result in inherent bias. To mitigate this conundrum, frequent communication with external parties who did not collect data (Merriam, 2002) will be exercised, alongside collegial guidance from the research supervisors.

3.6 Research Questions

The research area of interest is broadly the veterinary industry. Within this large scope of practice, I am interested in allied veterinary professionals (veterinary technologists, veterinary nurses, rural animal technicians etc.) within the New Zealand context. Ideally, I would explore all qualified allied veterinary professionals, and their experiences in both clinical practice and the allied animal health industry. That boundary is far too large or feasible, therefore my focus is on the graduates of the Bachelor of Veterinary Technology programme from Massey University, Palmerston North.

I am interested to explore two main themes:

- 1) Explore the experiences of Veterinary Technology graduates in the workplace
- 2) Investigate the contributions graduates make to the veterinary and allied animal health industries

Following this, the study research question is:

What are the expectations and experiences of allied veterinary professionals in clinical practice?

Within this overarching question, two sub-questions emerge. These include:

1. *How are allied veterinary professionals utilised in the veterinary industry?*
2. *What are the barriers for allied veterinary professionals in clinical practice?*

3.7 Participant Selection

Given the nature of case study research, the research participant boundaries are as follows: Participants who have graduated with a Bachelor of Veterinary Technology from Massey University, from years 2011-2020 inclusive (n = 269). The participants are not limited spatially geographically and is inclusive of those working in both veterinary clinical practice and allied animal health sectors. For those employed within veterinary clinical practice; this includes small animal, production animal, equine, exotics, and mixed-animal practices.

3.8 Data Collection

Researchers in education study a variety of human experiences utilising multiple sources of qualitative data and by adapting various methodologies (Punch & Oancea, 2014). The act of collecting qualitative data can vary, and in turn the variations are underpinned by differing epistemological approaches (Carter & Henderson, 2005). This is inclusive of symbolic interactionism, feminism, Marxism, ethnomethodology and structuralism/post-structuralism (Carter & Henderson, 2005). The data collection methods and the sampling strategy need to be consistent with research purposes and questions (Punch & Oancea, 2014). Stake (1995) lists the essential aspects of data collection as: firstly, defining the case, listing research questions, identification of a helper, data sources, allocation of time, expenses, and the intended reporting. Data can be collected from a variety of sources, including interviews, documentation, direct observation, physical artefacts, and participant observation (Yin, 2014). Case study research provides the advantageous opportunity to utilise several different sources of evidence (Yin, 2014) which is beneficial for this study, and aids to the robustness and richness of the phenomena.

Document analysis

Documents provide a rich array of background information, which provides ample opportunity to triangulate data from a variety of sources. Document analysis includes utilising diaries, letters, essays, biographies and reports (Punch & Oancea, 2014). For case study research, the most important use of documents is to corroborate and augment evidence from other sources (Yin, 2014). In the veterinary context, examples of document analysis would include patient records, administrative information and case reports. Case reports would likely divulge information relevant to treatment protocols, staff roles and responsibilities, scope of practice, and equipment utilised.

Direct Observation

A second method of data collection within the veterinary context is direct observation. Observation has a long tradition in social sciences (Punch & Oancea, 2014) and is further source of evidence when conducting case studies (Yin, 2014). One of the founding principles of case study research is that it takes place in real-life context, and thus this creates the ability for observations to occur directly within that environment (Yin, 2014). Punch and Oancea (2014) introduce to concept of structured and unstructured observations, with direct ties to quantitative and qualitative methodologies. Structured observations rely on pre-developed schedules. Unstructured observations occur in a natural open-ended manner, without a pre-determined classification system (Punch & Oancea, 2014).

Interviews

One of the most important sources of case study information is the interview (Yin, 2014). Utilisation of interviews is a critical component of case study evidence, as most case studies focus on human affairs or actions (Yin, 2014). In this instance, the interview is a mechanism in which to explore the experiences of graduates. They are considered guided conversations, as opposed to structured queries (Yin, 2014). The overall aim of the interview is to follow two main points, as suggested by Yin (2014). Firstly, to follow the line of inquiry; and secondly, to ask conversational questions, in an unbiased manner. Although you will be pursuing a line of inquiry, your actual stream of questions in a case study interview is likely to be fluid rather than rigid (Yin, 2014; Rubin & Rubin, 2011). Qualitative case study seldom proceeds as a survey with the same questions asked of each respondent; rather, each interviewee is expected to have had unique experiences, special stories to share. (Stake, 1995). It's important to remember the point of the interview is to capture the unique experiences of the participant, in an open forum environment. During the conversation, the interviewer needs most to listen, scribe, but maintain control of the data gathering (Stake, 1995). Yin (2009) outlines the relevant strengths and weaknesses of the interview technique, as outlined below:

	Strengths	Weaknesses
Interviews	Targeted – focuses directly on the case study topics Insightful – provides perceived causal inferences and explanations	Bias due to poorly articulated questions Response bias Inaccuracies due to poor recall Reflexivity – interviewee gives what interviewer wants to hear

Table 3.1 Strengths and weaknesses of interviews (Yin 2009).

Three types of interviews according to Yin (2014):

a) Prolonged case study interviews

Typically span across two or more hours, and may be either a single sitting, or spread across multiple sittings. The in-depth nature of this interview lends itself to exploring interviewees interpretations and opinions about people and events, or their insights, explanations, and meanings related to certain occurrences. The more the interviewee assists in this manner, the more they become an 'informant' rather than a participant (Yin, 2014).

b) Shorter case study interviews

In this instance, interviews take place over one hour, in a more focused fashion. The questions remain open-ended and conversational but follow a case study protocol. In this instance, Yin mentions using

this interview to corroborate previous findings. One caution noted, is to ensure the questions are worded carefully, to not allow prior influence to dictate the narrative. This allows for fresh perspective on the phenomena at hand.

c) Survey interviews in a case study

The third option, as outlined by Yin, is a typical survey interview utilising a structured questionnaire. This option lends itself to the possibility of a mixed-method approach, utilising quantitative data as part of the case study evidence.

A second consideration is the type of interview utilised, as outlined by Fontana and Frey (1991) who describe the concept of structured, semi-structured, and unstructured interviews.

Structured interviews

Structured interviews comprise a set of rigid pre-determined questions, often with a set of pre-determined outcomes (Punch & Oancea, 2014). The participants all receive the same questions, in the same order, which minimises flexibility and personalisation. The structured format is more akin to a quantitative research methodology, particularly when responses are highly organised into categories (Punch & Oancea, 2014).

Unstructured interviews

At the opposite end of the spectrum, unstructured interviews are much more conversational and relaxed in nature. They are in-depth explorations of experiences and interpretations (Punch & Oancea, 2014) and permit the interviewee to discuss information from their viewpoint, in an unrestricted fashion. This approach is non-standardised, fluid, and allows for the full exploration of an interviewee's experiences. There is great variation with respect to unstructured interviews, to ensure they are well planned, including: an understanding of the participants, rapport, trust, accessing the setting/environment, and how to collect any empirical content (Punch & Oancea, 2014).

Semi-Structured interviews

Semi-structured interviews bridge this divide and follow a structured approach initially. They're guided by an agenda of questions but allow flexibility and freedom to adapt to participants (Punch & Oancea, 2014). For this study it was decided to utilise semi-structured interviews, to capture the participants' experiences in depth.

3.9 Validity and Reliability

Validation in research involves scrutiny and examination of summaries and the evidence to determine whether they support the theoretical claims (Taylor, 2013). There are four measures commonly used to establish the quality of any empirical social research (Yin, 2014). These comprise trustworthiness, credibility, confirmability, and data dependability (Yin, 2014). Within these measures of trustworthiness, four important criteria are commonly utilised in research, from a positivistic viewpoint. These include internal validity, reliability, construct validity and external validity to be essential criteria for quality (Healy & Perry, 2000).

i. Construct validity

Construct validity is achieved through triangulation of evidence, from multiple sources (Yazan, 2015) to ensure the correct operational measures are being studied (Yin, 2014).

ii. Internal validity

Isn't relevant for case study research, but seeks to establish causal relationships (Yin, 2014) and in accordance with Merriam there are six strategies to enhance internal validity: triangulation, member checks, long-term observation, peer examination, participatory research, and disclosure of researcher bias (Yazan, 2015).

iii. External validity

External validity relates to the transferability of the findings to other contexts (Miles et al., 2020), which is then related to generalisability (Yin, 2014).

iv. Reliability

The premise of reliability is repeatability, that if a later researcher follows the same case study again, they should draw the same conclusions (Yin, 2014). Reliability seeks to minimise errors and bias (Yin, 2014).

v. Triangulation

Triangulation is a method of strengthening the research and can be achieved in multiple ways. Patton (2002) discusses four types of triangulation:

- Of data sources (*data triangulation*)
- Among different evaluators (*investigator triangulation*)
- Of perspectives to the same data set (*theory triangulation*), and,
- Of methods (*methodological triangulation*)

Tests	Case study tactic	Phase of research in which tactic occurs
Construct validity	Use multiple sources of evidence. Establish chain of evidence Have key informants review draft case study report	Data collection Data collection Composition
Internal validity	Do pattern matching Do explanation building Address rival explanations Use logic models	Data analysis Data analysis Data analysis Data analysis
External validity	Use theory in single-case studies Use replication logic in multiple-case studies	Research design Research design
Reliability	Use case study protocol Develop case study database	Data collection Data collection

Table 3.2 Comparison of validity and reliability (Yin, 2014)

3.10 Data Analysis

Coding is the starting activity in qualitative analysis (Punch & Oancea, 2014). They assign meaning to the information collated during a study, and are labels attached to data units or segments of information (Miles et al., 2020). For this study, the Miles & Huberman approach will be followed. This comprises a two tiered approach to data coding. The first tier consists of early labels assigned to data, which are descriptive in nature, allowing for broad labelling and categorising. The second tier analyses the data sets, requiring a higher level of analytical interpretation of the data. The labels coded to data are inferential in nature, and often look for patterns (Punch & Oancea, 2014).

Miles et al., (2020) view qualitative data analysis as “three concurrent flows of activity” consisting of data condensation (reduction), data display, and drawing conclusions.

Data condensation

The first step in the process is to focus and simplify the data, which could be by abstracting and transforming data obtained from the interview process. The data is condensed, in order to concentrate and focus the information. It is a form of analysis that organises, focuses and discards data by sorting, in such a way that final conclusions can be drawn (Miles et al., 2020). Data condensation occurs continuously throughout the analysis process and is an integral component to any data analysis (Punch & Oancea, 2014). The early stages comprise editing, segmenting and summarising the data. The middle stages involve coding, memoing, and identifying clusters and themes. Finally, the later stages consist of conceptualising (Punch & Oancea, 2014).

Data display

The second stage in the process is data display. A display is an “organised and condensed assembly of information that allows analytic reflection and action” (Miles et al., 2020). This allows for qualitative data to be organised and compressed in an accessible format, so that the information can be analysed, and conclusions drawn.

Drawing and verifying conclusions

The final stage is drawing conclusions, and verification (Miles et al., 2020). Throughout the data collection, trends and themes may emerge readily as the data progresses; however, these are interim, and themes should be treated with scepticism. Once further data is analysed, the themes will solidify, and become more ‘grounded’. At this point, conclusions can be drawn, before the process of verification (Miles et al., 2020). Verification pertains to backing up the conclusions, through collegial discussion and literature reviews. Meanings from data need to be examined critically for plausibility, sturdiness, and conformability (Miles et al., 2020).

3.11 Ethical Considerations

Ethics is the study of what are good, right, or virtuous courses of action (Punch & Oancea, 2014). Debates around ethics in research have a long history, which intensified in the twentieth century (Punch & Oancea, 2014). Ethical challenges in research appear throughout all stages of a project, from the research topic raising the issue of worthwhileness, right through to reporting and publication (Punch & Oancea, 2014). The realm of research ethics is vast, with three main philosophical theories which include deontological, teleological and aretaic ethics.

Deontological ethics

The word Deontological stems from the Greek *deon*, meaning duty. This philosophy focuses on concepts of duty, obligations, and rights, prompting researchers to contemplate the right way to proceed with their investigation, and to take the right course of action (Punch & Oancea, 2014). There is an emphasis here on duty, and not to act on pleasure, inclination, or interest (Punch & Oancea, 2014). In this instance, decision making tends to be deductive: it starts with principles (such as truthfulness, respect, and beneficence), from which derive rules (such as don’t deliberately distort your data, don’t deceive, don’t cause harm to your participants) (Punch & Oancea, 2014).

Teleological ethics

Teleological ethics stems from the Greek *telos*, meaning aim, purpose, end, destination. In this instance, the aim is the *best* course of action, one that will provide the greatest good for everyone

concerned (Punch & Oancea, 2014). The focus shifts from duty and universals, to the outcomes or results of actions. Moral worth is determined by the consequences of an act; the nature of the act comes second to that (Punch & Oancea, 2014). This is known as the utility principle, or 'greatest happiness', with a variety of iterations throughout history. Consequential ethics is a balance of harms and benefits; whereby one seeks to maximise the benefits, whilst simultaneously minimising harm. It requires clear comprehensive understanding of all relevant facts for the situation, a precise prediction of likely consequences, and the ability to maintain justice (Punch & Oancea, 2014).

Aretaic ethics

The word aretaic stems from the Greek arete, meaning virtue, value, excellence. This philosophy is also known as virtuous ethics and prompt an individual to critically examine their own way of being, and to seek traits that embody moral excellence, or virtue (Punch & Oancea, 2014). These may include intellectual impartiality, benevolence, honesty, or a wider holistic concept of integrity and excellence in research (Punch & Oancea, 2014). An aretaic approach is to recognise and choose virtuous ways of being, whilst demonstrating an understanding of self and social awareness (Punch & Oancea, 2014). Virtuous action is based on moral wisdom and discernment, which includes an appreciation of the situation, and importantly the capacity to understand the situation and discern its morally salient issues (Punch & Oancea, 2014).

The field of research ethics is vast and wide, however the key components of ethical action and consideration, are linked to the work by Beauchamp and Childress (1985), who developed the theory of principlism (Ipohfen & Tolich, 2018). The four principles are Beneficence, Non-Maleficence, Respect for Autonomy, and Justice. These four principles are the benchmark for human ethics committees to follow, in a typical, however like anything some researchers have dispelled this philosophy (rewrite – and cite who is against). For this study, I will follow the four key principles outlined by Beauchamp and Childress (1985).

i. Beneficence

The most important benefit of research is the creation of valuable knowledge (Hammersley & Traianou, 2012). Beneficence is the concept of to what extent will doing this research create, support or make likely benefits (MUHEC, 2017). In the UK, the association of Research Ethics defines beneficence as: The research must be worthwhile in itself and have beneficial effects that outweigh any risks; it follows that the methodology must be sound so that best results will be yielded (AfRE, 2013). Research is commonly expected to minimise the risk of causing harm (non-maleficence), to carry out worthwhile and potentially beneficial work (beneficence) and to distribute any benefits and

risks non-discriminatorily (Punch & Oancea, 2014). It should not be assumed that benefits can always be used to offset harms or other ethical negatives (MUHEC, 2017).

For this study, the benefits for the participants include the ability to contribute to a wider understanding of the veterinary industry, and what allied veterinary professionals are currently experiencing in the workforce. We have some anecdotal information, however this is inferior to approaching BVetTech graduates out in the workforce, to harness their own personal expectations of employment, as a comparison to their current experiences.

The wider implications of this research inquiry can have further benefit for the greater issues surrounding the veterinary industry, particularly around work retention, workload, compassion fatigue and suicide. These are well known and documented issues the industry faces, and an exploration into AVPs and their roles within practice may help to suggest viable options for the future. This is of particular relevance with the COVID-19 global pandemic, which has resulted in a significant decrease of international veterinarians entering New Zealand, which places additional stress and strain on the industry as a collective.

ii. Avoidance of harm (Non-Maleficence)

Harm can arise in a multitude of different ways in research. Harm, in a broad sense encompasses both physical and psychological harm, as well as damage to one's dignity, reputation, and relationships with others (MUHEC, 2017).

Harm can arise associated with research in the following capacity:

- Pain, physical injury, and permanent disability.
- Psychological damage: emotional distress, erosion of self-confidence, stress-related illness.
- Material damage of a kind e.g. loss of one's freedom through imprisonment, dismissal from one's job, reduction in income or wealth, damage to property.
- Damage to reputation or status, or to relations with significant others e.g. through the disclosure of information that was previously unknown to some relevant audience.
- Damage to a project in which people are engaged, to some group or organisation to which they belong, or to an institution or organisation in which they participate.

(Hammersley & Traianou, 2012).

These are all very significant forms of harm, and any possible harm must be avoided or at least mitigated by robust precautions (AfRE, 2013). However, it is almost impossible to have a complete absence of harm in a study. The risk of harm, of some kind, is probably unavoidable, in virtually any activity (Hammersley & Traianou, 2012). With respect to qualitative research, there are features of

qualitative research which makes it especially difficult to predict the occurrence of harm with any precision. Qualitative research tends to be open-ended, generally resulting from a top-down exploratory approach, as opposed to rigorous testing of a hypothesis-based approach (Hammersley & Traianou, 2012). Furthermore, the researcher is often working in contexts in which they have little control over, particularly with participant observation and interviews. Finally, with respect the publication, unfortunately researchers do not have control over the malicious actions of others, and how they may interpret and use the findings (Hammersley & Traianou, 2012).

Additionally, harm can also manifest from the actions of the researcher, and can include the following:

- normal patterns of activity may be disrupted in ways that could be evaluated negatively;
- attention may be focused on people who normally do not receive much, and this could be good or bad;
- information may be dispersed that has a negative effect on people's reputations.

(Hammersley, 2018)

Research is commonly expected to minimise the risk of causing harm, to carry out worthwhile and beneficial work, and to distribute any benefits and risks throughout a research project and beyond (Punch & Oancea, 2014). Several texts in the literature point to the idea of the risks of harm being mitigated by the greater good of the study, or the beneficence. It should not be assumed that benefits can always be used to offset harms or other ethical negatives (MUHEC, 2017). Hammersley provides an insight into the analysis and interpretation of harm, and possible mitigation options and strategy.

There are three component judgements involved in any interpretation of the principle of minimizing harm:

- What the consequences of the action being evaluated have been or are likely to be, given that other factors are involved
- Whether these consequences constitute benefit or harm, in what sense, and to what degree
- Where the evaluation is prospective, what is the likelihood of the harmful consequences occurring, and what is and is not an acceptable level of risk for different degrees and types of harm

(Hammersley, 2018).

For this study, minimizing harm is of the utmost importance. Given the complex hierarchical relationships within some veterinary employers, the main aspect of harm to mitigate would be reputational damage. This could arise if participants shared any negative or consequential information about their employer, colleagues, or managers they work for. This could be extended to include the

educational provider from which they obtained their degree - Massey University. Methods to aid in mitigating this would firstly include anonymity (refer section v. Confidentiality and Anonymity), and autonomy (refer section iii. Autonomy).

iii. Autonomy

In accordance with the Massey University Human Ethics Committee (MUHEC), autonomy pertains to an individual making decisions of their own free will, considering their values and beliefs (MUHEC, 2017). The participant must normally be as aware as possible of what the research is for and be free to take part in it without coercion or penalty for not taking part, and also be free to withdraw at any time without giving a reason and without a threat of any adverse effect (AfRE, 2013). This is known as informed voluntary consent, whereby participants freely agree to partake in the research, they understand what their participation comprises, and it will be reported, and that they are free to withdraw at any stage of the research process (Punch & Oancea, 2014). The MUHEC guidelines outline four main components to autonomous decision-making (Table 3.3).

<i>Agency</i>	The capacity to make decisions in light of one's values and beliefs
<i>Information</i>	In which to base the decision
<i>Comprehension</i>	The decision is based on full understanding
<i>Absence of pressure, coercion, or manipulation</i>	The decision can be said to belong to the agent

Table 3.3 (Adapted from MUHEC, 2017).

Participants involved this study will sign a contact and have the ability to walk away and withdraw at any time. If this were to happen, a follow up email to check in with that participant would occur. However, this would not encroach and ask for reasons why they exited the study in any way.

iv. Justice

Justice involves the fair distribution of harms and benefits. An example of this, is if all research benefits accrue to one group, and all harms to another, then this is considered an ethical negative due to it being unjust (MUHEC, 2017). If a fairer distribution can be achieved by increasing benefits or reducing harms, this is the best way forward.

v. Confidentiality & anonymity

Confidentiality and anonymity in research means that the setting and participants should not be identifiable in all reporting (Ngozwana, 2018). Confidentiality is the principle that only authorized persons should have access to information (MUHEC, 2017). In this instance, to maintain

confidentiality, participants will be assigned codes via numerical system (i.e. participant 1, 2, 3). Upon registration of their participation interest, each individual will be sent a detailed document entailing what the study involves. Each interview participant will be numerically assigned a number from 1-20 (inclusive). Once the interviews have taken place, names will be removed from any document being analysed. Personal data must remain unknown to all but the research team (unless the participant agrees otherwise or in cases where there is an overriding public interest, or where participants wish their voices to be heard and identified) (AfRE, 2013). All participants will be presented with a contract, and a confidentiality agreement. Only upon receiving all appropriate documentation will the interviews proceed. Protecting the privacy and confidentiality of those who participate so that, as a result of their participation, they will not be unwittingly put in any undesirable position (Yin, 2014). A copy of the study agreement can be found in the appendices (Appendix A).

vi. Conflict of interest

The researcher must be open about any actual or potential conflicts of interest and conduct their research in a way that meets recognized standards of research integrity (AfRE, 2013). I was a member of the inaugural graduating class of BVetTech cohort of 2011. Since July 2012 I have been employed within the Massey University Veterinary Teaching Hospital (MUVTH) in a teaching capacity, which has resulting in knowing the graduates personally as I have been heavily involved in their vocational education (within the practical teaching space). I commenced small quantities of didactic teaching (lecturing) in 2014 and proceeded to a full-time lecturing secondment in 2017. Ultimately, given the small number of graduates in total, I have ultimately taught all of them in some capacity. Notwithstanding this does have both positive attributes also, as I have an intricate working knowledge of the programme, the industry, and a rapport with many of the graduates. It would be prudent to be aware of the inherent bias here. To overcome this aspect, frequent consultation with advisors who did not collect data (Merriam, 2002) occurred, as well as collaboration with external researchers. For this reason, I decided to reduce researcher bias by applying exclusion criteria to any graduates of the Bachelor of Veterinary Technology programme who were current employees with the Massey University School of Veterinary Science (SoVS) at the time of the study interviews.

3.12 Practical application of the methodology

This section outlines the applied research methodology of this study, including the background of the participants, data collection methodology, data analysis and ethical considerations. The section details how the study was conducted, including the thematic analysis process.

3.12.1 Participant recruitment

All graduates from the Bachelor of Veterinary Technology (BVetTech) programme were invited to participate in the research study (Appendix C). This was achieved through accessing the alumni email database currently held at the undergraduate office within the School of Veterinary Science at Massey University. All prospective graduates were emailed, totalling 269 individuals. The invitation was inclusive of all graduates employed in both veterinary clinical practice and allied animal health fields, regardless of employment in New Zealand or overseas. A 'SurveyMonkey' hyper link was attached to the email, and those who were interested were directed to the SurveyMonkey link (Appendix D). The link asked questions pertaining to contact details and general background details, including name, contact email, year of study, and their workplace. To reduce inherent researcher bias in selection criteria, it was decided to invite the first 15 participants who responded to be interviewed for the study. The participants were contacted to arrange a suitable interview time, which spanned across daytime and evening interviews.

Year	Total graduates
2011	19
2012	16
2013	29
2014	26
2015	24
2016	23
2017	25
2018	35
2019	38
2020	34
<u>TOTAL</u>	<u>269</u>

Table 3.4. Total number of students in each year of BVetTech3 at Massey University.

3.12.2 Interview process

The interviews were conducted over a period of 3.5 weeks, at a pre-determined time that the participant was available for. Most interviews spanned an hour (range: 30-64 minutes) and were semi-structured in nature. In total 15 interviews were conducted. Given the uncertainty of the COVID, the interviews were conducted over Zoom, and recorded utilising the Zoom software to a laptop hard drive. Prior to recording commencing, participants' consent was sought to record the interview once more, and an explanation of how the recordings would be transcribed.

Questions were broad, open ended, and canvassed five main categories:

- Section One: General background questions
- Section Two: Workplace environment
- Section Three: Expectations
- Section Four: Career progression and challenges
- Section Five: Conclusions

A full copy of the interview questions can be found in the appendices (Appendix E). The interviews were designed to be semi-structured, to both answer the key interview questions, but to also allow for deeper conversation to explore their experiences. Due to this, the flow of the conversation meant some questions were out of order, however, to ensure repeatability the questions were all focused on each time. The audio files were professionally transcribed, and the files named chronologically PP1-PP15.

3.12.3 Ethics

The study was approved as a low-risk study (see Appendix B). The ethical concerns for this study included anonymity and researcher conflict of interest. At the commencement of the interviews, participants were informed their anonymity would be protected. This anonymity would include any identifying features, names, workplaces, colleagues, or any other factors. At the commencement of the data collection, each participant was allocated a numerical label (PP1-15) to further protect anonymity.

A second ethical issue was identified of researcher conflict of interest. This is due to the primary researcher's role as an educator within the Veterinary Technology programme at Massey University. Several steps were implemented to mitigate this. Given the researcher's current place of employment was within the Massey University School of Veterinary Science, any graduates of the programme who were employed by Massey University were excluded from the study. Secondly, frequent consultation occurred with the research supervisor to further mitigate potential researcher bias.

3.12.4 Data analysis

Coding is utilised in qualitative methodology to assist with data analysis; to facilitate obtaining a deeper understanding of the themes and contexts present in the data. It is a method to sort, categorize, and label data units in such a way that they relate to the research question (Miles et al., 2020). Coding is typically achieved by labelling sections, sentences, phrases, or chunks; and applying codes which are descriptive, or more complex, in nature (Miles et al., 2020). The process of coding reduces the sheer quantum of data, into a smaller workable size, ready for analysis (Linneberg & Korsgaard, 2019).

Data condensation initially in accordance with Miles et al., (2020) was the first step in organising the data for this study. For coding this project, both NVIVO Pro 12 and Microsoft Excel were utilised to code and analyse the transcribed interviews. The data analysis comprised a mixture of inductive and deductive coding processes. Inductive coding is the process of developing codes directly as they arise in the data by reading, understanding, and then generating codes which closely mirror the data set (Linneberg & Korsgaard, 2019), and was the primary coding method utilised for this project (Refer to Appendix 7 for an exemplar). Deductive coding was utilised for categorical labelling of demographic information. These questions included their workplace category (as displayed in Chapter 5), their chosen track whilst studying, and their final year of study.

Responses for each interview question were inductively analysed, with words and/or phrases assigned descriptive codes. These codes were captured, with the frequencies of each code collated in order to ascertain the strength of the code. These codes were thematically analysed, with analytic coding occurring next to interpret and reflect the meaning of the codes (Richards, 2009), which is demonstrated as categories. From these categories overarching themes emerged and are displayed graphically. Each interview question was analysed individually, with the codes displayed in a tabulated format, such as Table 5.11 reproduced on page 32.

<i>Codes</i>	<i>Categories</i>	<i>Theme</i>
Regulation (n=4)	<i>Regulation</i>	<i>Qualification regulation</i>
Tiered qualifications (n=4)		
Standards framework (n=2)		
Union (n=2)		
Qualification awareness (n=3)	<i>Awareness</i>	
Reinstate BVT (n=3)	<i>Bachelor level qualifications</i>	
Remuneration (n=2)	<i>Appropriate remuneration</i>	
Standardise pay scales (n=1)		
Utilisation (n=5)	<i>Utilisation</i>	<i>Professional identity</i>
Recognition (n=1)		
Appreciation (n=3)	<i>Appreciation</i>	
Professional identity (n=1)	<i>Identity</i>	
Emotional stress (n=2)	<i>Work life balance</i>	<i>Positive work life balance</i>
Work life balance (n=2)		
Veterinary attrition (n=1)	<i>Attrition</i>	
Short staffing (n=1)		
Finances (n=2)	<i>Clients</i>	<i>Managing expectations</i>
Welfare (n=1)		
Expectations (n=1)		
Resistance to change (n=3)	<i>Colleagues</i>	

Reproduction of Table 5.11

3.13 Summary

This research aimed to investigate the experiences and expectations of veterinary technology graduates in the workplace. To explore graduate experiences in depth, it was determined that an explorative case study methodology would be the most appropriate research methodology, as this study sought to investigate phenomena in a natural setting and is bound by place and time. Data collection methodology was discussed, and the semi-structured interview technique identified as the most appropriate research tool to utilise for this study. Finally, the ethical considerations for this study were discussed, and the ways to mitigate these addressed. The participants for this study comprised 15 graduates of the programme. The data were initially condensed, before the responses were thematically analysed utilising a primarily inductive coding technique. The next chapter explores these findings in detail, and each section of chapter five addresses the interview themes.

Chapter Four: Findings

4.1 Introduction

This chapter reports the key research findings from the study. Data were obtained through participant interviews, which were thematically analysed deductively, following the Miles, Huberman, and Saldana (2020) method.

The research findings and analysis sought to answer the research question:

What are the expectations and experiences of allied veterinary professionals in clinical practice?

The participant interviews were thematically analysed, with the participant responses and themes presented in this chapter. The findings from key interview questions, and subsequent analysis are reported in nine sections of this chapter. The nine sections include:

- Participant demographic information
- Roles and responsibilities
- Role satisfaction
- Role challenges
- Utilisation
- Qualifications in practice
- Qualification preparedness
- Qualification improvement
- Industry improvement

Open ended interview questions were thematically analysed via the Miles and Huberman six-step approach (Miles et al., 2020) Each question was analysed for patterns and trends and is displayed in each section of this chapter. For simplicity, data is primarily displayed in tabulated form. A summary of these findings in relation to the research question can be found at the end of the chapter.

4.2 Background information of participants

The first section of the interview focused on establishing demographic information, which was in addition to the information provided from the initial participant sign up. The table below displays the participants' relevant cohort, attributed to their final year of study. The year tabulated correlates to the year individuals were enrolled as BVetTech3 students.

Final year of study	n
2011	1
2012	1
2013	1
2014	1
2015	2
2016	0
2017	4
2018	2
2019	1
2020	2
Total:	15

Table 4.1. Participant cohort

In addition to this, the specialisation they tracked as final year students was recorded as follows.

Track in BVT3	n
Small animal	6
Production animal	5
Equine	2
Business	0
Total	13

Table 4.2. Tracking choice of participants in BVT3

From the initial participant sign up online, participants were asked to select which option best described their current workplace environment. The results of this are displayed below in Table 5.3.

Workplace category	n
Clinical practice – Small animals	3
Clinical practice – Production animals	2
Clinical practice – Mixed animal	4
Allied animal health	2
Other	4
Total:	15

Table 4.3. Workplace classification of interviewed participants.

For clarification, other consists of roles in education, marketing, and dairy farming. The study was not limited geographically, however all participants in this study were employed in New Zealand at the time of the data collection. Participants were asked to outline their careers to date, for which they

were prompted to include types of practices and/or workplaces. Some participants reported multiple workplaces in their careers, and so each workplace was included. Table 5.4 demonstrates the total geographical spread of respondents and their workplace locations. The urban areas are classified in accordance with the Urban Rural Classification (Stats NZ, 2020).

<i>Location of workplace</i>	<i>n</i>
Major urban area (100,000 + residents)	10
Large urban area (30,000-99,999 residents)	13
Medium urban area (10,000-29,999 residents)	3
Small urban area (1,000-9,999 residents)	6
Rural settlements (200-1000 residents)	2
International	2
<i>Total:</i>	<i>36</i>

Table 4.4. Workplace locations of participants.

4.3 Roles and responsibilities

At the commencement of the interviews, participants were asked to describe their roles and responsibilities in their respective roles. Responses were categorised into small animal, production animal, and other skills that participants listed throughout the interviews. In addition to this, participant responses were thematically analysed to reveal broad overarching themes of leadership, initiative, utilisation, and barriers to progression.

4.3.1. Large animal practice

The respondents employed in large animal practice, both past and current (40%; 6/15), demonstrated a wide array of roles and responsibilities in their respective positions. Of these six respondents, one has since left the industry. The largest reported clinical skills comprised disbudding (83%; 5/6), vaccinating (67%; 4/6), calving (50%; 3/6), lab work (50%; 3/6), blood testing (50%; 3/6) and triage (50%; 3/6). Overall respondents listed 22 various skills performed in their respective roles. The categorised responses are tabulated below (Table 5.5).

In addition to the respondents' clinical skills, roles and responsibilities were thematically analysed with several key themes emerging. These included themes of leadership, autonomous tech-led programmes, client relationships, as well as discussions surrounding several technical skills including pregnancy diagnosis scanning and calving in clinical practice.

Category	Skill
Calving and neonatal work	Disbudding (n=5) Calving's (n=3) Caesarean section assistant (n=2) Epidurals (n=1)
Repro work	Teat sealing (n=3) Metrichecking/metricuring (n=3) Pregnancy diagnosis (n=2) Embryo transfer (n=2)
On farm skills	Vaccinating (n=4) Blood testing (n=3) Locomotion scoring (n=2) Drenching (n=2) Hoof trimming (n=2) Tail scoring (n=1) Ram testing (n=1) Sick calf investigations (n=1) Body condition scoring (n=1) Milk sampling (n=1)
Consultations	Triage (n=3)
Other	Lab work (n=3) General call out sole charge (n=1) Intravenous catheters (n=1)

Table 4.5 Large animal clinical skills

Calving in practice

Calving in clinical practice was discussed by all six respondents, with some reporting a degree of utilisation, whilst for others this was an area for development. Some commented they had a great level of responsibility, "In Spring I could be doing anything from a calving, which would include doing my own epidural" (*Respondent 1*), to performing routine calving's and epidurals for assisted calving's, often when already on the farm, "That helps the farmer out, and not have to call a vet when I'm already there" (*Respondent 6*).

For other participants, they reported a lesser degree of utilisation. One individual commented, they were working towards this this season by working alongside vets in their clinic. "That's where I want us to move towards... We'll try this year to buddy up with the vets to go out and have more experience with that side of things" (*Respondent 5*).

Pregnancy diagnosis

When further questioned about pregnancy diagnosis in their clinic, of the six respondents employed in large animal practice: three participants confirmed they were scanning/pregnancy diagnosing in their respective clinics. Of these, one participant reported their clinic shares the task of scanning/pregnancy diagnosing between both veterinarians and technicians. "It was pretty full-on for

the vets when we first started. They didn't do any tech scanning. It's good for us. I actually really enjoy scanning" (*Respondent 6*). For one individual, they had had conversations and planned to train for future seasons. Another reported scanning in their clinic was conducted by a rural animal technician currently but had planned to attend a scanning course this season. Respondent 12 reported facing barriers regarding their utilisation, mentioning in their clinic none of the technical staff members were routinely scanning. "It just makes no sense that you've got all these vets doing all this scanning and physically they're bugging themselves...our lead technician; she was only just learning to scan in the year that I left" (*Respondent 12*).

4.3.2 Small animal practice

Those employed in small animal practice, or mixed practice with experience in the small animal portion of their clinic comprised eight participants (53%; 8/15). Of these eight individuals, the largest reported response was anaesthesia (88%; 7/8), followed by surgical patient preparation (75%; 6/8), reception (63%; 5/8) and nurse consultations (63%; 5/8). Respondents illustrated a wide variety of roles, with 26 individual codes identified as displayed in Table 5.6.

Category	Skill
Diagnostic & Medical	IV catheter placement (n=4) Radiography (n=3) Physiotherapy (n=3) Bandaging (n=2) Venepuncture (n=2) Dental radiography (n=1)
Surgical	Anaesthesia and monitoring (n=7) Surgical patient preparation (n=6) Sterile surgical assistant (n=2) Epidural placement (n=1) Packing and sterilising kits (n=1)
Consultations	Nurse consultations (n=5) Weight clinics (n=3) Nail clips (n=4) Behaviour consultations (n=3) Vaccinations (n=2) General health checks (n=2) Stitch removals (n=2) Geriatric consultations (n=1) Preventative health clinics (n=1) Dental consultations (n=1)
Customer service	Reception (n=5) Admin (n=2) Social media (n=1)
Other	Puppy preschool (n=3) Grooming (n=1)

Table 4.6 Small animal clinical skills

Several common themes emerged from the responses, including discussions around anaesthesia, dentistry, surgery, and consultations. These themes are highlighted/outlined in further detail below.

Anaesthesia

Anaesthesia was widely commented on, with varying results. Some respondents reported a great level of responsibility and skill utilisation. Several interview extracts highlight this below:

“I worked there for four years, and in that time, the vets actually forgot how to do anaesthesia, because they literally had no say in it; I picked the drugs – I looked after the anaesthesia the whole time. If anything went wrong, I would deal with it. They pretty much forgot how to use the anaesthetic machine” (*Respondent 2*).

“We do pre-anaesthetic blood-tests, do blood pressures, put the catheter in, draw-up medication. We don’t let the nurses induce without supervision, but I can induce without supervision, and then we get the animal anaesthetised on the table, you’re monitoring, you prep them up, you’re in theatre before the vet walks in” (*Respondent 11*).

Others noted they had limitations in their levels of responsibility. “A lot of the time, the vets will do the inducing, which I kind of feel like could just be a nurse job, because vets don’t need to be doing the catheters and the intubating and the inducing” (*Respondent 3*). For another individual, their primary role was restraint: “I wasn’t able to do – the nurses, as teams, or pairs, we weren’t able to knock-out and induce patients for anaesthetics or do scale and polishes just with the vet there, and things like that. So, it was more kind of assisting them, if that makes sense, rather than – it felt like we were just being used to restrain” (*Respondent 13*).

For one respondent, staffing limitations in their clinic was a limiting factor for their ability to induce/anaesthetise.

“Something that we’re working on in getting the nurses to do more inductions, but at the moment, because of the ratio we’ve got of nurses to vets, it is a little bit tricky in getting that flow going and making sure we’ve got enough nurses available to get that going.” (*Respondent 8*).

Dentistry

Several participants reported having great responsibility for the dentistry service in their clinic, including dental radiography (*Respondent 4*), dental consultations (*Respondent 2*), and dental prophylactic treatment (*Respondent 8*).

“I would do dental checks – just do free consults for people – check the animal’s teeth and say whether or not they were going to need to have a dental, and that sort of thing, looking at grades. Then, the nurses do scale and polishes” (*Respondent 2*).

For others, their responsibility and utilisation regarding dentistry was limited. One recent graduate with six months experience in their clinic commented, “Since I’ve been here, I haven’t seen any nurses do dentals” (*Respondent 3*).

4.3.3 Allied animal health and industry

Those employed in the allied animal health industry or other roles comprised five individuals. Their roles varied including education, sales and marketing, and consultancy. Specific roles were not analysed or identified here, because they may be niche and risk anonymity given the narrow boundaries of all graduates.

4.3.4 Themes across all areas

Leadership

A first key theme that emerged was of respondent leadership positions in their workplaces. For those employed in large animal practice, four of the six participants reported being in positions of leadership. This included phrases such as “managing” “head tech” and “managing our team.” Of the remaining two: one was a new graduate, and the other had left the veterinary industry.

For one respondent, leadership meant responsibility for their large animal technical team, including organising and booking calls directly with the client. “I am in charge of dis-budding every year. So, the whole three clinics; I book all of that and run the jobs.” (*Respondent 6*). For respondent 5, this meant an increase clinic organisation and management, including social media and administration. A third respondent described their leadership role as, “Managing day to day maintenance and running of the clinic; making sure that vets were where they were supposed to be...and that they all had the right gear and equipment” (*Respondent 1*).

For those employed in small animal practice: three of the eight participants reported either being in head nursing positions currently or previously. Two were recent graduates, whilst three participants had moved to non-clinical roles in the industry.

Tech-run programmes and initiatives

A second theme was that of technical staff led initiatives, or responsibilities that only techs were performing in clinic. In some instances, this was initiative driven from the techs themselves.

Initiatives varied; for one they had implemented a service for triaging down cows (*Respondent 5*), another was organizing a lifestyle client programme (*Respondent 9*), and one other had initiated a geriatric patient consultation service (*Respondent 10*).

Utilisation

Alongside participants discussing their clinical skills and responsibilities, a strong theme of utilisation emerged from the interviews. Some participants' comments alluded to feelings of under-utilisation.

"I was so busy doing all these different things, but I never really felt like any of it was utilising my proper clinical skills. I felt like an average vet nurse and an average large animal tech, but I never really felt like a veterinary technologist" (*Respondent 12*).

Other respondents alluded to a greater level of utilisation. "I did every vaccination consult, because [the vet] decided that I was better at doing a clinical exam than he was, so why shouldn't I do it?" (*Respondent 2*). Another respondent described their experience in their clinic and the utilisation of their skills in a broad capacity:

"The vet does the surgery, and the vet walks out, and then you're waking the animal up. You'll write up its notes. You're doing its home-care notes, its home-care medication. So, the vets purely do consults, and the actual surgery itself, and we do everything else. Yeah, so that's why I love it here; they let us do everything" (*Respondent 11*).

Respondent experiences indicated a range of tasks undertaken, and with varying levels of responsibility. In some ways the type and extent of utilisation reflected the response to the skills and experience of the greater veterinary team.

4.4 Role satisfaction

The next key focus area was that of role satisfaction, and what aspects provided job satisfaction. Responses were thematically analysed, with several clear categories emerging including utilisation, autonomy, positive working environment, and positive people-oriented interactions. Table 5.7 below displays the four categories and relevant codes.

Workload variety (n=5)	Working environment	Job satisfaction
Improvement of workflows (n=2)		
Flexibility (n=2)		
Teamwork (n=1)		
Leadership roles (n=1)		
Administration (n=1)		
Utilisation (n=2)	Utilisation	
Autonomy (n=2)		
Decision making (n=1)		
Problem solving (n=1)		
Anaesthesia (n=2)	Clinical skills	
Emergency cases (n=1)		
Positive case outcomes (n=1)		
Teaching - to check.	Education	
Client education (n=2)		

Table 4.7. Summary of job satisfaction.

4.4.1 Working environment

A consistent response amongst what participants valued in their working environment was variety in their role. Some respondents alluded that during quieter days they would assist in a different department, which provided the variety in cases and skills. For others, being on a rotational shift system meant each week they experienced workload variety. “The variety of work we do is good, too. It’s not the same every day. If I need to go help in smallies, I just go and pop in and you’re just kind of welcome wherever really” (*Respondent 6*).

A shared commonality amongst those working in allied animal health comprised the responses of role flexibility and improvement of workflows in the clinic. Two respondents commented that the flexibility of their roles was a big contributing factor towards their role satisfaction, “It’s the freedom – the respect that I receive – the trust that I have – the support that I have, but also, I believe in what we’re trying to achieve - so, the opportunity with the project” (*Respondent 14*). For others, facilitating the improvement of workflows was a key contributor toward their job satisfaction. “I’m here to help people – help vets – help nurses – make their lives easier – give them a really cool tool to improve their patient care, improve care for their clients, improve their businesses” (*Respondent 4*).

Other responses included the satisfaction of administration and organisation, being in a leadership position with the clinic, and positive teamwork. “I think I really enjoyed the team-work, because I think as a tech, predominantly all our largies work is done as a team” (*Respondent 9*).

4.4.2 Utilisation and autonomy

The second strong theme was that of utilisation; comprising the ability to make decisions, be a part of the problem-solving process, utilisation of skills and knowledge, and the allowance of autonomy. Several responses echoed themes of utilisation, and that when they were utilised to their potential, they felt satisfied in their respective roles. “It depends how much I was let do, but I enjoy it when my skills are utilised – when I can manage the back room, and we’ve got all these in-patients, and get them all sorted so the vet just has to walk in and do what they specifically need to do” (*Respondent 10*). Some respondents highlighted their involvement in case management and the decision-making process with veterinarians as the contributing factor for role satisfaction. I’m quite a problem-solver, so I really enjoy talking through cases with the vets, providing some input” (*Respondent 2*). Respondents also highlighted the ability to work autonomously as a key reason for job satisfaction, with “The freedom is cool; you don’t get checked up on. I book my days every day. I book my own jobs every week” (*Respondent 6*).

4.4.3 Clinical skills

A third emerging theme consisted of clinical skills, and specifically performing them in a clinical environment. For two respondents, a contributing factor to their role satisfaction was the performance of anaesthetic skills in the workplace. One respondent commented they enjoyed anaesthesia, and the recovery aspects of cases. “I like anaesthetics. If it’s on the verge of death; that’s my favourite. It’s like something really really grim. I like seeing the patient coming back. I like the bounce-back of what we’ve done” (*Respondent 13*). For others, the emergency cases “the nitty-gritty – emergency stuff” (*Respondent 12*) was a highlight for their role.

4.4.4. Education

A fourth central theme was that of being in an educative role and the opportunity to teach both clients and students. Examples included educating clients through a puppy preschool class or engaging an on-farm conversation. Some respondents were in teaching or allied health roles, whilst others taught clients in a consultation setting. “Being able to impart that passion, and the thing I love most is being able to see my students make the connections” (*Respondent 10*). For some, it was enjoyment of the people and connections that were most valued “I loved the clients, and the relationships you have with the clients” (*Participant 12*)

4.5 Challenges

Graduates were asked to describe challenges they have encountered in their career so far. Respondents provided a total of 22 various challenges, which encompass the themes of identity, mental distress, people oriented, and ethical challenges. Overwhelmingly (40%; 6/15) respondents listed workplace or team dynamics as the biggest challenge in their roles. Themes are grouped into four sections/categories and displayed in the infographic below.

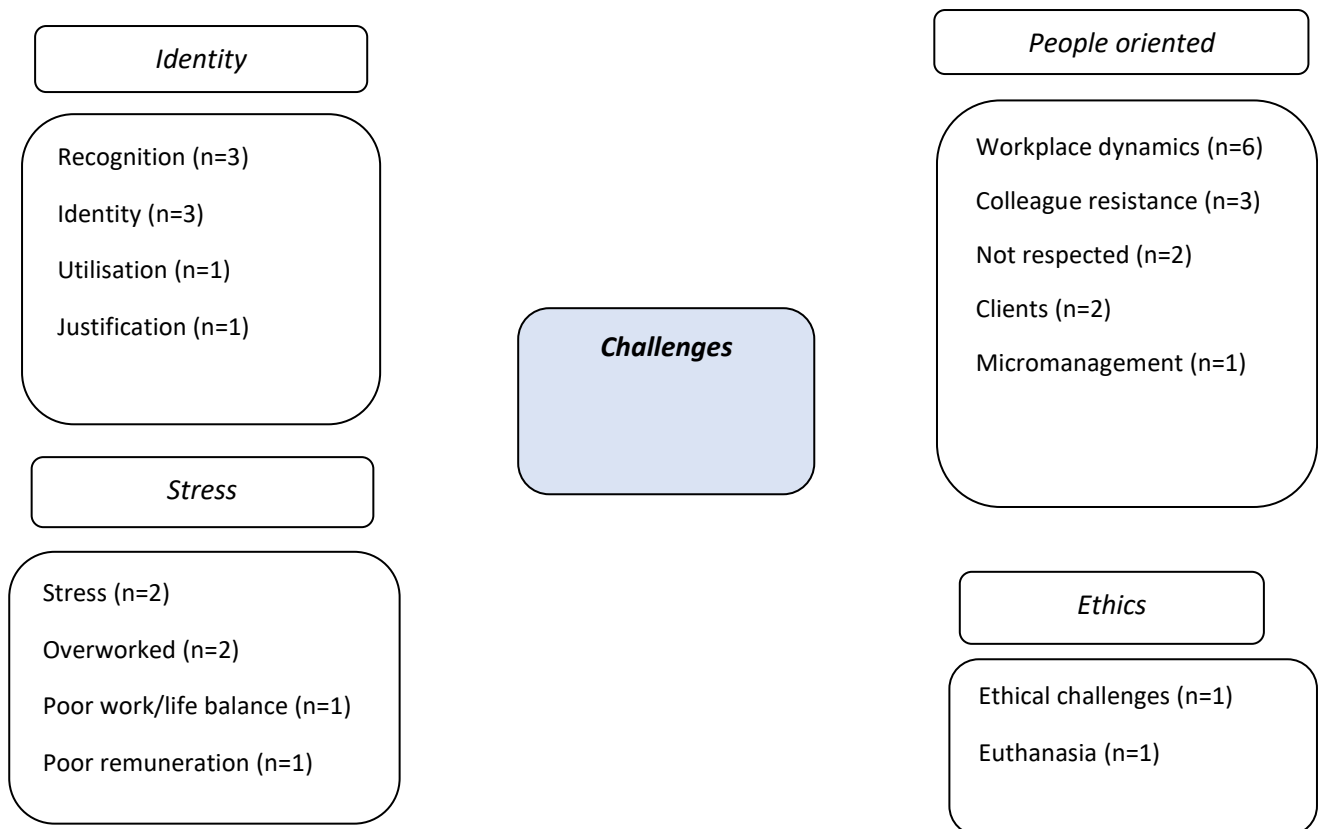


Figure 4.8: Infographic summarising key grouped individual challenges

4.5.1 Category one: People-oriented challenges

The first theme centred around the workplace and related team structures. Respondents identified numerous challenges in the workplace directly related to people. Challenging team dynamics in the workplace was the biggest reported challenge (40%; 6/15), followed by colleague resistance to change, a lack of respect, clientele pressures, and management challenges.

Team dynamics

Participant responses were grouped, but a clear theme centred around workplace relationship challenges. Some respondents reported challenges with their counterparts in a competitive frame. “Obviously everyone’s different, but sometimes I worked in places where people were incredibly

cliquey and working together became a competition" (*Participant 4*). Others mentioned a breakdown in team rapport, "Just the drama of staff you work with – not always getting on personality-wise with people" (*Participant 2*). For other respondents, their challenges were from colleagues resisting implementation of changes.

"I met resistance when I first started... from some of the older nurses that had been there for a long time. I changed quite a few processes of how they do things, or suggested changes, and I had a lot of support from their head vet, or director, and she – so, as long as I came to her with good evidence and reason for changing a way we did something, then she would happily change it, which definitely got a lot of push-back from their older nurses who were used to doing things the same way" (*Respondent 7*).

Another emerging theme centred on the notion of feeling not being listened to, or respected.

"I think with all this change going on, I think sometimes your opinion doesn't really come across, or you're not really listened to, but it's just because I think the clinic is so busy, and there's so many things going on; don't take it to heart" (*Participant 9*).

Management

In other instances, micromanagement was the biggest challenge for respondents. "That was hugely challenging for me, because it takes away the enjoyment of being able to enjoy what you do, and you start second-guessing yourself" (*Participant 10*). For other respondents, the dichotomy between running a profitable business and employee ethics was perceived to be the biggest challenge. "It's business – everyone just wants to make money, and sometimes they don't worry too much about their employees along the way" (*Participant 4*).

Clients

Clients and their pressures were also perceived by some respondents to be their biggest workplace challenge. The ethical challenge of euthanasia, when the cost of treatment is prohibitive was reported by some participants. "Most of the time, it's upsetting, I guess, when cost is the cause for euthanasia, which is just the hard reality of how it is" (*Participant 3*). For others, the challenge of justifying the costs of treatments was challenging "Really difficult clients are super-hard when they're complaining about the price of things" (*Respondent 2*).

4.5.2 Category two: Identity and recognition

The second emerging theme related to identity and recognition in the workplace. Responses included a lack of qualification recognition, role identity, justification, and lack of career progression.

Qualification recognition

Notably many respondents commented they felt as though their qualification was poorly recognised. “In some places, they recognised that you have done a three-year bachelor degree at a University, and spent 40 hours in clinical placements, to know what you know. Other people; they just didn’t really – it doesn’t really matter to them” (*Participant 4*).

“You’re constantly having to explain to people what you can do, and people just don’t know. It’s embarrassing for the industry that they don’t know what a vet tech is, and people are constantly surprised; what – you learned that at uni – wow” (*Respondent 12*).

Identity

A second theme centred on identity as a veterinary technologist in practice. Several responses included general confusion around what vet tech is, and how it differs to a veterinary science degree. “Then, you sort of started explaining to people what you can do, and people then tend to think you’re a vet, and you’re like; no, I’m not a vet – it’s different. Yeah, that was probably the biggest challenge; constantly having to tell people what we do and what we can do” (*Respondent 12*). For others, the notion of justifying their career as a veterinary technologist, and not a veterinarian. “Also, getting asked all the time; why don’t you do vet – and what is a tech?” (*Participant 6*). Some respondents reported feeling as though they needed to justify their worth, to prove their capabilities. “You come out with this degree, but why should we get paid more than someone that hasn’t done it, but that’s doing the same work; that sort of thing” (*Participant 6*).

Lack of career progression

A third theme encircled a lack of progression as a career challenge. Some respondents commented on feeling stalled in their careers, “I think it was probably in the clinical side, just feeling very stuck and feeling like I had nowhere to go from here” (*Participant 7*). Whilst others felt unheard, “Just being heard in general as a tech, with my skillset, to try and make a difference out there, I don’t think gets reciprocated very well, and I don’t really get listened to often” (*Participant 8*).

4.5.3 Category three: Work/life balance

The third emerging theme centred around mental health and the associated work/life balance. Respondents identified several challenges related to stress in their areas of work, including mental distress, being overworked, poor remuneration, and having a poor work life balance.

Several responses echoed feeling stressed; in some instances, due to a lack of support: “So, it’s the stress of thinking that everything is on me right now, and not having the adequate support here - that backup person” (*Participant 11*). For others, a stressful environment, or colleagues: “I think when someone else at your work is quite stressful, it tends to rub off on your colleagues, which isn’t really fair. That’s been really hard to deal with; you know she’s stressing – you’re trying to help, but I think you just end up being stressed yourself” (*Participant 9*).

Commentary surrounding being overworked also prevailed. Some respondents mentioned working tedious shifts.

“When I was nursing, sometimes you get home after a 12-hour shift, and then you get called back into work, and then you have to do 12 days in a row, because you’re on the weekend shift. You realise how exhausted you were all the time. I never went to the gym. I never went out with my friends. I didn’t do anything on the weekend. Things are a lot different personal life-wise, when you move into something that’s not nursing, which makes it sound terrible, but that’s one of the changes that I’ve seen” (*Participant 4*).

4.6 Perceived general AVP challenges

As a continuation to the previous section, respondents were also asked their opinion on what they perceive to be challenges that all allied veterinary professionals collectively face. Although answers varied in nature, several consistent themes emerged: people related challenges, identity and recognition, and workplace stressors.

Theme one: People related challenges

A first theme emerged surrounding people and their related challenges in the workplace. Several comments pertained to colleagues in the workplace. For one respondent, they described this as a general lack of support (*Respondent 5*), whilst another respondent commented regarding colleagues being resistant to change, “I guess having that pushback from senior people who don’t want change,

and I guess, a limited – sometimes quite limited to learn more, or to feel like you’re going somewhere or making progress” (*Respondent 7*).

For others, their comments centred around veterinary clients. One noted some clients “not taking anybody other than a vet seriously” (*Respondent 5*) as their perceived general challenge. Another highlighted the challenges of euthanasia, and the welfare implications of delayed euthanasia. “The owners do not want to do a euthanasia on any grounds... but they also don’t want to do the gold standard treatment option, either – so, they kind of want to let the animal sit there with pain relief, and die when they die, kind of thing” (*Respondent 3*).

Others spoke of challenges associated with the running of a business and environment. One participant commented they perceived a lack of business skills as a challenge (*Respondent 14*), whilst for another respondent, they noted the performance pressure faced in the clinical environment.

“A lot of the pressures about always being on top of your game, and always being the best. I think there’s a lot of pressure out there, especially for us nurses and things like that; something goes wrong, and it’s like, oh well you were the person getting things ready – you’re the person that’s supposed to support me. From I guess the vet perspective there is a lot of pressures there to make sure that we’re there for them” (*Respondent 8*).

Theme two: Identity and insufficient recognition

A second theme that emerged surrounded the notion of identity and recognition. Responses here included a general lack of recognition in the workplace, poor utilisation, and barriers to progression. Several participants echoed themes of qualification recognition and identity as the biggest challenge to AVPs, whilst others felt underutilisation was the biggest challenge AVPs collectively face. One respondent commented, “The poor understanding of what each qualification is and what it entails, and what skillset you have. That then, I think is the underlying factor that stems from poor skill utilisation – not being recognised” (*Participant 10*).

Another drew comparisons to the clinic having a poor understanding of qualifications.

“I think the vet clinics don’t know how to use all of these different qualifications; they don’t know what they know – what skills they’ve learned – what skills they should be able to do. So, once you leave, you’re just kind of left in the mercy of the vet clinic, and what they let you do, really” (*Respondent 1*).

Another theme noted possible barriers surrounding career progression and utilisation for AVPs. “Career progression is one of the biggest issues; you finish, and you get good at what you do, but you’re not going to get paid any differently” (*Participant 1*).

Theme three: Workplace stressors

A third theme emerged comprising workplace stressors. Responses here included stress, staffing limitations, low remuneration, having a poor work-life balance and being overworked in the clinical environment. Some respondents raised points regarding short staffing in their workplace, such as respondent 2, “With the lack of staffing, it’s then everyone’s getting over worked, and you’re expected to do long hours, and I know the vets just get drained after doing on-call afterhours.” For others, low remuneration and long working hours plays a contributing role, “I guess being underpaid, overworked, probably not enough support in general”, (*Participant 5*). For one respondent, they summarised what they perceived to be challenges all allied veterinary professionals face: “I think the emotional stress mostly with how much you are expected to do, and how good you’re supposed to be” (*Respondent 8*).

4.7 Utilisation

The next interview question focused on utilisation. Participants were asked their opinions of utilisation, and whether they perceived they had been fully utilised to their full potential whilst in the workplace. Of the ten participants who were queried, half responded they felt their skills were well utilised. One respondent reported they would if they had an increase in technical staffing, and four reported they did not feel utilised in their respective workplaces for various reasons.

Utilised

Those who reported their skills were utilised well included two respondents working in allied animal health industry roles. Reasons for this included employment security and research. For one, their current employer placed high value on the BVetTech degree and was a standout factor in securing their role. The respondent noted previous experience with the veterinary clinical environment, and with veterinarians, as a key determinate for their role, summing it up as “I’m an outsider with a foot in the camp, and they really appreciate that” (*Respondent 14*). For the other, their role allowed for “intellectual stimulation” given their area of research. “We’re actually making discoveries about the dairy sector in New Zealand” (*Respondent 15*).

One individual reported they felt “lucky” to be well utilised in their clinical role (*Respondent 1*), whilst another felt utilised mostly, “but there are times where I wish we could be doing more, especially in

lameness, pregnancy scanning” (*Respondent 9*). A third clinical respondent reported utilisation in their current clinic, but not in previous ones, “I do feel like there probably was a lot of skills that I lost in the interim, but this clinic has definitely helped me get more confident again and get those skills back” (*Respondent 11*). For a fourth clinical participant, they perceived their utilisation was restricted due to staffing in their clinic. “I think we’d be utilised more if we had better staffing levels... I definitely think that we’re utilised; maybe not 100 per cent, but definitely almost” (*Respondent 5*).

Underutilisation

For those who reported they did not perceive their skills to be fully utilised, several themes emerged from the responses. One respondent noted case load limitations as a reason for underutilisation, “Probably not my full potential, but definitely happy that I’ve actually been able to use quite a lot of skills. There are definitely some things we did that I’ve never kind of had the opportunity to do, like putting in local blocks for dentals” (*Respondent 2*).

A second theme emerged of new graduates in practice, or new to a practice. “I feel like I could be utilised more, but I also don’t want to say that too heavily, because I’m still new...I guess, the standard would be to introduce you to stuff slowly, but I don’t think there’s much more that they will probably give me responsibility for, except for if they start doing nurse dentals” (*Respondent 3*).

In a similar theme, for one participant, they noted a similar theme due to being a new member of staff in their clinic.

“I know that there’s a lot more than I can do, and it’s hard to try and push yourself out there to show them, especially in your current clinic where they know you, but they don’t fully know you, and because you’re still considered new, it’s quite hard to be able to show them that. I think the relationships that you’re building with your team allows you to further that each day” (*Respondent 13*).

A third theme encompassed comprised staffing levels, and the subsequent restrictions in their workplace.

“It was always you and vet...because we were always under the pump...I never really got to practice those kinds of things, because in general, a lot of the vets are no good at holding cats for blood draws. So, I’d do it, because I was better at it, and they were better at taking bloods. So, that’s sort of what I missed out on a lot, because you’re just trying to be efficient all the time, and there was never another

– if there were two nurses, you could do those things together and switch away. It was classic vet role/nurse role; there was no switch-over” (*Respondent 12*).

A fourth theme for underutilisation was management barriers. For one individual, they described their experiences of underutilisation:

“I couldn’t say there is a single clinic I’ve worked out where I was been utilised to what I can do. If we’re close to getting to full utilisation it tends to be very micromanaged. So, yeah they might let me do things, but they’re micromanaging me to get me there, which again, defeats the purpose of using someone to their full skillset” (*Respondent 10*).

4.8 Allied veterinary professional qualifications in practice

An exploration of the various allied veterinary qualifications was also conducted, exploring participants’ experiences with qualifications, and whether they had experienced any notable differentiation in practice. Most respondents (64%; 9/14) reported that there was no differentiation of qualifications in their workplace, whilst the remaining five participants had experienced a degree of differentiation. One respondent was not questioned due to interviewer error.

For one individual, they commented their clinic has definitive differentiation for students, “The students who we had through who were certificates worked more as the vet care assistant type role” (*Respondent 4*), whilst another respondent noted that in their clinic, those with a bachelor-level qualification progressed to an increase in responsibilities at an earlier date. A third respondent commented that in their experience, it seemed more personality and relationship driven, as opposed to qualifications as the driving factor. They noted it appeared to depend on the individuals’ capabilities, the veterinarian involved, and the trust and relationship between both parties.

“It kind of depends individually on the nurses’ capabilities, and if the vet kind of knows that they’ll do it properly, and how the vet wants it. Yeah, I know I definitely get away with a lot more, but I don’t know if it’s just because I’m more experienced or because I’ve got higher qualifications” (*Respondent 2*)

For one respondent, they noted a definitive differentiation in responsibility directly linked to qualification by way of VOI (Veterinary Operating Instructions), and the limitations of some staff. Commenting regarding a large animal technician colleague:

“He doesn’t do VOI stuff because he doesn’t learn about drugs and pharmacology and stuff. So, that is where we differentiate our staff, depending on their qualifications sort

of thing, which I think is good. Yeah, my boss made a mention that he probably won't be hiring any non-degree techs again, which is cool" (*Respondent 6*).

Another respondent noted their experience in mixed practice, observing a differentiation across both small animal and production animal services in their clinic. This differentiation consisted of having designated veterinary care assistants, and utilisation of bachelor-level technicians to coordinate lifestyle animal consultations.

4.9 Qualification review and workplace preparedness/readiness

The next interview question explored participants' perspectives on how the degree best aided their preparation for the veterinary workforce. Thematic analysis provided four distinct groupings of responses: clinical skills, clinical reasoning, autonomy, and communication skills, all of which can be linked to an overarching theme of clinical confidence.

Clinical skills (n=9)	<i>Clinical skills</i>	<i>Clinical confidence</i>
Anaesthesia (n=4)		
Surgery (n=2)		
Production animal skills (n=1)		
Clinical reasoning (n=6)	<i>Clinical reasoning</i>	
Clinic exposure (n=3)		
Confidence (n=2)	<i>Autonomy</i>	
Autonomy (n=1)		
Self-management (n=1)		
Written communication (n=2)	<i>Communication skills</i>	
Interview skills (n=1)		
Rapport with vets (n=1)		

Table 4.9: Illustration of thematic groupings of workplace readiness.

4.9.1 Clinical skills

Responses regarding clinical skills were a commonality, with the majority (60%; 9/15) commenting that the clinical skills gained whilst studying was the biggest factor for workforce preparedness.

"I think the clinical knowledge and the skill, for me. I was able to walk into clinic, they'd have something happen, and I would be able to do something about it, rather than walking out there so unprepared – not confident with myself or my learnings

that I've just done, and just stand there and freeze. I was able to just go there and be like; okay, let's do this – or what do you need me to do? (*Respondent 13*).

"I didn't think I was amazing, but the vets said that my practical skills were a lot better than any new grad nurse they'd hired, but I guess we got the opportunity at Massey to practice and to actually be in a veterinary hospital environment, for a lot of hours" (*Respondent 2*).

In addition to this, some participants highlighted area-specific skills, including anaesthesia, surgery, and production animal clinical skills. "Anaesthesia I was pretty much really good at, straight out of university. I feel like we got really good training in that knowledge-wise of drugs – what you do when problems arise – all that kind of thing – intubation; I think we got a really good amount of practice" (*Respondent 2*).

However, one respondent illustrated a sense of over preparation for the clinical environment.

"I think, like most people, I got the sense that we were overeducated for what most clinics were prepared to let people do... I might sort of theoretically know how to do a chest drain – there's no way a vet's going to let me do that... The vet's going to do it, and you're going to stand there with a bucket or whatever" (*Respondent 15*).

4.9.2. Clinical Reasoning

A second clear grouping was that of clinical confidence and reasoning. For some (40%; 6/15), they perceived the degree equipped them best with clinical reasoning skills: "It gave me more the clinical reasoning behind why I'm doing what I'm doing. There were skills we'd learned, but I think it was knowing that I could rationalise why I was doing something, or why I had to do something" (*Participant 10*). Other respondents highlighted their time on clinical rotations, and the experience gained within the veterinary teaching hospital as what they perceived to be the most prepared for in the workplace. "I think that the degree prepared us well for what to expect, once we were out in the workforce" (*Respondent 1*).

4.9.3 Autonomy

A sense of autonomy and the ability to self-manage emerged from the interviews as a third clear grouping. Some discussed confidence in their ability to work autonomously as their biggest preparatory factor, "I knew my drugs – I knew the main sort of surgical procedures that you would do – how to prep them and everything like that. So, really, I could get hands on deck and just do that sort of stuff already. None of that had to be taught to me" (*Respondent 8*). Others discussed their

autonomy from a generalised university angle, and the skills they have gained in a broader sense. “All my work’s been very autonomous and self-directed. So, I’m not necessarily reporting to somebody about every little detail of what I’m doing; I’m organising myself, just prioritising – managing my own workload. So, Uni in general; I think that’s something that teaches you how to do that, because you aren’t being instructed on it” (*Respondent 14*).

4.9.4 Communication skills

The ability to effectively communicate emerged as a fourth theme. For some, the unique environment of the University Veterinary Teaching Hospital built their teaching communication and consultation skills. “Definitely working in the hospital – working with clients already – while a student, that kind of prepared me for speaking with clients in a professional and friendly manner” (*Respondent 9*), as well as difficult clients and situations “Knowing how to deal with a grumpy client, which you guys even prepared us for, as well” (*Respondent 4*).

Some participants spoke of their assignments and written assessments, and the relevance to their current roles. “Writing skills as well; I feel like assignments – we were always doing assignments or exams, or it felt like we were always doing it, and that’s definitely carried through, because we do a lot of writing – even just texts to clients” (*Respondent 9*). Additionally, one respondent mentioned the acquisition of research skills: “I think something like the assignments – I think assignments were quite relevant, because a lot of my work has been theory-based. So, I always reflect on that research project we had, where had to put the proposal together; that’s probably been relevant to a lot of my work” (*Respondent 14*).

Others perceived the qualification allowed them to converse, develop respect, and engage in mutual discussion of cases.

“Just having someone there that’s able to sort of challenge them and bounce ideas off them – I think that was good, and I think that you don’t get that in any other qualification” (*Respondent 12*).

4.10 Qualification review – areas of under preparation

In contrast to the previous question, participants were also asked what they perceived to be the least prepared for upon entering the industry. Responses were thematically analysed and grouped, with several clear patterns emerging, including specific veterinary skills, stress factors, and people-oriented skills. Many respondents reported communication, such as reception skills, and people-management

skills with clients (27%; 4/15) as what they perceived to be least prepared for, followed closely by reception and the business element of veterinary practice.

Reception and sales (n=3)	<i>Veterinary business skills</i>	<i>Under preparation</i>
Medications (n=2)		
Consultations (n=2)		
Equine clinical skills (n=2)		
Administration (n=1)		
Patient admission (n=1)		
Degree recognition (n=2)	<i>Stress factors</i>	
Stress (n=1)		
Workload (n=1)		
Deadlines (n=1)		
Emotional resilience (n=1)		
Job security (n=1)		
Clients (n=4)	<i>People-oriented challenges</i>	
Colleagues (n=2)		
Managing people/HR (n=1)		

Table 4.10: Summary of areas in which participants felt least prepared.

4.10.1 Veterinary business skills

Many commonalities emerged regarding sales and the business side of veterinary practice, with some respondents discussing both the need to communicate with clients regarding their patient, but also to advise and sell preventative medicines and treatments. “Most the time, you are pretty much a salesperson; you’re always trying to pitch for why people should do stuff. I guess I wasn’t completely prepared to have to work so hard to make people realise why some things are so important” (*Respondent 1*). “You’d never really dealt with costings, and all that kind of thing” (*Respondent 2*). Furthermore, two respondents highlighted equine clinical skills as an area of under preparation.

4.10.2 Stressors

The second category of grouped themes included stress in the workplace, comprising common themes of emotional stress and resilience, being overworked, a lack of qualification recognition, working deadlines and role security, as reported in earlier sections. “We were given so many skills and opportunities in the BVT and coming out and not getting that was probably what I was a little bit

least prepared for that I wasn't actually going to be able to practice most of the things I'd learned" (*Participant 10*).

Several responses echoed similarly the transition from tertiary student to the workforce, and the abrupt change that can bring. Comments about deadlines and work needing to be achieved, "The fact that deadlines matter – at Uni, you kind of push the boundaries a lot, and you just do whatever, but in the real world, you can't be late with stuff – it actually has to be done" (*Respondent 14*).

Emotional stress and resilience were also considered an area participants felt least prepared for, "I think probably the emotional rollercoaster; no-one really tells you how you're going to feel about getting into your new job, and things like that, and no-one really tells you that you hit this high, and then once you've hit the high, you hit this massive low" (*Respondent 8*). For some the sudden change from student to working in the industry was an area where they felt underprepared, "You've just got to show a lot of initiative; I think that's what I wasn't prepared for. It was quite cruisy as a student" (*Respondent 9*). "You actually still have to work really hard to prove yourself to get somewhere, and then you can start making your mark" (*Respondent 14*). For others it was the workload. "Through your training at Massey, you work with a lot of people, and you're in these departments, and there's a lot of people around you, but what I wasn't prepared for was the insane workload" (*Respondent 12*).

4.10.3. People-oriented challenges

A third clear grouping consisted of people-oriented challenges. Responses ranged from client interactions, and management of difficult situations, to being in positions of leadership and managing colleagues. Managing clients, and the associated difficult interactions was noted by four respondents. One respondent described feeling daunted by new interactions in a new role:

"I think dealing with clients; you know all these skills and all this cool stuff, but talking to so many new people is quite daunting, and you don't really think about it, because when you go out to farms, you kind of just do the work, whereas when you're going out alone, you have to introduce yourself and gauge - it's quite – if you're going to three or four a day, it's quite draining, talking to new people and stuff" (*Respondent 6*).

For another, they described interactions and seeing both perspectives as an area they were least prepared for in clinical practice. "Understanding their perspective, a bit more; we know, but then when you're on the other side, it's quite hard to understand how they're feeling, because they don't have the base knowledge that we do. So, it's kind of hard to relate initially" (*Participant 13*).

4.11 Industry improvement

The final interview question explored participants' perceptions of the veterinary industry. Opinions were sought regarding industry improvement, and what participants believe needs to happen for the industry to improve. Participant responses were thematically analysed, and several strong themes emerged. These included: qualification regulation, professional identity, positive work life balance, and managing client and colleague expectations.

Regulation (n=4)	<i>Regulation</i>	<i>Qualification regulation</i>
Tiered qualifications (n=4)		
Standards framework (n=2)		
Union (n=2)		
Qualification awareness (n=3)	<i>Awareness</i>	
Reinstate BVT (n=3)	<i>Bachelor level qualifications</i>	
Remuneration (n=2)	<i>Appropriate remuneration</i>	
Standardise pay scales (n=1)		
Utilisation (n=5)	<i>Utilisation</i>	<i>Professional identity</i>
Recognition (n=1)		
Appreciation (n=3)	<i>Appreciation</i>	
Professional identity (n=1)	<i>Identity</i>	
Emotional stress (n=2)	<i>Work life balance</i>	<i>Positive work life balance</i>
Work life balance (n=2)		
Veterinary attrition (n=1)	<i>Attrition</i>	
Short staffing (n=1)		
Finances (n=2)	<i>Clients</i>	<i>Managing expectations</i>
Welfare (n=1)		
Expectations (n=1)		
Resistance to change (n=3)	<i>Colleagues</i>	

Table 5.11 Industry improvement summary

4.11.1 Qualification regulation and standardisation

The first theme identified centred around allied veterinary professional qualifications. Many respondents' comments encircled the notion of regulation and standardisation of qualifications. Some respondents commented on the various qualifications present in New Zealand, and the confusion this can bring to employers and colleagues.

“I think the vet clinics don’t know how to use all of these different qualifications; they don’t know what they know – what skills they’ve learned – what skills they should be able to do. So, once you leave, you’re just kind of left in the mercy of the vet clinic, and what they let you do, really” (Respondent 1).

Several respondents commented on their experiences with new graduates in practice, and the variation in their skills. One respondent discussed their clinic employing a new graduate from a different education provider: “It was literally like training someone who had zero knowledge in the veterinary industry, and I was like; I just don’t get what you’ve just spent two years doing. I think the whole regulation of the degrees and stuff needs to happen, because it’s crazy what you get” (Respondent 2).

Tiered qualifications

Further participants echoed these concerns regarding regulation, suggesting there needs to be clearly defined and tiered qualifications, to avoid confusion and assist with streamlining workflow patterns. One participant felt that veterinary assistants should have defined boundaries: “Vet assistant; there needs to be a line on who can do what, and who can’t, to just stop that overlap” (Respondent 6). For another, their suggestion encompassed greater utilisation of allied veterinary professionals, “If you pay someone to do the cleaning – just the cleaning – you can pay them minimum wage, or a little bit above to do the cleaning – then you can pay your nurses more for the actual skills that they’re trained to do” (Respondent 11). “The recognition of the levels; definitely, that would help. Too many nurses I know are on reception four days a week” (Respondent 10). One participant drew comparisons to the US veterinary model, “In New Zealand you see like a two-tier approach – the vet and the nurse or whoever, and in the States, you see three” (Respondent 15).

Other respondents discussed the Bachelor of Veterinary Technology, its place in the industry, and perceptions of regulation.

“I think we could just be doing a bit more to differentiate ourselves and make us. I feel like there still needs to be knowledge about what a veterinarian technologist is, because it still seems to be that some people still have no idea what we can do. I get asked on almost a daily basis; oh, so what’s the difference between a vet tech and a nurse and a vet? It’s becoming not really clear-cut anymore. I find I’m like... where do I begin – how do I explain?” (Respondent 9).

For another respondent, they echoed similar frustrations and noted the undefined boundary between qualifications:

“Of course, there’s all these new degrees coming out as well, but once you graduate, there’s no framework on how vet clinics should be utilising all of these different qualified people, which kind of brings me back to the question where you’re asking; does a Rural Animal Tech get treated differently to a large animal tech that’s got a BVT degree” (*Respondent 1*).

Reinstatement of the Bachelor of Veterinary Technology

Some respondents felt concerned about the cancellation of the BVetTech degree and lack of further higher training options. “I think the feedback I’ve had largely from the clinics and vets I’ve talked to, since I’ve been in this role is there’s so much disappointment that the vet tech degree has been discontinued” (*Respondent 14*). “I’m sad that it’s not continuing, but by the same token, it was going to take a really long time for the industry to start to accept, as it were” (*Respondent 15*).

This concern was echoed across several participants, and one of whom oversee the hiring of new staff in their clinic:

“Especially after seeing my options; it’s absolutely bleak out there, without having that degree. It’s just so sad. So, I think that was a huge mistake for the whole industry, not to go and keep with that...You’d have to spend a good two years teaching someone up to be at a point where it would be almost like a new grad for Massey” (*Respondent 5*).

Remuneration

Remuneration was also noted as an area for improvement, “I kind of expected more just for the fact that I went away and got a degree, but they’re employing me as a nurse” (*Respondent 3*).

4.11.2 Professional identity and recognition

Professional identity was the second theme to emerge, encompassing utilisation, recognition, appreciation, and professional identity.

Recognition and utilisation

Utilisation was mentioned by a third of all respondents. Some individuals noted they felt an increase in education of all qualifications was needed in the industry to obtain greater utilisation of staff, “Helping the whole industry to understand, and practice ways to utilise vet technologists, and other allied professionals” (*Respondent 12*). For another respondent, they felt staffing issues could be solved by greater utilisation of staff, “We’ve got a flailing industry that is in dire need of vets and vet nurses,

and there is so much that we can do without even putting extra staff in there that would improve that problem". (*Respondent 10*).

For one respondent, they voiced their frustrations with a discord between teaching and the workplace:

"We're teaching them to do all this stuff – we want them to do all this stuff, and they go out and then they feed back – I don't get to do any of that, so I don't know why you taught me that. That's what's frustrating; it then looks like there is a disconnect between the teaching and industry when there shouldn't be". (*Respondent 10*).

Professional identity

The theme of professional identity was noted by several participants. "Ultimately, I think this is where all of our concerns with industry lay; it's that lack of professional identity which then will stem hopefully – once we've got that, people will be able to then pick up still utilisation and then we'll be recognised for that and be used more" (*Respondent 10*). For one participant, they felt a lack of identity was present for the BVetTech degree.

"I went on so many placements, and people were just like; what do you do – what's this degree – so, you're doing RAT? No, I'm doing a degree. They just hadn't heard of it, and I think Massey shot themselves in the foot by not putting that word out there.... I've spent three years telling people what my degree involved – people in the industry that should know – because no-one else has told them" (*Respondent 12*).

Appreciation and recognition

A third theme emerged encompassing appreciation and recognition in the workplace. Several participants felt an increase in these would facilitate industry improvement, "I think we need to be recognised for the work that we do, and valued for that, as well" (*Respondent 13*). "I just really think that the nurses run the clinics. It's not the vets. It's the nurses that run the clinics. We really just need to be appreciated more and paid more. It's as simple as that" (*Respondent 11*). Additionally, one respondent felt underappreciated and not heard, "Not having that appreciation from your employers is quite hard, especially when you are struggling and you see your team members struggling, and you've voiced it, but it just isn't heard. So, that's quite hard, as well" (*Respondent 13*).

4.11.3 Stress

A third key theme of industry improvement was stress in the workplace, comprising emotional stress, negative work life balance, veterinary attrition, and short staffing. For some, they felt compassion and empathy were pivotal factors, “It’s not a horrible industry, but it just relies on people’s compassion to sort of just over-ride everything else, but there’s so many issues. Yeah, I just wish that one day people are a bit more open to how we use other people in practice” (*Respondent 12*).

For another, they noted feeling emotionally underprepared.

“We’re dealing with life and death every day, and people’s emotions every day, and we’re not really prepared for that, as much. So, I think it’s hard for when people like new-grads come out, especially in this time where everyone’s so fuelled on emotion where we don’t have a job – we don’t have finances, but we need to do these things for our animals, because that’s just what we need to do. It’s quite hard to prepare people to deal with those strong emotions, to cope.” (*Respondent 13*)

One respondent noted veterinarian attrition as a contributing factor to improving the veterinary industry, “The young vets that I became friends with – of those who are working in practice, I think a surprisingly large number will not be in clinical practice. They’ll be at MPI, or they’ll be working for a drug company, or they will have just dropped out altogether” (*Respondent 15*).

4.11.4 People based challenges

Clients

The fourth theme encircled challenges associated with both clients and colleagues in the workplace. Client stress and financial status were noted as common challenges. Some participants felt client education would result in a realignment of expectations, “I think in general, there needs to be more awareness for the client’s expectation-wise. I think a lot of clients have got this huge expectation of how things work and how things should be; just ring up and be like, I want to be booked in tonight” (*Respondent 7*).

“Client education is a big thing. That’s one thing I’ve noticed; clients have got this perspective of things that’s just so different. I’ve had one recently that’s decided that FNA (Fine needle aspirate) of a lump would be us aspirating the entire lump, which is a very huge misconception of what we were actually trying to achieve, but when someone’s fired up, saying oh you didn’t actually drain my lump, and I’m like – no, because we weren’t supposed to drain your lump” (*Respondent 8*).

Some respondents commented in their experiences with clients and financial stress, “People getting upset about money is a massive thing, as well, and the fact that vet clinics are businesses – not Government-funded health agencies; the reason a visit to the vet costs that is because that’s what it costs to run a vet business.” (*Respondent 4*). For one individual, they drew parallels with the overseas model of private human healthcare. “Americans are used to paying for healthcare, because they pay for human healthcare, and they know that animal healthcare is the same – it’s expensive. New Zealanders think that everything should be free. No-one wants to pay for stuff” (*Respondent 15*).

Colleagues

Some respondents reported experiences with colleagues as an area for industry improvement. All respondents who noted colleague-base challenges experienced resistance regarding changes in the workplace. For one, this was experienced as resistance from the senior level staff in their clinic.

“I think definitely having the senior staff being open to change and having those conversations with their staff about goals and what they want to achieve and what they want to do, but I think just in general being open to change, and releasing some of the control, and the tasks in the clinic that we can do” (*Respondent 7*).

For another, they felt some demographics of veterinarians were unfamiliar with the BVetTech programme, “I think there’s definitely vets out there and practices out there that still doesn’t know what a tech is. I think it is a dying breed, just for the older vets, and older people; they’re used to doing things the way things are done” (*Respondent 9*).

One respondent felt their experience of colleague resistance to change was detrimental to their confidence:

“You’re trying to make the change. You’re saying to the vet; how about you try it this way. They come back to you and say, I’ve done it this way for the last however many years. They’re not really respecting or acknowledging; maybe this is a better way to do it. Then, not letting you do things, as well, in some instances is not very good for your confidence. That’s where we would struggle, as well” (*Respondent 13*).

4.12 Summary

The research data illustrates a wide array of experiences, roles and responsibilities of the veterinary technology graduates in clinical practice and allied animal health industries.

When asked their perceptions of role satisfaction, the key findings were role variety, positive working environment, autonomy and utilisation, clinical cases, and teaching. In contrast, the challenges experienced by respondents included identity and lack of degree recognition, people-based challenges – notably workplace dynamics, stress, and ethical stressors. In addition to this, when asked what they perceived the biggest challenges allied veterinary professionals collectively face, response themes included people-based challenges, identity and recognition, and workplace stressors

The respondents were also asked to evaluate their workplace readiness. Areas respondents considered to be well prepared for included clinical skills, clinical justification and reasoning, autonomy, and communication. Conversely, areas of under preparation included people-facing veterinary skills such as reception, patient admission and consultations, navigating challenges with clients and colleagues, and emotional stressors.

Lastly, respondents were asked to suggest improvements to the veterinary industry. Key responses shared by many participants included the perceived need to introduce AVP qualification regulation, a greater degree of utilisation and professional identity, identification and possible solutions to issues surrounding work life balance and managing expectations of both clients and colleagues in the workplace.

The discussion will explore these findings in depth and examine how the findings relate to current literature and identify further areas for future research.

Chapter Five: Discussion

5.1 Introduction

This study explored the experiences of graduates of the Bachelor of Veterinary Technology programme from Massey University. It is the first study to explore qualitatively the experiences of the Veterinary Technology graduates, their perceptions of their roles and utilisation, their challenges and barriers to progression, and their observations of the veterinary industry. The research findings illustrated several overarching themes including utilisation, identity and recognition, barriers to progression and emotional stress and work life balance.

The most notable finding was professional identity and recognition. Many respondents noted the perceived lack of understanding of the skillset and capability of BVetTech graduates from the wider veterinary industry. In addition to this, optimal use of clinical skills and knowledge was a second key finding. Responses appeared dichotomous, with some graduates reporting a positive level of utilisation, whilst others reported frustrations with underutilisation. Emotional stress and its contributing factors in the workplace is also a key finding, alongside barriers to progression in the industry.

This discussion chapter will draw comparisons to research literature, confirm and complement the current literature surrounding Veterinary Technology graduates in the workplace, as well as reveal new areas of possible further research.

5.2 Utilisation

This research found the experiences of veterinary technology graduates varied in the workplace. Those employed in clinical practice experienced varying levels of utilisation of their clinical skills - some participants perceived their skills and experiences to be well utilised, whilst others experienced underutilisation. The theme of underutilisation is not new to veterinary paraprofessionals, as demonstrated by numerous studies finding allied veterinary professionals to be underutilised in a clinical setting (Chadderton et al., 2014; Clarke et al., 2019; Gates et al., 2021; Harvey & Cameron, 2019), with Gates attributing underutilisation to employers' poor understanding of the skills veterinary technologists are able to perform in the workplace. Harvey and Cameron (2019) identified key areas where veterinary nurses in New Zealand were underutilised in clinical practice, by examining

the perceptions of both veterinary nurses and veterinarians. These competencies included dental prophylaxis, intravenous catheterisation, clinical examinations, and diagnostic microscopy.

Chadderton (2014) suggested that veterinary technicians are undervalued, underutilised, and earn low remuneration irrespective of their qualification and skill. Poor remuneration is a continual issue plaguing the veterinary industry. A large cross-sectional survey of BVetTech graduates from Massey University (Gates et al., 2021) reported a median wage of \$20NZD/hour. This remuneration rate is likely partly due to the veterinary industry not being Government subsidised, unlike the healthcare profession. The New Zealand Veterinary Nursing Association recently published their recommended wage guidelines for 2022, suggesting newly graduated veterinary nurses (Diploma or Bachelor qualified) should commence employment at \$26 NZD/hour, increasing to \$30 NZD/hour with four or more years' experience (NZVNA, 2022). A similar publication from the UK has recently published salary guidelines for Medivet, a large corporate employer, with new graduate Veterinary Nurses starting on a salary of £30,000 GBP (Mills, 2022). Squance (2014) suggested increasing utilisation of veterinary nurses can be beneficial, allowing reciprocity across veterinarians and veterinary nurses, and from an economic standpoint could increase clinic profitability.

This study found that several graduates reportedly demonstrated their worth in their workplace and fostered a positive shift in paraprofessional utilisation and responsibility. Notably this appeared to be most prevalent for those employed in production animal practice. From a clinical perspective it appeared respondents' clinical skills were utilised to varying degrees. Several comments suggested variations in team dynamic and generational differences played a pivotal role toward the degree of utilisation of allied veterinary professionals. The generational gap of veterinarians in New Zealand has been noted by several previous studies (Bryan, 2010; Gates et al., 2020). Bryan (2010) suggested generational differences between veterinarians could possibly be attributed to varying levels of technician utilisation, with generation Y individuals (born 1980-1994) being more accustomed to teamwork, possibly for the security and confidence it brings. Gates et al., (2020) suggested a generational gap amongst the experiences of respondents, with younger vets more willing to share responsibilities and train allied veterinary professionals.

Interestingly, those employed in allied animal health encompassed a wide variety of roles, demonstrated responsibility, autonomy, and spoke of an improvement in their working environment, work life balance, salary, and flexibility. These individuals aptly showcase the broadness of the degree, and its far-reaching application. This mirrors the Queensland study (Clarke et al., 2019) who found whilst half their respondents were employed in clinical practice, many graduates were employed

broadly across the allied animal health sector, government departments and tertiary education institutions.

It was interesting to note graduates progressing to leadership positions quickly, with over half of participants progressing to advanced positions in clinical practice. These findings mirror those from a larger graduate survey from The University of Queensland, where almost a third (8/24) were employed in advanced roles (Clarke et al., 2019). Furthermore, of these leadership positions, two thirds were employed in large animal practice. This is a niche area historically dominated by veterinarians and rural animal technicians. From the participant responses, it was clear once the graduates demonstrated their worth in clinic, they were given an increased amount of autonomy, responsibility and ultimately trust and respect. The qualification is still very much in its infancy, with the first graduates entering the workforce ten years ago. Having many graduates advance to leadership positions with a greater level of responsibility, perhaps reflects the level of trust and respect from their employers. This would be an important area for future analysis, to explore factors contributing towards paraprofessional utilisation in clinics.

5.3 Identity and recognition

The next notable theme was participants' perceived lack of professional identity and qualification recognition. This research demonstrated a clear need for BVetTech graduates to reaffirm their professional identity in the workplace. Lack of professional identity was particularly evident for those working in veterinary clinical practice, across both small and large animal practice settings. Previous studies have shown underutilisation of skills and knowledge could be attributed to a poor understanding of the scope of skills that veterinary technologists are able to perform (Gates et al., 2021), and a lack of recognition from the authoritative bodies deemed to be a major barrier to progression (Clarke et al., 2019).

Currently registration for all allied veterinary professionals is voluntary with the New Zealand Veterinary Nursing Association (NZVNA). At the present time, there is no legal protection of the title of 'veterinary nurse' or 'veterinary technologist' in New Zealand. The NZVNA is working towards introducing mandatory registration for all allied veterinary professionals, however this is a complex process requiring statute changes to the Veterinarians Act 2005 (Harvey et al., 2014). Currently there is no clear differentiation between levels of qualifications. Compounding this further, there is no standardisation of qualifications between training providers; however, there is work underway to formalise and recognise these qualifications (AVPRC, 2022; Harvey et al., 2014). Undoubtedly this

results in confusion amongst employers and colleagues, as was highlighted by respondents in this study. Many respondents expressed frustrations at not having a clear identity in the clinical environment, resulting in individuals self-defining their qualification to both their employers and clients. Chadderton (2014) highlights the importance of increasing awareness of veterinary technologists in the profession, as the role is not always accessible to clients and the public. A study from the UK found that neither veterinarians nor clients could clearly define the 'services' of the veterinary nurse in small animal practice (Belshaw et al., 2018). Much of the role is not client facing, which highlights a need to consider increasing awareness of the role to clients in practice. This could help to address some of the client issues experienced by participants, such as respect, demonstration of worth and financial justification.

Professional identity and industry recognition are two big challenges for all allied veterinary professionals. Recognition of qualifications would result in standardisation, regulation, and bring with it a greater awareness of skillsets and capabilities. This would be an area for future research, seeking to clarify qualifications and clearly defined skillsets. This could benefit the industry, allowing veterinarians and colleagues to understand capabilities quicker and arguably facilitate improved workflows in the clinical environment

5.4 Barriers to progression

The perceived lack of professional identity and recognition can be seen as a barrier in the workplace. Some graduates interpreted this lack of qualification awareness and understanding as a key reason they were not respected and recognised in their roles. A further barrier of colleague resistance arose from the findings, encompassing resistance to change in the workplace. This is in agreement with Clarke et al., (2019), who found graduates experienced poor trust in their capabilities from veterinarians, whilst nursing colleagues viewed them as competition. Findings from this study illustrate experiences of colleague resistance to change, and tension between allied veterinary professionals. There is a paucity of literature surrounding veterinary technologists and their integration into the clinical environment presently, however, drawing parallels to human healthcare, conflict in the workplace is often cited as a significant issue to address (Kerrigan, 2019). The theory of change management is outlined in numerous studies (Ballantyne, 2018a; Ballantyne 2018b; Gordon & Cleland, 2020; Hibbert, 2011) and encompasses the foundational notion of Lewin's (1947) model of unfreezing (recognition of change), moving (commencement), and refreezing (once change is initiated) (Ballantyne, 2018). Any change in the workplace brings new obstacles, with Hibbert (2011) noting the implementation of change is often challenging, as reworking one area invariably results in

changing another. Changes and the subsequent challenges in the workplace are inextricably linked, however, and to initiate change, recognition and acknowledge is required. Clarification of roles, qualifications and therefore skillset recognition would theoretically assist in solving the complicated puzzle, and in turn could allow for greater trust between veterinarians and allied veterinary professionals.

Career advancement and opportunity was also found to be a barrier to progression. Many paraprofessional staff hit the ceiling of the profession within 5-7 years (Chadderton et al., 2004) which was echoed by several respondents either having moved to a non-clinical role or left the industry entirely. Clarke et al., (2019) found a lack of career advancement the biggest reported challenge amongst their graduates and suggested that the lack of career advancement could be linked to lack of skillset recognition in the workplace.

A possible future direction could be the expansion of post-graduate qualifications to further enable career progression and upskilling of allied veterinary professionals. There are several post-graduate pathways currently available, however these are limited in nature and fall into two categories: either clinical specialisation such as the VTS specialisation in North America (NAVTA, 2022), or a general post-graduate qualification. Mirroring the medical field, introducing a nursing practitioner equivalent role, with a prerequisite of postgraduate qualifications could be an avenue to pursue in the future. A recent study of US trained technicians demonstrated clear interest in introducing this in the US (Fults et al., 2021). Additional postgraduate career opportunities could include practice management, marketing, business and leadership training, and information technology (Chadderton et al., 2014). Enabling broader post graduate opportunities could enhance AVP utilisation in practice, but also offer wider career opportunities in allied animal health including government roles, education, primary agricultural sector, and research. In theory, this would also translate to a higher remuneration rate (Chadderton et al., 2014). The opportunity to obtain postgraduate qualifications could facilitate increased role satisfaction, increased remuneration, leading to a reduction in attrition from the industry.

5.5 Emotional stress and work life balance

This research also illustrated and confirmed a recurring theme of emotional stress in the workplace. Emotional stress, compassion fatigue and burnout are all common in the veterinary industry, as those choosing to work in the profession are empathic and compassionate individuals (Brannick et al., 2015). Burnout is considered environmental, typically attributed to long hours and poor remuneration, whilst compassion fatigue is directly related to the stress of the role, and the relationships with patients and clients (Flagler, 2017). This study found contributing factors to respondents' emotional stress included

long hours, poor remuneration, and poor support from colleagues. These findings agree with a previous study of veterinary nurses in New Zealand, who found veterinary nurses who experience higher workloads are at a greater risk of emotional exhaustion and burnout (Kimber & Gardner, 2016). Veterinary clinics are often emotionally demanding, fast-paced, with increasingly high caseloads. New Zealand currently has one of the highest rates of pet ownership in the world, with 41% of households owning at least one cat, whilst 34% of households have at least one dog (CANZ, 2020). These high workload demands are further exacerbated by the COVID-19 pandemic, which has caused a significant shortage of veterinarians when the New Zealand borders closed (NZVA, 2022).

Constant high demands can negatively affect veterinary nurses, which in turn poorly affects colleagues, clients and patients (Kimber & Gardner, 2016). Previous studies of veterinary paraprofessionals have identified contributing factors to compassion fatigue and work-related burnout including euthanasia and difficult clients (Deacon & Brough, 2017) and moral stress (Brannick et al., 2015). Respondents also reported experiencing short staffing in the workplace, and struggles to attract suitable applicants to roles.

Veterinarians are not immune to this perennial issue. Gardner and Hini (2006) identified several key areas of stress in the workplace for veterinarians, including hours worked, client expectations, and unexpected outcomes. It is a widely known that these stressors likely play a role in retention of veterinarians and paraprofessionals in the clinical environment. Several studies have explored reasons why veterinarians may leave their roles. Studies from the UK and Ireland both found approximately half (41% and 50% respectively) of veterinarians reported work life balance as the reason for leaving their current position (Hagen et al., 2022), whilst a recent Australian study found lower salary, increased hours, on-call duties and both rural and city locations as reasons for veterinary attrition (Arbe Montoya et al., 2021a; Arbe Montoya 2021b). These findings were further confirmed by a recent study in New Zealand (Gates et al., 2020) who identified Veterinary Science graduates left their first veterinary role due to negative work environments and inadequate support. A possible solution could be increased utilisation of allied veterinary professionals to alleviate and offset the high workload and associated stressors currently plaguing veterinarians in clinical practice.

An increase in utilisation does have limitations, however. Chang et al. (2005) suggest that an increase in clinical tasks and responsibility could further exacerbate stress, burnout, and compassion fatigue of veterinary nurses. Any increase in clinical workload would need to be carefully examined to avoid overburdening of individual team members, to ensure the high workload is not simply shifted onto paraprofessional staff (Harvey & Cameron, 2019). This highlights an interesting and possible area for future research; to investigate clinic workflows and implementation of roles and responsibilities.

5.6 Summary

This study is the first of its kind to explore the experiences of Veterinary Technology graduates in New Zealand. The study findings highlight several key themes including utilisation, qualification recognition and professional identity, barriers to progression, emotional stress, and compassion fatigue. Currently, the veterinary industry is experiencing a veterinarian shortage. These staffing limitations invariably result in increased pressure on current staff, which could further exacerbate emotional stress, compassion fatigue and burnout. Careful consideration and analysis of workflow models could assist in alleviating some of the stressors the industry is currently facing, and greater utilisation of allied veterinary professionals could potentially address some of these concerns. A further consideration would be to develop an increased awareness and understanding of the clinical skillsets of qualifications. This would then inform future decisions made surrounding qualification regulation and skillset identity. Ensuring greater qualification awareness of allied veterinary professionals in clinical practice is the first step towards professional recognition and identity of allied veterinary professionals in New Zealand.

Chapter Six: Conclusions

6.1 Introduction

This research was conducted to explore the experiences of veterinary technology graduates in both veterinary clinical practice and the allied animal health sector. Massey University commenced the Bachelor of Veterinary Technology programme in 2009, with the final cohort of students finishing study in 2021. Since the commencement of the programme, there has been little by way of research specifically surrounding the programme. The programme was the first of its kind in New Zealand, paving the way for the introduction and upskilling of higher education for veterinary paraprofessionals. One of the key drivers for undertaking this research was to investigate current experiences of allied veterinary professionals, and to explore and better understand the current AVP climate.

The sample population comprised graduates of the Bachelor of Veterinary Technology programme from Massey University. A qualitative, case study research methodology was employed encompassing 15 semi-structured interviews to explore the experiences of these graduates.

6.2 Research Questions

This study sought to answer the following research question:

What are the expectations and experiences of allied veterinary professionals in clinical practice?

Within this overarching question, two sub-questions emerged:

- 1. How are allied veterinary professionals utilised in the veterinary industry?*
- 2. What are the barriers for allied veterinary professionals in clinical practice?*

This exploratory case study answered the research question, by exploring aspects of graduates' experiences in the workplace. All graduates of the programme were invited to participate in the study, with fifteen respondents interviewed. Interviewees were questioned on four main areas of their work experiences: demographics, work environment, role expectations, and workplace challenges.

In response to sub-question one above, data analysis revealed that utilisation of veterinary technologists in clinical practice is varied. Some respondents noted a higher level of utilisation of their clinical ability and knowledge, notably those employed in progressive clinics, or sole-charge veterinarian clinics. Furthermore, there was a notable finding of an increase in leadership and

responsibility in the workplace amongst those employed in production animal practice when compared to those in companion animal practice.

Key barriers faced by respondents in the workplace included a perceived lack of professional identity and recognition, workplace dynamics and resistance amongst clients and colleagues, and emotional stress in clinical practice. This study found underlying contributing factors towards these barriers include poor awareness of the BVetTech programme in the workplace. Greater awareness and role clarity of allied veterinary professionals would possibly seek to reduce this barrier. Greater awareness of qualification recognition could also clarify roles and decrease colleague resistance some respondents found in the workplace.

6.3 Key themes

In addition to providing answers to the research questions, emerging themes arose related to, professional identity and recognition, utilisation, workplace challenges, and emotional stress and compassion fatigue.

The first theme indicates a need to formalise professional identity for Veterinary Technologists, and all allied veterinary professionals in clinical practice. Formal recognition of qualifications and a greater awareness of clinical skillsets could allow for increased utilisation of allied veterinary professionals. This increase in utilisation could assist in a re-delegation of workload and re-distribution of tasks, to increase efficiencies in the clinics and alleviate the pressures on veterinarians.

Workplace challenges was also a key outcome. This encompasses colleagues and clients, and the difficulties faced by some respondents in the workplace including colleague resistance and negative team dynamics. An increased awareness of qualifications may assist in facilitating these challenges and assist to decreasing these barriers, by providing clarity and assurance of the graduates' attributes and skillsets. In addition to this, emotional stress and compassion fatigue was also a workplace challenge for participants, including long hours, staffing limitations and euthanasia.

This study reinforced current literature of allied veterinary professionals and their experiences in clinical practice (Clarke et al., 2019; Gates et al., 2021). It also sought to explore the experiences of graduates who have left industry, such as one participant whose negative experiences facilitated their exit to dairy farming, or those employed in the allied animal health sector, such as education and consultancy. The study highlighted several new insights regarding the development of future curriculums. These need to include greater elements of professional soft skills such as communication, business, and consultation skills.

6.4 Implications of this research

Whilst this study focused on veterinary technology graduates, they are part of a much bigger picture within the veterinary and allied animal health industries. The results of this study potentially have a wider application to all allied veterinary professionals in both clinical practice and allied animal health industries. The findings of this study can aid in better informing employers about the capabilities of new graduates in the profession. It can serve to identify potential pathways for professional learning and development, and aids in addressing workplace efficiencies and improving workflow patterns.

6.5 Areas for future research

This study has highlighted several areas for future investigation. Firstly, it would be interesting to explore whether the issues BVetTech graduates experienced share commonality and relate to all allied veterinary professionals in both clinical practice and allied animal health. A broader study of AVPs could ascertain the prevalence of the issues found in this study, and potentially validate findings from this study. Future research could include utilisation and skill sets and explore factors determining the variation amongst workplaces.

A second key area for future research could be exploration from the veterinarian's perspective, and, and their experiences and expectations of AVPs in New Zealand. This could help to inform the future direction of studies encircling utilisation of AVPs, and to seek understanding of the team dynamic barriers identified in this study.

6.6 Limitations

This study was confined to graduates of the Bachelor of Veterinary Technology programme at Massey University, and as such has limited generalisability. There is no certainty that the findings from this study would reflect those of a wider context. The small sample size of fifteen respondents represents a small proportion of the total of number of BVetTech graduates (n=269). As such, this explorative case study sought to examine the phenomenon in depth and explore the graduate experiences.

The timing of the research also coincided to two pivotal events: the COVID-19 pandemic and the programme closure. The pandemic resulted in a change to the way the data was captured for this study, and all interviews were conducted by distance utilising Zoom. The pandemic has undoubtedly changed working culture, and increased pressure within the veterinary industry due to the New Zealand border closure. The closure resulted in a veterinarian shortage in New Zealand and could have negatively impacted potential candidate availability to participate in the study. The announcement of the BVetTech programme closure also occurred during the study. Undoubtedly the closure negatively impacted graduates of the programme, and this may have influenced some respondent's decision to

not partake. Lastly, the prevalence of potential researcher bias due to the study being conducted by a sole researcher is a limitation.

6.7 Recommendations

The findings from this case study highlight several key challenges currently within the veterinary industry for allied veterinary professionals. Professional identity and recognition was clearly identified as a suggested area for improvement. The initiation of formal recognition and registration of qualifications would allow for greater skillset clarity and definition. Formalising recognition and increasing professional identity would serve to protect the title of allied veterinary professional, provide role clarity, and ensure standardisation of clinical skills sets. Upon this recognition, professional identity could be greater established for allied veterinary professionals in the workplace. This increase in professional identity and recognition could aid in facilitating clients and the public to better understand the role of AVPs in clinical practice.

A second recommendation would be to optimise utilisation of allied veterinary professionals' knowledge and skillsets in clinical practice, particularly in response to the current climate of the veterinary industry. The veterinarian shortage exacerbated by the COVID-19 pandemic has resulted in understaffed workplaces in many instances. These workplaces and teams are at heightened risk of compassion fatigue and burnout. Increased utilisation of allied veterinary professionals could help to reduce the current workload demands.

A further recommendation would be to ensure pathways to progression are available, including expansion and development of post graduate higher education pathways. Ensuring greater availability of these qualifications would positively benefit both AVPs and their career aspirations, and the veterinary industry by upskilling the workforce. Higher education pathways could assist in increased role satisfaction, and lead to a decrease in attrition from the profession. The availability of these pathways, alongside formal recognition and professional identity would undoubtedly benefit the collective industry for the future. Allied veterinary professionals play an important and pivotal role within the veterinary industry. This study has highlighted several key recommendations for the future of the profession. Veterinary nursing has evolved significantly in the last fifty years, and I eagerly anticipate the evolution of the next fifty years.

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Appendices

Appendix A – Table of qualifications and providers in New Zealand

<u>Qualification</u>	<u>Level</u>	<u>Credits</u>	<u>Organisation</u>
New Zealand Certificate in Animal Care	3	70	AG Challenge Ltd Manukau Institute of Technology Ltd National Trade Academy Ltd Otago Polytechnic Ltd Primary Industry Training Organisation Southern Institute of Technology Ltd The Open Polytechnic of NZ Ltd Toi Ohomai Institute of Technology Ltd Unitec New Zealand Ltd Universal College of Learning Ltd Waikato Institute of Technology Ltd Wellington Institute of Technology Ltd
Telford Certificate for Rural Animal Technicians	4	120	Lincoln University
New Zealand Certificate in Animal Management	4	120	Ara Institute of Canterbury Ltd Eastern Institute of Technology Ltd Toi Ohomai Institute of Technology Ltd Unitec New Zealand Ltd
New Zealand Certificate in Animal Technology	5	120	AG Challenge Ltd Ara Institute of Canterbury Ltd Eastern Institute of Technology Ltd National Trade Academy Ltd Otago Polytechnic Ltd Southern Institute of Technology Ltd Toi Ohomai Institute of Technology Ltd Unitec New Zealand Ltd Universal College of Learning Ltd Vet Nurse Plus Ltd Waikato Institute of Technology Ltd Wellington Institute of Technology Ltd
New Zealand Diploma in Veterinary Nursing	6	120	Ara Institute of Canterbury Ltd Eastern Institute of Technology Ltd Otago Polytechnic Ltd Southern Institute of Technology Ltd Unitec New Zealand Ltd Universal College of Learning Ltd Vet Nurse Plus Ltd Waikato Institute of Technology Ltd Wellington Institute of Technology Ltd
Bachelor of Veterinary Nursing	7	360	Eastern Institute of Technology Ltd Unitec New Zealand Ltd
Bachelor of Veterinary Technology	7	360	Massey University
Bachelor of Veterinary Science	7	600	Massey University

Postgraduate Diploma in Veterinary Clinical Science	8	120	Massey University
Postgraduate Diploma in Veterinary Preventative Medicine	8	120	Massey University
Postgraduate Diploma in Veterinary Public Health	8	120	Massey University
Master of Veterinary Medicine	9	240	Massey University
Master of Veterinary Science	9	240	Massey University
Master of Veterinary Studies	9	240	Massey University

Appendix B - Ethics approval



Date: 21 January 2021

Dear Patrice Palleson

Re: Ethics Notification - 4000023802 - Exploring the experiences and expectations of allied veterinary professionals in New Zealand.

Thank you for your notification which you have assessed as Low Risk.

Your project has been recorded in our system which is reported in the Annual Report of the Massey University Human Ethics Committee.

The low risk notification for this project is valid for a maximum of three years.

If situations subsequently occur which cause you to reconsider your ethical analysis, please contact a Research Ethics Administrator.

Please note that travel undertaken by students must be approved by the supervisor and the relevant Pro Vice-Chancellor and be in accordance with the Policy and Procedures for Course-Related Student Travel Overseas. In addition, the supervisor must advise the University's Insurance Officer.

A reminder to include the following statement on all public documents:

"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named in this document are responsible for the ethical conduct of this research."

If you have any concerns about the conduct of this research that you want to raise with someone other than the researcher(s), please contact Professor Craig Johnson, Director - Ethics, telephone 06 3569099 ext 85271, email humanethics@massey.ac.nz."

Please note, if a sponsoring organisation, funding authority or a journal in which you wish to publish requires evidence of committee approval (with an approval number), you will have to complete the application form again, answering "yes" to the publication question to provide more information for one of the University's Human Ethics Committees. You should also note that such an approval can only be provided prior to the commencement of the research.

Yours sincerely

Research Ethics Office, Research and Enterprise
Massey University, Private Bag 11 222, Palmerston North, 4442, New Zealand T 06 350 5573; 06 350 5575 F 06 355 7973
E humanethics@massey.ac.nz W <http://humanethics.massey.ac.nz>

Appendix C – Information for participants

Research project on BVetTech graduate experiences – information for potential participants

Information

This information sheet is for individuals who may be interested in participating in this research project. It is designed to give you enough information about the research project so you can make an informed decision about whether you would like to be involved. There is no compulsion to be involved and you may, after reading this information sheet decide that you are not interested in taking part.

Researcher - Patrice Palleson-Putt. I am a Lecturer in Veterinary Technology at Massey University, and am carrying out this research project to contribute towards a Master of Education at Massey University. I can be contacted at p.r.palleson@massey.ac.nz if you have any questions about this research or your participation in it.

Background – Reasons for doing the research

The Bachelor of Veterinary Technology (BVetTech) is a relatively new qualification for allied veterinary professionals in New Zealand which commenced in 2009 at Massey University. The three-year programme bridges the educational divide between the vocational diploma veterinary nursing programme and the Bachelor of Veterinary Science (BVSc). The graduates consist of ten cohorts, and the roles and responsibilities in the workplace vary widely. This research project extends the preliminary findings from a previous graduate survey in 2019, expanding on the expectations and experiences of BVetTech graduates in both the veterinary and allied animal health fields.

Who is involved?

The purpose of this research project is to explore your experiences and expectations as BVetTech graduates. This is inclusive of graduates working in both clinical practice and allied animal health fields, and you can be employed across any type of practice (companion animal, production, mixed, equine, etc). Additionally, this project is not limited geographically, and so if you are located offshore you are welcome to participate.

Exclusion criteria: Any graduates who are currently employed by Massey University unfortunately are excluded from this study.

How will it work?

The purpose of the study is to explore both your expectations and experiences of working as a graduate veterinary technologist. This research project is a qualitative interview study, which will be conducted online over zoom. The interviews will cover a variety of questions about your employment, in a semi-structured way. It is anticipated these will take 30-40minutes and can be conducted either during the day or in the evening. The interviews will be recorded and thematically analysed. Upon

completion of the interviews, participants will be given the opportunity to review and adjust the transcription accordingly.

Do I have a choice?

Of course. The only people involved in the study will be individuals who want to participate. Anyone who decides to be part of the study has the right to withdraw from the study, up to the data analysis phase, for any reason. Anyone who is involved in the study and then withdraws, or chooses not to be involved, for any reason, will not be disadvantaged in any way.

Will my information be private?

Yes. The only people who will see any information you give as part of the study, that can identify you and your workplace, will be the researcher and the Massey University supervisors. When the research project is marked, as part of the researcher's degree, and if the results are published, all names or any other information that could identify any of the participants and workplaces will be removed.

How much time will it take?

The interviews should take about 30-40minutes each and can be at a time that suits.

Benefits of the research?

Currently very little research exists surrounding the experiences of allied veterinary professionals (AVP) in practice. This study is part of a much larger research project exploring utilisation of AVPs in the industry. The benefits could help to shape future decisions regarding registration, and to provide an indication of the roles and responsibilities currently undertaken in practice. This has implications due to the current veterinarian shortage in NZ due to border closures.

Supervisor contact details:

Associate Professor Jenny Poskitt J.M.Poskitt@massey.ac.nz (06) 3596070

Ethics

This study has been approved as low risk study.

BVetTech graduate experiences - Registration of interest

1. What is your full name?

2. In which year were you a BVT3 student?

3. Please provide a contact email address:

4. Please select which category best describes your current workplace:

- ☐ Clinical practice - Small animal
- ☐ Clinical practice - Large animal
- ☐ Clinical practice - Equine
- ☐ Clinical practice - Mixed
- ☐ Allied animal health - Small animal
- ☐ Allied animal health - Large animal
- ☐ Other (please specify)

Appendix E - Interview questions

What are the expectations and experiences of allied veterinary professionals in clinical practice?

Section One: General background questions
(Researcher states name, the location and the date and time) 1. Will you please state your name for the recording? Remind me, what did you track as a BVT3 student?
2. How long have you worked in your current clinic/place of employment? So let's start by telling me about your career journey so far. Where did you start working as a BVetTech grad? Where are you employed now?
3. Can you describe your current clinic? Type? Case load? Staffing? a. What drove you to apply for this role?
4. Can you list any previous places of employment including clinic, year, and role.
Section Two: Workplace environment
5. Thinking about your current workplace. What roles and responsibilities do you have in your place of employment?
6. Thinking about clinical and/or technical skills. Can you describe the technical skills you perform in your clinic? a. How frequently would you perform these? b. Has this changed over time? Have you been given more responsibility? Thinking about utilisation of your clinical skills, what skills do you use on weekly basis? What do you never do? Vs do all the time. Did this happen straight away? Over time?
7. Thinking about the staffing in your workplace; what is the approximate ratio of vets to AVP?
8. In your opinion, do you feel you are utilised to your full potential in your workplace? Why or why not?
9. With the AVPs in your workplace, what roles do they have? Is there any separation/tiering of qualifications?

Section Three: Expectations

10. Going way back to your first role, which areas of your employment do you feel you were the most prepared for?

11. Which areas of your employment do you feel you were the least prepared for?

12. Thinking back to when you were a new graduate – did you feel supported in the workplace? Why or why not?

Section Four: Career progression & challenges

13. Explain your career progression to date; is it what you initially thought? What factors contributed to decisions along the way?

14. What opportunities do you have for CPD and career enhancement?

15. In your opinion, do you feel you have been supported as a BVetTech graduate in the workforce?

16. What aspects do you enjoy about your role?

17. In your opinion, what do you think are the biggest challenges in your career?

a. For AVPs in general?

18. If they've left the profession – what was their reasoning for this?

Section Five: Conclusion

19. What do you think needs to happen for the industry to improve?

20. Do you have any comments or suggestions you wish to make at this time?

Appendix F - Data coding exemplars

Interview data – role satisfaction	Codes
I like that there's the seven-week rotation, that you change your role every week, because it keeps it moving – keeps it different each week, whereas I feel like if I was on surgery every week, it would get a little bit too mundane, working kind of thing. So, I think that's really good. I really enjoy that we change it up every week. The team is really good. They all just work pretty well, and they're really supportive, and they're pretty light-hearted. As much as it can be stressful and full-on, they don't make it that way, I guess.	Variety Positive team dynamic Support
I quite enjoy the varied nature of the stuff. Just this week we've run a couple of farmers skills days, so I really enjoy the client education side of the job; it sort of chucks something a bit different into the mix of things, to every day sort of stuff – and organising the food, and catering and the venue and stuff, and then promoting the event. That's been quite nice. I don't know. All the farm calls and stuff; anytime I get on-farm, it's really good. I also really enjoy being a team leader; it's been quite cool to do that- something a bit different. That's pretty much it.	Variety Client education Leadership Production animals
The freedom is cool; you don't get checked up on. I book my days every day. I book my own jobs every week. The travel; we get our own vehicles. So, we travel a lot, and that's good. Lunch breaks are whenever you want them. Just so much freedom in it. The variety of work we do is good, too. It's not the same every day. If I need to go help in smallies, I just go and pop in and you're just kind of welcome wherever really. It's good.	Autonomy Variety Positive environment
I just love a variety, I guess. I'm quite a problem-solver, so I really enjoy talking through cases with the vets, and giving my input I guess, because the vets really look in, and they like getting some input, especially because we don't have two vets there at the same time all the time, so they don't have another vet to bounce stuff off. So, having a vet to bounce ideas and that sort of things off, is really cool. Yeah, I like dealing with the animals. Probably, anaesthesia is one of my favourite things – I really enjoy the whole process of anaesthesia. Dealing with farmers, too; I've got a massive drench knowledge, now and everything and anything to do with largies.	Variety Problem solving Clinical reasoning Veterinarian rapport Anaesthesia Client rapport Production animals
I enjoy making decisions. I guess, I like that what we're doing and building is designing to help people in a veterinary practice, and I like talking to our clients and potential clients about the struggles they have, and the inefficiencies that they have in their workflows, and doing what I can do help improve those workflows and to help them make their life easier. So, I guess it's kind of just problem-solving, and that kind of thing, and I think that was probably one of my favourite parts of clinical work as well; I loved the emergencies, and I loved the pressure on the problem-solving that comes with emergencies	Decision making Improve workflows Problem solving Emergency cases

<i>Interview data – industry improvement</i>	<i>Codes</i>
Yeah, that's just a hard question. I know there's been a lot of work around creating this allied professional's thing, and NZVNA have brought in their registration , and that's all very good, and I'm not sure if there's anything going on in the background. Of course, there's all these new degrees coming out as well, but once you graduate, there's no framework on how vet clinics should be utilising all of these different qualified people, which kind of brings me back to the question where you're asking; does a [23:55] get treated differently to a large animal tech that's got a [VBT 23:59] degree.	Registration Framework Utilisation Qualifications
That's a tough one. I think improvements in – I know they're looking to put together some sort of vet nursing union in New Zealand, or internationally; I'm not too sure. I've seen Facebook pages about it. I don't know too much about it, but maybe regulation, standardisation, pay-scales – that kind of stuff. I know mental health is in a massive crisis globally. People being short-staffed; it's hard to find vets and nurses for permanent positions. That's a tough one to answer. A lot, I think is the answer; a lot will have to change to help people out.	Union Regulation Standardisation Short staffing Stress
I don't know. I think definitely having the senior staff being open to change , and having those conversations with their staff about goals and what they want to achieve and what they want to do, but I think just in general being open to change , and releasing some of the control, and the tasks in the clinic that we can do.	Colleague resistance Change
It's hard, because to speak for the entire industry; it's very hard to see what happens in other clinics, and some clinics have just got it down pat, and others not. I think in general, there needs to be more awareness for the client's expectation -wise. I think a lot of clients have got this huge expectation of how things work and how things should be; just ring up and be like, I want to be booked in tonight. It's just like; well, you've got to understand that there's a whole process behind this , and that there are people involved in all these situations as well, and just how difficult things can be in general. So, yeah I guess, client's expectation. I guess, cost of what a vet costs in general is pretty disheartening to see that a lot of people will be like; oh, well you're too expensive. It's like; well, there's not a lot more that I can do considering most of the cost is probably just drugs.	Client awareness Expectations Financial awareness Business models Difficulties
I think one of the first steps – and I think that there's been a huge lack of this, is helping the whole industry to understand , and practice ways to utilise vet technologists, and other allied professionals. Vets and clinic managers, and people that own vet practices, and other technicians don't know what vet technologists are , and what we can do , and they still don't know. I suppose because there's such a varied array of graduates of different programs , that people have experiences with people that are under-qualified or have very light qualifications, I suppose, and then there's all these assumptions made about everybody else that comes out of these training providers.	Industry awareness Qualification awareness Clinical skills Utilisation Qualification variation

I think we need to be recognised for the work that we do, and valued for that, as well. So, it's easy to say; this is your job, and this is what you have to do. We're dealing with life and death every day, and people's emotions every day, and we're not really prepared for that, as much. So, I think it's hard for when people like new-grads come out, especially in this time where everyone's so fuelled on emotion where we don't have a job – we don't have finances, but we need to do these things for our animals, because that's just what we need to do. It's quite hard to prepare people to deal with those strong emotions, to cope. Not having that appreciation from your employers is quite hard, especially when you are struggling and you see your team members struggling, and you've voiced it, but it just isn't heard. So, that's quite hard, as well.	Recognition Value Under preparation Appreciation Euthanasia Emotional stress Colleague empathy Poor communication
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