Veterinary Service Animal Health Group
Information Communications Branch

Department of
Agriculture, Environment and Rural Affairs
www.daera-ni.gov.uk

Our reference: DAERA/22-343

[redacted]

Reply by e-mail:
[redacted]

VSAHG Information Communications Branch
1st Floor
Jubilee House
111 Ballykelly Road
Limavady
BT49 9HP

Email: vsinfocommsbranch@daera-ni.gov.uk

22 November 2022

Dear [redacted]

Freedom of Information Act (FOIA) 2000

I refer to your request for information received by the Department on 7 November 2022 which sought the following information:

> *A full copy of the Strategic Investment Board report commissioned by the former Minister Edwin Poots to produce a baseline report/assessment on the extent and nature of the needs for veterinary manpower and veterinary education within Northern Ireland and an independent analysis of the various options for better assuring the supply of veterinarians.*

The Department can confirm it holds the information in regard to your request, however the Department has decided not to disclose the information for the following reasons:-

- it is intended for future publication and exempt from disclosure under Section 22 of the FOIA.

- as the Department intends to publish the information alongside other relevant evidence, and work is ongoing between the Department and representatives from Queens University, Ulster University and the Department for the Economy in that regard, it is therefore exempt under Section 35 (1) (a) of the FOIA which prevents disclosure of information relating to the formulation or development of government policy.

FOIA Section 22 and 35 (1) (a) are a qualified exemptions and the Department must consider the Public Interest in maintaining the exemptions. These considerations are attached at **Annex A.**

If you require any clarification, believe that any part of your request has been overlooked, misunderstood or misinterpreted, please contact me in the first instance to see if it is a matter that can be resolved.

If you are unhappy with the manner in which your request for information has been handled or the decision to release/withhold information, you have the right to request a formal review by the Department. If you wish to do so, please contact The Review Section either by e-mailing daera.informationmanager@daera-ni.gov.uk or by post at The Department of Agriculture, Environment and Rural Affairs, Data Protection & Information Management Branch, Floor 2, Ballykelly House, 111 Ballykelly Road, Ballykelly, Limavady BT49 9HP, within two months from the date of this letter.

If after such an internal review you are still unhappy with the response, you have the right to appeal to the Information Commissioner at Wycliffe House, Water Lane, Wilmslow, CHESHIRE, SK9 5AF, who will undertake an independent review of the Department's decision.

Yours sincerely

[redacted]

[redacted]
Information and Communications Branch
Veterinary Services Animal Health Group

DAERA Veterinary Services

Situational Analysis

31st January 2022

DAERA VETERINARY SERVICES

SITUATIONAL ANALYSIS

CONTENTS

Page

Appendices

1. EXECUTIVE SUMMARY

This Situational Report in the first instance provides a summary of key insights from the Veterinary Services Baseline Report (Appendix I), which was prepared in late 2021 to document the status quo position of veterinary services in Northern Ireland. The headline insights provided by the Baseline Report are thus:

- The veterinary profession in Northern Ireland has grown in the past decade but at a slower rate than the rest of the British Isles; with implied workforce shortages when the region's workforce is compared to the United Kingdom workforce. It is understood that the level of vet vacancies in NI is similar to the UK-wide rate. When benchmarked against crude indicators of mixed/large animal vet rates per farm and per livestock it is performing below the UK average but better than Ireland;

- Half of the current workforce are UK-trained vets, with a quarter educated in the Republic of Ireland and a quarter holding qualification from European vet schools;

- There is no workforce strategy for the veterinary sector which precludes an understanding of the estimated alignment or mismatch between resource supply and demand by work type; with one of the key constraints being that the current workforce is not presently known in full time equivalent terms;

- Northern Ireland has below average levels of vet-led team working (based on ratios of vets to vet nurses) compared to the UK average;

- In Northern Ireland there is no use made of Lay Testers for Bovine Tuberculosis (bTB), despite this model operating in other UK jurisdictions;

- DAERA bears the cost of veterinary certification services provided to the meat and dairy industries, a charging model that differs to other UK jurisdictions;

- There has been a sizable increase (+80%) in UK-based vet school course places in the past six years, with NI-domiciles benefiting substantially from same. This is contrasted by a relatively static level of provision in the same period in Ireland, with a sizeable fall in NI-domiciles on the University College Dublin (UCD) vet school course. There is also evidence of increasing levels of students from the British Isles attending English-taught vet schools in Mainland Europe; and

- Whilst there is a strong track record of food, agriculture and veterinary related research in QUB, Ulster University and AFBI; that it has been challenging to articulate and quantify the status quo RD&I position that relates to and would be influenced by a vet school, due to the overlap across these disciplines.

This Situational Report also summarises next steps suggested by expert stakeholder workshop attendees (see Annex A for participants). Advancement to consideration of the next steps is however predicated on addressing identified strategic planning gaps, such as the development of a Veterinary Sector Workforce Strategy, as well as strategic consultation with providers and users of vet services.

The identified policy considerations put forward by this expert stakeholder grouping are summarised below:

- Despite the Baseline Report showing that there is no evidence that NI-domicile students are comparatively disadvantaged to their GB-counterparts in accessing

the region's relative share (based on demand, offer and acceptance rates) of vet school places, there was acknowledgement by the workshop attendees that there were sectoral issues created by the non-existence of a home vet school that merit further consideration – particularly given the perceived risk that the status quo flow of newly accredited veterinarians from Great Britain, Republic of Ireland and other into Northern Ireland will not meet future workforce demands (subject to referred workforce strategy validation).

It is the view of the Review Team that, given the sizeable capital and ongoing revenue cost of providing a home course for NI-domicile veterinary students (at least £75,000 plus student support costs), any further consideration would be subject to capital and revenue affordability by the Policy Department (with the possibility of Causeway Growth Deal capital funding being time constrained due to the need to have all projects suitably developed to be included in the Heads of Terms);

- There are apparent opportunities for short to medium term policy interventions that merit further consideration to increase the efficiency of the existing vet workforce, which includes consideration of improved / optimised use of para professionals within vet-led teams and settings by considering increased vet nurse training provision, introduction of lay testing and wider deployment of certifying support officers in the meat industry;

- There are opportunities for short to medium term policy interventions that merit further consideration with respect to securing a pipeline of new entrants to the NI workforce, including consideration of strategic arrangements with current education providers, improving the working conditions of the profession (vets and vet nurses) and create career progression paths through new course design; and

- In seeking to fund any such identified policy interventions there appears to be scope to charge for certification services and to reduce the cost of bTB testing, both of which would be subject to detailed investigation as above.

2. WHAT THE BASELINE IS TELLING US

2.1 Approach

The Department for Agriculture, Environment and Rural Affairs (henceforth 'DAERA') requested support from the Strategic Investment Board (SIB) to develop an evidence-based 'Baseline/As-Is' position of veterinary services.

The Baseline Report essentially provides a set of evidence-based datasets covering the workforce (vets and veterinary nurses, with limited detail on other para professionals), the structure of the profession (by practice type); the nature and provision of vet school course delivery generally and in the British Isles specifically; historical NI-domicile studentship at UK and Ireland vet schools; veterinary service delivery by DAERA, AFBI and CAFRE; and existing NI-based course delivery and research in the subject area. Consultees involved in ascertaining the Baseline Report are listed in Annex A.

Having received the Baseline Report in October 2021, DAERA convened a number of expert veterinary representatives, representing stakeholder groups and departmental directorates (see Annex A), to review the analysis and interpretation of the datasets undertaken by SIB and to validate areas where there were implied issues or opportunities. The workshops were held in January 2022 and had the following objectives:

1. To validate the identified failures/issues and opportunities (as a group of informed stakeholders);
2. To identify policy options to address same (short, medium and long term); and
3. To inform indicative costs, achievability and timeframe for high level policy options.

This Situational Analysis report provides a succinct summary of the Baseline Report, as well as the outcome of the workshops, and is intended to facilitate forward planning and informed decision-making by the DAERA Senior Leadership Team, and other internal and external stakeholders, with respect to the validated issues and opportunities within the veterinary sector.

2.2 Veterinarian Workforce Overview

2.2.1 British Isles Context

In 2021 the UK practising veterinary surgeons numbered 26,056, which represented an almost 50% growth in size compared to 2012 (17,778); with the 2021 NI share of the UK workforce estimated at 3.5%. For comparison, Ireland had 3,216 vets in 2021.

The source of the UK workforce of practicing veterinarians is predominantly UK universities, with 67% of the 2021 membership holding a UK university qualification, which is a marked difference to the 2012 position, whereby 75% of vets were UK-qualified. It would appear that the past decade's growth in UK-registered vets has been fulfilled by more than doubling (+124%) the number of EU-qualified vets on the UK register.

It is noted that there are recognised barriers to retaining a future pipeline of supply of new vets insofar as there is well documented levels of discontent with respect to the transition from the university to the work setting; issues with work-life balance in the profession; career potential and job satisfaction is self-assessed by the current UK workforce as only moderate; and stress and burnout is prevalent in about a fifth of the

current workforce. Furthermore, the advertised salary range for vets (as per the NI Career's Service information sheets) is much lower than those of pharmacists, doctors and dentists.

2.2.2 Northern Ireland Workforce

The current NI veterinarian workforce is made up of 918 practising vets[1]. These vets are predominantly employed in private practices (70% in NI compared to 80% UK average and 70% Ireland), with a comparatively high level employed by government (20% in NI and 21% in Ireland, compared with 4% UK average).

Half of current practising vets were trained in UK universities, nearly a quarter (24.3%) were trained in Irish universities (UCD course) and the balance (25.7%) were trained elsewhere (mainly Europe, with only a handful (n=9) educated elsewhere). This would indicate that the GB vet workforce is currently resourced to a greater level by UK-qualified vets than Northern Ireland.

Perhaps reflective of having the lowest rate of workforce growth in the British Isles (29.6% in NI, compared to UK average of 46.6% and Ireland growth of 42.6%), Northern Ireland's workforce has diminished as a proportion of the overall UK workforce (4% and 3.5% in 2012 and 2021 respectively). In line with the UK-wide position NI has achieved its growth in vet numbers almost equally by UK and Non-UK vets, although the number of EU-qualified vets has only increased by 29%, which is a marked difference to the UK-wide position.

At this juncture a robust quantification of the shortfall in the NI workforce is not possible in the absence of a sector workforce strategy that considers full time equivalents, working patterns, supply and demand trends, etc. In lieu of same, and working on the assumption that NI should have grown at the same pace as its GB neighbours, a crude estimate of the NI vet workforce shortage is estimated at circa 126 vets. This figure is highly caveated as it does not take account of working hours (expressed as full time equivalents), gender or age profile of the workforce; nor does it take account of regionalised differences caused by varying structural differences in the profession. These are listed below for consideration.

Workforce Structure

- Northern Ireland has the lowest level of vet to vet nurse working ratios (known as a vet-led approach to working) at approximately one vet nurse to every three vets (1:2.92); which compares to the GB average of one vet nurse to every one vet (1:1.33).

- Northern Ireland does not use lay testers to undertake bTB testing.

- DAERA provides staff resources for the Official Veterinarian Roles in Meat Plants through a contract with the Food Standards Agency (FSA), which is different to the other UK jurisdictions where these roles are largely fulfilled through private sector vets employed by commercial companies under contract to the FSA.

- Northern Ireland makes widespread use of DAERA meat inspectors working alongside DAERA Official Veterinarians in food processing facilities.

[1] *There are a further 18 are practising overseas/Southern Ireland, 61 are retirees and 53 are non-practising.*

- Northern Ireland has not made widespread use of Certifying Support Officers in ports.

- Northern Ireland has varying import control and export certification workforce requirements to the rest of the UK (a situation that is fluid).

Farming Structure

- The density of farms varies by region, as does the number per vet. Based on available datasets, the prevalence of farms (not taking account of farm size) in Northern Ireland is higher than other regions – with NI reporting 1.91 farms/km^2, which is comparable to RoI (2.0 farms/km^2) but is much higher than other UK regions, with the UK average being 0.86 farms/km^2. At a crude level the number of farms per practising mixed or large animal vet is higher in NI (56.7 farms per large/mixed animal vet) than GB (30.1 farms per large/mixed animal vet), but is lower than RoI (139.8 farms per large/mixed animal vet).

- The quantum of livestock[2] per vet varies by region. At a crude level the number of livestock per practising mixed or large animal vet is higher in NI (circa 63,000 per large/mixed animal vet) than GB (33,000 livestock per large/mixed animal vet), but again is lower than RoI comparators (circa 90,000 livestock per large/mixed animal vet).

Private Practice Structure

- Based on available datasets it would appear that whilst NI has the second lowest proportion of practising vets in large animal practices (3.2%) it is relatively aligned to the GB average (3.8%). RoI has the highest proportion of its workforce in large animal practices (17.5%) followed by Wales (8.9%).

- Based on available datasets it would appear that NI has the highest proportion of practising vets in mixed practices in the British Isles (66.9%) which is markedly different to the GB average (25.6%) and the RoI outturn (26.5%).

- Based on available datasets it would appear that NI has the lowest proportion of practising vets in small practices in the UK (29.3%) which is markedly different to the GB average (65.2%) but is comparable to the Ireland outturn (26.5%).

A further comparison of the NI workforce to the UK workforce indicates that Northern Ireland has a lower level of professional accreditation levels, and displays the lowest level of accredited practices in the UK. Consultation feedback is that there is a cost attached to accreditation and no beneficial impact on the Northern Ireland public's perception to justify this cost.

2.3 Veterinarian Education and Flows for NI Domiciles

2.3.1 Home Course Delivery

Northern Ireland offers a number of courses that are associated to and/or within the realm of veterinary medicine, as well as offering Level 3 Diploma in Veterinary Nursing (two-year course that leads to registration with the RCVS as Registered Veterinary Nurse and focuses on small / companion animals).

[2] *Cattle, sheep, poultry and pigs.*

There is currently no veterinary medicine / science course within the Northern Ireland Higher Education course portfolio, in which context it is worth noting that such courses are amongst the most-costly to fund and comparable in block grant cost (payable to the host university) to medicine and dentistry courses.

2.3.2 UK Veterinary Science/ Medicine Course Delivery

In AY19/20 there were approximately 10,645 students at UK universities studying veterinary medicine[3], which represents a sizeable increase (+80%) to the studentship levels in AY14/15; resulting from a number of new school openings and the expansion of extant vet schools. Typically UK students have accounted for an average of 81.7% of UK vet school places, whilst non-EU students accounted for most of the remaining places (average 14.5%). Notably, unlike medical courses in the UK, there is no cap placed the level of international studentship on UK veterinary medicine/science courses.

NI-domicile student uptake of these available student places has increased over the same period, rising from a total studentship[3] of 150 in AY14/15 to 265[3] students in AY19/20 (+77%), which equates to an additional 20 NI-domicile vets per annum being produced through increased UK course places.

In terms of the demand for UK vets school courses there are typically between 250 and 310 NI-domicile applicants to UK vet school courses, which represents a comparatively similar level of interest in veterinary medicine amongst NI-domicile students to their GB counterparts. Similarly, the offer rate and acceptance rate by NI-domicile students is comparable to their GB counterparts, and indeed the offer rate to NI-domicile students is the highest amongst the UK regions.

2.3.3 Ireland Veterinary Science/ Medicine Course Delivery

In AY19/20 there were approximately 838 students at RoI universities studying veterinary medicine[3], which represents only a marginal increase (+3.5%) to the studentship levels in AY14/15 but a sizeable increase when compared to AY07/08 places (+93%), with all places delivered through the one academic institution (UCD).

At the same time that the studentship of NI-domiciles onto UK courses has increased, the studentship of NI-domiciles onto the UCD course has decreased – falling from a total NI-domicile studentship of 39 in AY14/15 to 12 in AY19/20. Notably the studentship at UCD's vet school in AY10/11 was a peak enrolment level of 56 students, and this has declined year on year to date.

In explaining the fall off in NI-domicile student uptake on the UCD course the datasets suggest that there has been a period of marked reduction in application levels to RoI courses – falling by nearly 50% (57 in in AY16/17 to 27 in AY19/20); with corresponding success rates (from applying to accepting) falling from 23.7% in AY14/15 to 2.9% in AY18/19.

Given the sizeable reliance in the past on RoI-qualified vets (they currently account for a quarter of the workforce), this fall in studentship presents as a workforce risk - the fall off in Irish-qualified NI-domiciled vets (which will only be felt henceforth as the university trend works itself into employment) will likely result in a falloff in this supply chain of vets into the NI workforce.

[3] *Includes undergraduates (first course and graduate entrants), post graduate research and taught students.*

2.3.4 European Veterinary Science/ Medicine Course Delivery

There are a number of mainland Europe universities that offer English-taught vet school courses (that are both EAEVE and RCVS accredited) to NI-domicile students at a cost competitive rate; albeit that the NI-domicile student is not eligible for loan or grant support from DfE.

There is no centrally maintained record of applications to, offers given or places taken up by NI-domiciles onto courses outside NI. Feedback received from Warsaw indicated that there were 40 students from the British Isles enrolled on its AY20/21 course, which represented over 60% of the course enrolments. Unfortunately, the systems to record studentships do not differentiate between NI and RoI domicile students to inform this assessment.

2.4 Veterinarian-related Research and Innovation

Northern Ireland has the lowest comparative level of vets working in academia and research institutes – with only 1.5% of the workforce dedicated to these fields, compared with a UK average of 5.6% and a RoI outturn of 4.5%.

Furthermore, it is noted that AFBI, QUB and UU are all research active, to varying degrees, in the areas of agriculture, veterinary and food science; as well as in aligned work undertaken in One Health areas of Medicine, Pharmacy and Biomedical Sciences.

Given the broad nature and interconnectedness of veterinary with agriculture and food, articulation of the status quo in terms of NI research outcomes has been challenging to quantify within the remit of the baseline commission.

3. CONSIDERATION OF VETERINARY SECTOR ISSUES & OPPORTUNITIES

3.1 Overview

There are a number of perceived and actual veterinary sector issues and opportunities identifiable through either the datasets and/or consultation feedback from experts in the field of veterinary science. These are summarised below.

3.2 Enhancement Opportunities

The datasets have shown that indeed Northern Ireland is the only region in the British Isles that does not offer a home course option for veterinary medicine/science[4].

Despite this, there does not appear to be any disadvantage conferred on NI-domicile students in terms of their comparative ability to access undergraduate veterinary medicine/science education. This is evidenced by similar application rates per student population, similar (if not higher) offer rates per applicant and similar acceptance rates to GB-domicile students. And, indeed, the number of UK course places secured by NI-domicile students has increased by 77% in the past six years.

In contrast to the UK position, the level of NI-domicile studentship in UCD has fallen drastically over the past ten years, which could result in a fall in the percentage share of Irish-trained vets registered to practice in Northern Ireland (assuming that the historical flow of graduate vets onto the RCVS register has been predominantly NI-domiciles).

Notwithstanding the above, and with full acknowledgement that this is not the only UK-taught course option that is not offered as a home course option in Northern Ireland, it is likely that there are sector issues/ side effects created by the absence of a home vet school course, namely:

- **Barriers to Education due to Affordability Constraints** – research[5] previously commissioned by UU showed that the majority (between 97% and 100%) of NI-domiciles graduating from UK vet schools were from the most affluent socioeconomic groups of the population. This is validated in a statement by the RCVS President (2019-2020) when he stated, "*It's no secret that the veterinary professions are overwhelmingly white with a high proportion of people coming from more affluent socio-economic backgrounds."*

  It has been suggested by consultees that the non-availability of a "home" course is acting as a barrier to the profession for low income families, particularly given the need for unpaid work during the Easter and summer holiday periods.

  Whilst the non-UK English taught course is typically less costly to the student, it is arguably less affordable as there is no financial assistance available to the student in the form of student fee or maintenance loans. The lack of access to loan and grant support by students leaving the region to study elsewhere appears to represent a further barrier to education for lower income family students.

[4] Albeit that it is noted that students on the Welsh home course spend the first two years in Aberystwyth before completing the final three years at RVC's campus in Hertfordshire.

[5] Source: UU, understood to have been from a commissioned report for datasets covering 2008/09 to 2010/11. Most affluent groups included (i) Higher managerial & professional occupations (ii) Lower managerial & professional occupations (iii) Intermediate occupations & (iv) Small employers & own account workers.

- **Mismatch between Academic Acumen Requirements and Nature of the Vet Role in NI (predominantly mixed farm practices).** It has been suggested that the high educational attainment levels required to secure a vet school place are such that they do not attract students who will have the interest in working in mixed farm practices (which is the majority of NI practices). Furthermore, the referred report by Professor Phillip Lowe emphasises the importance of veterinary surgeons to a successful agri-food industry and that there is an increasing concern about the quantity and quality of teaching in topics such as 'animal husbandry' and 'food producing animals' in UK taught veterinary degrees with "new veterinary graduates appearing to be less competent in dealing with livestock husbandry".

- **Brain Drain** i.e. NI-domicile graduates leaving GB universities do not return to the region's workforce. It has been suggested that a high proportion of vets who leave NI to study veterinary medicine do not return, which is a phenomenon recently proven in medicine; along with DfE estimates of the population level return rate of 34%[6].

  Consultation with a current NI-domicile vet school student highlighted a number of factors at play in the decision to return to NI – firstly the nature of the course enables placements to be undertaken at the student's home (which enables relationships to be built locally with vet practices), and secondly, the farming background of students has a heavy influence on the decision as to whether to return to the NI workforce. This is however anecdotal and would require a survey of current studentship to query their post-graduation plans.

- **Non-optimised Professional Development and Research & Innovation Levels** - Consultees suggested that within the status quo position the local profession and State service will increasing encounter difficulties accessing specialist advice in the face of emerging, epizootic and endemic diseases.

  Consultees also noted that future research will require multi-disciplinary teams that provide an integrated scientific response to issues that are much more complex and multi species in nature.

  Given the difficulties encountered in articulating the status quo in this regard during the Baseline work, the Review Team would suggest that the demonstration of added value of a vet school to NI research outcomes will be challenging to robustly quantify.

3.3 Current Workforce Utilisation /Efficiency Issues

1. **Sub Optimal Use of Vet Nurses** - There has been a UK-wide move by the profession towards a vet-led team both at the clinical practice and at the meat inspection role levels, and Northern Ireland has a strong meat inspector workforce employed through DAERA. The comparative analysis, and consultation, suggests that the level of veterinary nurse utilisation is sub optimal in Northern Ireland.

   Feedback is that the veterinary nurse course and profession is challenging, underpaid and that getting onto the course is difficult if not already in the job. It was queried if there is an opportunity for more to be done in this regard and scope to increase veterinary nurse utilisation in the region.

[6] *2016/17 DfE datasets*

2. **Opportunity to Use of Para Professionals in bTB Testing –** Whilst the extent of herd testing in Northern Ireland differs to other regions and the region has a higher level of exports than its GB counterparts, exploration should be given to the use of lay testers to deliver such testing in Northern Ireland. This has been successfully piloted in England.

   This would be expected to have a number of benefits that could include enhanced attractiveness of the region as a place to work (by substantially reducing what some consider as mundane work but heavily demanding of the resource input from NI vets) and potential reduction in funding cost by DAERA (subject to validation).

   The consultations have suggested that herd health testing monies may act as a proxy subsidy to the sector. It is not clear what impact any sizeable changes to the bTB herd status and associated testing requirements would have on the workforce (which may change in line with the new bTB strategy).

3. **Opportunity to Increase Use of Para Professionals in Certifying Roles** – In anticipation of EU exit, DAERA trained 400 Trade Certification Support Officers (TCSOs) in 2018. There are currently circa 100 TCSOs with up-to-date training/accreditation, with a regular use of these staff in milk certification. There is possibly an opportunity to increase the use of these types of personnel in meat certification.

3.4 Future Workforce Planning Issues

The veterinary sector does not have a workforce strategy. Without same it is not possible to robustly evidence whether future demand for services (arising from, for example, higher levels of small companion pet ownership levels) will be met by existing and steady state inflows (new graduate entrants from UK and European courses) net of assumed outflows (for example, through parental leave, part time working choices and retirement).

Whilst acknowledging there is a UK-wide workforce exercise being undertaken by the RCVS (outcome is not yet available), due consideration is required at the NI level as follows:

Demand

1. It is not known what impact there will be on the workforce from changing resource requirements at NI ports post EU Exit and as the negotiations continue around the Protocol.
2. It is not known what, if any, unmet demands are prevailing in the farming sector, or what impact, if any, that further corporatisation[7] of NI practices will have on the level of large and mixed animal resources available in the workforce.
3. It is not clear what resource requirements will be attached to emerging areas around sustainable and green growth policy.
4. It is not clear if export markets will permit the use of lay testers.

Supply

1. The existing baseline expresses the DAERA staff by roles in full time equivalents, however this is not currently articulated for the remainder of the workforce (presently by headcount only). This would need to be addressed.
2. It is not clear what impact the restrictions on European residents to live and work in the UK will have on the NI workforce. It is understood that the Federation of

[7] Buy-out of vet owned practices by non-vet owned companies, a phenomenon that was permitted in the UK in 1999.

Veterinarians of Europe (FVE) 2018 member survey report notes that, across Europe, there is a surplus of vets; albeit that not all are EAEVE-accredited vets and therefore unable to register with the RCVS for employment in the UK.

3. Typical annual inflows and outflows of vets (expressed as full time equivalents) needs to be substantiated. This will likely require survey work with existing workforce and existing undergraduate vets and NI-domiciles working elsewhere in the UK; to ascertain anticipated return rate to the NI workforce, part time working plans and anticipated retirement age.

3.5 Other Workforce & Structural Issues

The consultations undertaken (one to one and as part of the workshops) presented some structural issues that did not necessarily present themselves in the datasets, these are listed below for completeness.

- It is generally recognised that the profession needs to do more to make the veterinary profession an attractive career choice by school-leavers; with much work being undertaken or in train to improve the message to attract undergraduate applications within the UK. Furthermore, there is a body of research that suggests the veterinary profession is not currently a particularly appealing vocation insofar as the membership are reporting high levels of stress, long working hours and unstructured working environments, with staff shortages reported and indications of part time working and/or withdrawal from the workforce.

- It has been suggested that NI lacks a reference laboratory for a number of disease isolations / contaminants, which was identified as being "*a strategic and operational issue in its own right, as NI must send samples for confirmation of potential notifiable disease to, for example, Ireland, Netherlands etc."*

4. NEXT STEPS

4.1 Identified Further Work to Inform Decision Making

The workshops held with stakeholders validated the identified veterinary sector opportunities and issues, and called for further work to be undertaken to better quantify and understand same, these are presented as follows:

Identified Pre-Requisites to Inform Next Steps
1. Workforce planning exercise to include survey of students to ascertain planned return rate and anticipated retirement rate; with FTEs ascertained by age, role and gender.
2. Better articulation of the research and innovation baseline and quantified, evidenced articulation of the added value from changes to status quo.
3. Engagement with food producers and R&D active companies (key users of veterinary services) to ascertain future demand and workforce issues (if any) in respect to the quality and availability of services. Determination if there is a view in the agri food sector that the food eco system is adversely affected at present by vet structural issues? Is there a view that there is an opportunity for vet profession to do more to add value to agri food sector?
4. Understanding of the current farm charging model and role of farm vets on NI farms in herd health (proactive and reactive working). Engagement with profession and farmers to ascertain future demand and identify workforce issues (quality and availability of services).
5. Research into the effects of corporatisation on the veterinary sector in England and Wales and understanding of how corporates plan to work in Northern Ireland.

4.2 Identified Policy Considerations

4.2.1 Overview

Subject to robustly addressing the above pre-requisites, preliminary brain storming of short, medium and longer term policy considerations was undertaken by the workshop attendees. These were then sifted and undeliverable interventions removed e.g. those that contravened Subsidy Control Rules. The resultant list of interventions, with indicative ownership and, where appropriate, commentary against same is presented below.

It is noted that the Business Case Development Framework stipulates that an indicative funding envelope is required for progression to Strategic Outline Case and beyond. This was not determined at the time of reporting.

4.2.2 Policy Considerations - Vets

Short Term Interventions	Lead
Increase annual number of NI domiciles trained as vets by securing guaranteed uplifted places for NI students on GB, RoI and potentially EU universities vet programmes.	DAERA
Provide bursaries to N.I. students that incentivise return i.e. eliminate a proportion of their debt if they return and work in N.I.	DAERA or Industry sponsorships

Medium Term Interventions	Lead
Make NI veterinary roles more appealing by improving work conditions/ pay	Sector with support from government
Make NI veterinary roles more appealing by reducing "mundane" veterinary work from large and mixed farm practices by introducing lay testing	DAERA
Increase annual number of NI domiciles trained as farm animal vets by working in conjunction with SRUC (specifically widening access and targeting large animal vet supply)	DAERA

Long Term Interventions	DAERA/Sector/Other	Comment
Consider introducing a vet course in NI to provide higher level of pool of talent (albeit not 100% movement from course to workforce) if other workforce interventions are proven inadequate	DAERA has currently no funding allocation presently ringfenced for same.	The view of the SIB Review Team is that any business case to justify the capital investment in and ongoing revenue funding cost of a vet school (subject to revenue affordability for both course block grant in excess of £75,000 per student and student support costs) will require substantial further work to evidence the added value to be delivered to the NI economy e.g. what additional economic impact could be unlocked through a vet school? How would the course specifically enable widened access to this vocation? How would the course content / thrust address specific (if any identified in a workforce strategy) skills shortages?
It is noted that where a Department brings forward a policy (referred to as a Policy Department hereafter) that gives rise to increased and/or new course provision, then all of the costs (capital and revenue) associated with the increased or new course delivery would fall to the Policy Department to fund either directly to the university (if they have the vires) or by way of transferring the additional funding requirement to DfE (subject to a suitable MoU). Any additional student support costs as a result of new/ increased provision would also fall to the Policy Department to provide funding to DfE to provide the resulting students with any student support that the Policy Department deemed appropriate for the course.		

4.2.3 *Policy Considerations – Wider Workforce*

Wider Workforce Considerations		
Short Term Interventions	**DAERA/Sector/Other**	**Comment**
Expand annual intake onto existing veterinary nurse course (understood to be three times as many apply as are awarded a place)	DAERA in conjunction with CAFRE and Sector	The existing CAFRE provision is designed to meet industry need, both in terms of the course content/ programme delivery and numbers graduating. CAFRE has advised that if the sector is entering a new environment whereby veterinary nurses can play a much more significant role in overall delivery of veterinary services, then a holistic review would be beneficial. In their view this would have to be conducted in partnership with vet practices and review level of provision, numbers graduating, entry requirements and vet practice input to programme delivery. Furthermore, it is noted that demand for courses is not the same as evidence of demand for posts.
Address barriers to veterinary nurse course by changing the nursing training entry requirements, teaching approach and support to practices with student vet nurses		

Medium Term Interventions	DAERA/Sector/Other	Comment
Offer vet associate programme (similar to Advanced Nursing Practitioner)	Sector/ Universities	This may assist in the improvement of veterinary nurse career pathways.
Expand workforce by allowing Lay Testers and greater use of Trades Certifying Support Officers	DAERA	DAERA expect that lay testing will possibly come as part of the longer-term roll-out of DAERA's bTB Strategy.
Make NI veterinary nurse roles more appealing by improving work conditions/ pay	Sector	

Annex A

Baseline Report Consultees	
• Alastair Douglas, AFBI	• Michael Hatch, DAERA
• Jason Rankin, AgriSearch	• Robert Huey, DAERA
• Gonzalo Sanchez-Cabezudo Perez, APHA	• David Torrens, DAERA
• Calum McIntyre, AVS UK & Ireland	• [redacted] DfE
• Shane Murray, AVSPNI	• Stuart Elborn, QUB
• James Russell, BVA	• Simon Doherty, QUB
• Mark Little, BVA / NIVA	• Carol Curran, UU
• Martin McKendry, CAFRE	• John Callan, UU
• Brian Doherty, DAERA	• [redacted] Undergraduate Glasgow University
• Alistair Carson, DAERA	• [redacted] VetNI
• Brian Dooher, DAERA	• Stanley McDowell, AFBI

Workshop Attendees	
• Alastair Douglas, AFBI	• Stuart Elborn, QUB
• Josephine Kelly, AFBI	• Simon Doherty, QUB
• Stanley McDowell, AFBI	• Carol Curran, UU
• Gonzalo Sanchez-Cabezudo Perez, APHA	• John Callan, UU
• Shane Murray, AVSPNI	• Seamus McErlean, DAERA
• Malcolm Morley, BVA	• Perpetua McNamee, DAERA
• Martin McKendry, CAFRE	• Michael Hatch, DAERA
• Brian Doherty, DAERA	• Robert Huey, DAERA
• Alistair Carson, DAERA	• David Torrens, DAERA

DAERA Veterinary Services

Baseline Report to Inform Situational Analysis

November 2021

DAERA VETERINARY SERVICES

BASELINE REPORT

CONTENTS

Page

Glossary

AFBI	Agri-Food and Biosciences Institute
AMR	Anti-Microbial Resistance
APHA	Animal and Plant Health Agency
AVSPNI	Association of Veterinary Surgeons Practising in Northern Ireland
BBSRC	Biotechnology and Biological Sciences Research Council
BEVA	British Equine Veterinary Association
BSAVA	British Small Animal Veterinary Association
bTB	Bovine Tuberculosis
BVA	British Veterinary Association
BVD	Bovine Viral Diarrhea
CAFRE	CAFRE
CAO	Central Applications Office
CHED	Common Health Entry Document
CO	Certifying Officer
CPD	Continuous Professional Development
CSO	Certifying Support Officer
DAERA	Department for Agriculture, Environment and Rural Affairs
DEFRA	Department of the Environment, Food and Rural Affairs
EAEVE	European Association of Establishments for Veterinary Education
ESEVT	European System of Evaluation of Veterinary Training
FSA	Food Standards Agency
GB	Great Britain
HEA	The Higher Education Authority
HEFCE	Higher Education Funding Council for England
HESA	The Higher Education Statistics Agency
LWP	Legislation Working Party
NIVA	North of Ireland Veterinary Association
OV	Official Veterinarian
PFMA	Pet Food Manufacturers Association
POAO	Products of Animal Origin
QS	Quacquarelli Symonds
QUB	Queen's University Belfast
RVC	Royal Veterinary College
RCVS	Royal College of Veterinary Surgeons
SFC	Scottish Funding Council
SFI	Science Foundation Ireland
SIB	Strategic Investment Board
SPS	Sanitary/ Phyto-Sanitary
SPVS	Society of Practising Veterinary Surgeons
TMI	Trainee Meat Inspector
TRACES	Trade, Control and Expert System
UCAS	Universities and Colleges Admissions Service
UCD	University College Dublin
UFU	Ulster Farmers Union
UK	United Kingdom
UKRI	UK Research and Innovation
UU	Ulster University
VPHP	Veterinary Public Health Programme
VSA	Veterinary Surgeons Act 1966
VSC	Veterinary Schools Council

1. INTRODUCTION & BACKGROUND

1.1 Report Overview

The Department for Agriculture, Environment and Rural Affairs (DAERA) requested support from the Strategic Investment Board to develop an evidence-based 'Baseline/As-Is' position of veterinary services.

The purpose of this report is to provide a succinct factual baseline that will facilitate forward planning and informed decision-making by the Senior Leadership Team, and other internal and external stakeholders, with respect to, inter alia, providing veterinary medicine / science higher education course places in the region.

Section 2 sets out the UK reports of interest, as well as NI-specific demand informants. Sections 3 to 6 provides a range of datasets that provides an overview of the profession, roles and resources within the Northern Ireland setting, as well as the demand from NI-domiciles for veterinary medicine / science higher education course places.

1.2 Stakeholders and Their Roles

In addition to DAERA, CAFRE and AFBI (as detailed in Section 4), this report refers to a number of organisations, some of whom are sector specific, and others are higher education specific. Below is a brief overview of each.

Member Bodies

The British Veterinary Association (BVA) is the national representative body for the veterinary profession in the UK with over 16,000 members. BVA represents, supports and champions the interests of the veterinary profession in this country and as such takes a keen interest in all issues affecting the profession.

The North of Ireland Veterinary Association (NIVA) is the original territorial division of the BVA and works closely with the BVA Northern Ireland Branch to ensure the BVA represents the views of the profession in Northern Ireland when lobbying legislators and policy makers in Stormont, London and Brussels. Locally, NIVA champions veterinary causes with the NI Assembly and endeavours to ensure that agri-food policy and other animal health and welfare policy issues are in line with veterinary science.

The Association of Veterinary Surgeons Practising in Northern Ireland (AVSPNI) is a member organisation for vets that, as well as offering Continuous Professional Development (CPD) for small animals and large/farm animals, also offers representation at meetings with DAERA, UFU, etc. on issues of concern to the practising profession and on key issues which have an impact on animal health and welfare. AVSPNI also has a seat on the BVA NI Branch, ensuring that its views are considered when BVA is forming its policy.

VetNI is the secretariat to the two membership bodies (NIVA and AVSPNI) in Northern Ireland – its aim is to facilitate a full programme of CPD for vet surgeons and vet nurses in Northern Ireland, to provide a single, permanent point of contact for the veterinary profession in NI; to co-ordinate the activities of the veterinary organisations in NI and to work alongside the veterinary organisations to represent the profession.

The Veterinary Schools Council (VSC) represents nine of the UK's veterinary schools (Bristol, Glasgow, Cambridge, Edinburgh, Harper Keele, Liverpool, Nottingham, RVC and Surrey) and two non-UK associate members: the School of Veterinary Medicine, University College Dublin; and the Faculty of Veterinary Medicine, Utrecht University. Within its remit it prepares policy

papers, undertakes annual surveys of employers and graduates from its member universities and provides an Admissions Guide for UK Veterinary Schools.

Regulatory Bodies

The Royal College of Veterinary Surgeons (RCVS) is the statutory regulator for veterinary surgeons, responsible for the registration of veterinary surgeons and veterinary nurses in the UK, and sets, upholds and advances their educational, ethical and clinical standards.

The European Association of Establishments for Veterinary Education (EAEVE) is the accreditation authority for veterinary education establishments within Europe and it evaluates, promotes and further develops the quality and standard of veterinary medical establishments and their teaching within, but not limited to, the member states of the European Union.

Government Bodies

The Animal and Plant Health Agency (APHA) is an executive agency of Department of the Environment, Food and Rural Affairs (Defra) and also works on behalf of the Scottish Government and Welsh Government. The agency, which has a staff of 2,200, has the following remit:

- Identifying and controlling endemic and exotic diseases and pests in animals, plants and bees, and surveillance of new and emerging pests and diseases
- Undertaking scientific research and acting as international reference laboratory for many farm animal diseases
- Facilitating international trade in animals, products of animal origin, and plants
- Protecting endangered wildlife through licensing and registration
- Managing a programme of apiary (bee) inspections, diagnostics, research and development, and training and advice
- Regulating the safe disposal of animal by-products

APHA also offers additional services to the sector including the supply of commercial products and services through APHA Scientific; a disease alert service; an online tool called APHA Vet Gateway and access to Sam for online TB test submissions.

The Food Standards Agency (FSA), established in 2000 following several high-profile outbreaks of foodborne illness, is the independent government department working to protect public health and consumers' wider interests in relation to food in England, Wales and Northern Ireland.

Higher Education Bodies

The Universities and Colleges Admissions Service (UCAS) is the UK-wide organisation responsible for the application process for UK universities. It operates as an independent charity, funded by fees charged to applicants and to universities, plus advertising income.

The Higher Education Statistics Agency (HESA) is the official agency for the collection, analysis and dissemination of quantitative information about higher education in the United Kingdom.

The Central Applications Office (CAO) is the organisation responsible for overseeing undergraduate applications to colleges and universities in the Republic of Ireland.

The Higher Education Authority (HEA) has a statutory responsibility, at central government level, for the effective governance and regulation of higher education institutions and the higher education system in the Republic of Ireland.

Other

The Northern Ireland Agricultural Research and Development Council (trading as AgriSearch) is a charitable organisation whose mission is to drive innovation and sustainability in ruminant livestock farming. In practice AgriSearch facilitates NI farmers to have direct involvement in production orientated research by commissioning research into the improvement and development of beef, sheep and dairy farming; and on occasion they have supported PhD studentship (although there is no regular scheme/call).

1.3 Role of Veterinary Surgeons

To inform the reader of this report it is considered useful to understand the regulatory context of the role of vets, which is embodied in legislation that dates back to 1966 (Veterinary Surgeons Act 1966 (VSA)). This Act, at a fundamental level, sets out, inter alia, the roles and remits that only they are allowed to undertake as qualified individuals (contained within Schedule 3).

It is notable that there have been numerous amendments to the original act (in excess of 200 amendments) over the intervening years to account for changing circumstances and standards e.g. minimum language requirements, veterinary certification requirements, etc.

Key changes affecting the workforce capacity are typically changes to Schedule 3 of the Act and include:

- In 1991 Veterinary Nurses were named as members of the 'vet-led team' and permitted to undertake minor acts of veterinary surgery.
- In 2015, the new supplemental Royal Charter recognised veterinary nursing as a profession in its own right.

It is understood that the RCVS 2016 petition to Defra, which had the support of over 10,000 individuals and called for legislative protection of the Veterinary Nurse title, was not accepted, Defra encouraged the College to review Schedule 3 to explore whether and how the Veterinary Nurse role could be expanded. This review then led to large amounts of work being carried out between 2017 and 2019 on reviewing the Exemption Orders to the VSA and the regulation of paraprofessionals.

Around the same time as this, between 2017 and 2020, the RCVS Legislation Working Party (LWP) undertook a review of the legislation governing the veterinary profession, as well as their role in interpreting and enforcing this legislation as the veterinary regulator. The resulting recommendations were published in 2020 and were subject to public consultation between November 2020 and April 2021. The consultation responses were shared with RCVS Council in June 2021. Members voted to adopt the recommendations of the final report on its proposals for future veterinary legislation. These recommendations are designed to:

- Embrace the vet-led team;
- Enhance the role of veterinary nurses;
- Modernise RCVS registration;
- Lead to a modern fitness to practise regime; and
- Ensure the regulation of veterinary practices.

It is understood that the LWP report also builds on earlier recent historic recommendations to add the work of other paraprofessionals to Schedule 3, while bringing those paraprofessionals under the regulatory umbrella of the RCVS. The guidance provided by RCVS with respect to delegation of responsibility by vets to paraprofessionals is included in Annex A.

The RCVS also provides a Professional Code of Conduct that sets out veterinary surgeons' professional responsibilities. Supporting guidance provides further advice on the proper standards of professional practice.

1.4 Overview of UK Profession

In 2021 the UK practising veterinary surgeons numbered 26,056, which represented an almost 50% growth in size compared to 2012 (17,778); with the NI share of the UK workforce estimated at 3.5%. Rationale for the growth is detailed in Section 2.

Practising Veterinary Surgeons by Region 2012 to 2021						
Region	**2012**	**2016**	**2019**	**2021**	**2021 Share of UK Workforce**	**Decade Change**
NI	707	764	856	916	3.5%	+29.6%
England	14,231	16,442	19,982	21,058	80.8%	+48.0%
Scotland	1,884	2,082	2,561	2,712	10.4%	+43.9%
Wales	956	1,069	1,286	1,370	5.3%	+43.3%
UK Total	**17,778**	**20,357**	**24,685**	**26,056**	**100.0%**	**+46.6%**

The source of this workforce of practising veterinarians is predominantly UK universities, with 67% of the 2021 membership holding a UK university qualification, which is a marked difference to the 2012 position, whereby 75% of vets were UK-qualified. As the following table shows, it would appear that most of the referred growth, since 2012, in UK-registered vets has been derived from EU-qualified vets.

UK Registrable Qualification of Registered Vets						
Qualification Origin	**2012**		**2021**		**Decade Change**	
Commonwealth	1,087	6.1%	1,168	4.5%	+81	+7.5%
Foreign	230	1.3%	303	1.2%	+73	+31.7%
General List I – UK Qualification	13,321	74.9%	17,547	67.3%	+4,226	+31.7%
General List II – EU Qualification	3,145	17.7%	7,045	27.0%	+3,900	+124.0%
Total	**17,783**	**100%**	**26,063**	**100%**	**+8,280**	**+46.6%**

Source: RCVS

The majority of vets in the UK work in private practice, with the following split of roles across the UK at May 2021:

UK Practising Veterinarian Surgeons by Area of Work (May 2021)		
Clinical practice (private)	21,196	79.5%
Government service	1,106	4.2%
Industry and commerce	846	3.2%
Universities and colleges	674	2.5%
Other	663	2.5%
Veterinary schools	657	2.5%
Clinical practice (charity)	596	2.2%
Not recorded	562	2.1%
Research Institutes	160	0.6%
Charities and Trusts	150	0.6%
Military	40	0.2%

Source: RCVS

1.5 Veterinary Medicine Qualification / Training

To become a vet it is necessary to complete a degree in veterinary science/medicine that is accepted by the RCVS. There are a total of 69 RCVS-accepted courses[1], including courses

[1] *List updated 26th October 2021*

on offer from ten UK universities (two are in Scotland, seven are in England and one is in Wales) and one in Ireland.

RCVS accreditation also ensures graduates from these veterinary courses are automatically eligible to work in Ireland, Australia and New Zealand, as well as South Africa without further study or examination.

Globally, of the institutions offering veterinary sciences, the RVC in London is ranked top in the world and three others (University of Edinburgh, Cambridge University and University of Glasgow) are in the Top Ten (based on QS World University Rankings 2021).

The July 2021 VSC Admission Guide for UK Veterinary Schools notes that *"each year, approximately 2,400 people apply for 1,200 places to study veterinary science, so applicants have around a 50% chance of gaining a place".* In fact the number of UK university places for veterinary science/medicine has benefited from the following recent investments/ course openings:

- The University of Nottingham opened its School of Veterinary Medicine and Science in April 2007, the first purpose-built new veterinary school to be opened in the UK in 50 years (annual intake of 300);
- The University of Surrey opened its School of Veterinary Medicine (at a cost of £45m) in October 2015 (annual intake of 150);
- Harper & Keele Universities opened their joint Veterinary School in 2020 (annual intake of 90); and
- Aberystwyth (in conjunction with RVC[2]) opened to its first intake in 2021 (annual intake of 25).

Plans have also recently been announced of the Scottish government's intention to support a school at the SRUC (Scotland's Rural College), and of another new course at the University of Central Lancashire. The rationale for each is presented below:

SRUC, Aberdeen	Announced in May 2021, the SRUC, which is currently the biggest provider of veterinary nursing, livestock and animal care training in Scotland, plans to offer veterinary sciences courses (rural veterinary practice, food safety, food production and animal and public health) ranging from two-year diplomas to full veterinary courses and post graduate diplomas. This will represent the first new veterinary school in Scotland in 150 years. Reports[3] note that students will be able to enrol in two-year feeder programme in veterinary sciences or rural animal health as early as 2022 (estimating up to 50 students in the first cohort) and *"the new school will be dedicated to encouraging its students to forgo careers in small animal care and instead push them towards the economically crucial field of production animal care*", further noting that *"universities in Scotland have not been recruiting students with the aptitude to go into the sectors we really want them to go into".* The school will operate using a distributed model (offering experience in real world settings including first opinion practices, referral practices, farms and abattoirs) and course offerings will seek to broaden the range of potential students who would not ordinarily be able to attend vet school. The article notes that *"a key role of the new vet school in sustaining agriculture and hence food and drink productivity, with the welfare of both livestock and champion animals at its heart. The school will produce champions for best-in-class animal welfare in support of these industries.*"

[2] *Students spend the first two years in Aberystwyth before completing the final three years at RVC's campus in Hertfordshire.*
[3] *Vet Times Publication 8th June 2021 "SRUC Reveals Vet School Plans to Save Farm Sector" and SRUC Vet School Economic Impact Assessment November 2019*

	SRUC Vet School Economic Impact Assessment report, November 2019, notes that "*the blended learning approach they will receive will also be helpful in attracting students from traditionally disadvantaged backgrounds, in line with Scottish Government and Scottish Funding Council's focus on widening participation. Graduates will then go on supporting the rural economy and the food and drink industry and in this way contribute to exports, regulation and compliance and safeguarding the Scottish meat industry*". Key outcomes envisaged include that of **sustainable rural practices** (where there are recognised low returns for large animal veterinary practices); **safeguarded food and drink industry**; **innovation improvements** (working with veterinary practices to drive innovation) and **widened participation**.
University of Central Lancashire (UCLan)	The Preston-based school will deliver foundation, undergraduate and postgraduate courses in areas including veterinary medicine, bioveterinary science, veterinary physiotherapy and rehabilitation, veterinary clinical practice and clinical animal behaviour and training. The Bachelor of Veterinary Medicine and Surgery (BVMS) course is described as "*a five-year innovative programme making use of 'hands-on' modules from Year 1, rather than in later years as delivered in more traditional programmes.*" UCLan will become one of the first universities in the world to make use of a digital, virtual dissection platform for teaching animal anatomy using the renowned veterinary Anatomage technology. Students will also undertake practical placements at local, regional and national veterinary surgeries and hospitals. Professor StJohn Crean, Pro Vice-Chancellor (Research and Enterprise), said: *"Our Vet School offers a fantastic opportunity to build on the world-renowned research already being undertaken by our academics across our clinical, biomedical and science areas. The addition of animal health to our portfolio provides many more research opportunities where cross collaboration across many disciplines will not only benefit our research outcomes but unify our researchers under the heading of One Health."* The vet school will reside within the Faculty of Clinical and Biomedical Sciences, operating in parallel with Schools of Pharmacy and Biomedical Sciences, Medicine, Optometry and Dentistry. In delivery of the course the University will collaborate with Myerscough College, which has renowned animal training facilities currently used in the delivery of their RCVS-accredited vet nursing programmes, as well as animal science, equine science and agriculture degrees.

The list of current vet schools is detailed below:

Provider	Course name
Scotland	
The University of Edinburgh	Veterinary Medicine[4]
	Veterinary Medicine (Graduate Entry)
University of Glasgow	Veterinary Medicine
	Veterinary Medicine (Graduates Only)
England	
University of Bristol	Veterinary Science
	Veterinary Science: Accelerated Graduate Entry
	Gateway to Veterinary Science
University of Cambridge	Veterinary Medicine
Harper & Keele	Veterinary Medicine and Surgery
University of Liverpool	Foundation to Health and Veterinary Studies (Medicine) (Year 0)
	Veterinary Science
University of Nottingham	Veterinary Medicine
	Veterinary Medicine including a Preliminary Year
	Veterinary Medicine including a Gateway Year

[4] *The Scottish Universities offer widened access spaces through their University-wide Widening Access rules which, for example recognise applicants with particular circumstances e.g. care experienced, from a recognised high deprivation area, etc. and the applicant is typically guaranteed an offer at the minimum entry requirement or an adjusted entry / contextual admission.*

Provider	Course name
Royal Veterinary College, University of London	Veterinary Medicine
	Veterinary Medicine with Intercalated BSc Year
	Graduate Accelerated Veterinary Medicine
	Veterinary Gateway Programme
University of Surrey	Veterinary Medicine and Science
Wales	
University of Aberystwyth	Veterinary Science
Republic of Ireland	
University College Dublin	Veterinary Medicine

The following table summarises the course type by region within GB:

Number of Providers Offering Various Course Types by Region				
Course Type	**England**	**Scotland**	**Wales**	**Total GB**
Veterinary Science (U/G)	7	2	1	10
Veterinary Science (Widened Access/ Foundation/ Gateway)	4	-	-	4
Veterinary Science (Graduate)	2	2	-	4

There are also a number of mainland European schools that offer English-taught vet school courses, as detailed below:

European Institutions offering English-taught Veterinary Science / Medicine Courses		
Course	**EAEVE[5] Accreditation**	**RCVS Recognised**
University of Veterinary Medicine, Budapest	Yes	Yes
University of Veterinary Sciences, Brno	Yes	Yes
University of Veterinary Medicine & Pharmacy, Kosice	Yes	Yes
Faculty of Veterinary Medicine, Trakia University, Stara Zagora	Not stated	Not stated
University of Forestry, Sofia	No	Not stated
Faculty of Veterinary Medicine, Warsaw University of Life Sciences	Yes	Yes

Universities expect candidates to show evidence of their commitment to this career by having relevant work experience and the majority of courses require the candidate to attend an interview. A summary of the summarises entry requirements of existing British Isles-based and English-taught European courses is included in Annex B.

Courses usually last five years (5.5 or six years in Europe and six years at Cambridge) and they are an intensive combination of academic study, practical and clinical experience, and examinations. A typical course format is presented below for information:

Bristol Typical Pathway	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Lectures, seminars	44%	33%	32%	67%	2%
Independent Studies	45%	52%	52%	28%	32%
Placements	11%	15%	16%	5%	66%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Website - http://www.bristol.ac.uk/study/undergraduate/2021/vet-science/bvsc-veterinary-science/

The topics by year are as follows, for two examples – Bristol and UCD:

Bristol Typical Pathway Year of Course Teaching	**Programme Structure Modules Taught**
Year 1	Professional Studies 1 / Animal Management 1 Animal Health Science 1
Year 2	Professional Studies 2 / Animal Management 2 Animal Disease 1 / Animal Health Science 2
Year 3	Professional Studies 3 / Clinical Veterinary Science and One Health
Year 4	Professional Studies 4 / Clinical Veterinary Science 2

[5] *European Association of Establishments for Veterinary Education (EAEVE)*

Bristol Typical Pathway Year of Course Teaching	Programme Structure Modules Taught
	Classroom to Clinic
Year 5	Professional Studies 5 / Clinical Veterinary Science 3

Source: Website - http://www.bristol.ac.uk/study/undergraduate/2021/vet-science/bvsc-veterinary-science/

UCD Course Overview
Years 1 & 2
• Normal Animal Structure & Function • Animal Husbandry & Welfare • Animal Handling & Animal Experience • Professionalism
Year 3 & 4
• Pathobiological Sciences • Medicine • Surgery • Therapeutics • Herd Health and Population Medicine • Veterinary Public Health • Professionalism
Year 5
• Clinical rotations in the UCD Veterinary Hospital • Elective Studies • Clinical Experience • Professionalism
Overview During the first four years, students spend an average of 40 hours per week attending lectures, tutorials and practicals, with some practicals taking place at UCD Lyons Farm. During the final year, clinical rotations take place mainly in the UCD Veterinary Hospital and can involve early mornings and some late-night work. Students are also expected to undertake independent study. A combination of end-of-trimester written, practical and competency examinations, along with in-trimester continuous assessment during term, is used throughout the course.

The clinical placements (referred to as intra mural rotations) typically consist of 28 weeks core and four weeks elective rotations, with the majority of placements scheduled in the last year of the course. The following is a typical make-up of the final year clinical placement schedule:

Genre	Duration
Small animal general practice 1	Four weeks
Small animal general practice 2	Four weeks
Small animal referral practice	Four weeks
Equine general practice	Four weeks
Core elective – choice of small animal, equine, productions or VPH and pathology	Four weeks
Production animals	Four weeks
Special interest electives	Four weeks

Source: https://www.surrey.ac.uk/school-veterinary-medicine/study/undergraduate

Students must also spend 38 weeks (36 weeks in the UCD course) during their course on various work experience placements in practices, farms and other animal-related areas – this is referred to as Extra Mural Studies or EMS Placements. The RCVS website notes the following in this regard:

Whilst the universities are responsible for teaching the skills that the student needs to practise when they first graduate (the 'day-one competences'), it is on EMS placements that students can further practise the animal-handling and clinical skills that they first learn at university, as well as build up their experience of dealing with clients and with members of the veterinary team.

New graduates are therefore able to 'hit the ground running' having developed their day-one competences whilst on EMS placements during their degree course. EMS helps students to prepare for work and introduces them to the important concept of lifelong learning and reflective practice which then continues after graduation through the Professional Development Phase (PDP) and continuing professional development (CPD).

As the veterinary degree is a professional qualification, EMS constitutes an important component that helps to distinguish the qualification from other academic science degrees.

EMS is made up of:

a. AHEMS animal husbandry or pre-clinical, which comprises a total of 12 weeks; and

b. Clinical EMS, which comprises two phases:

- Preparatory EMS of about 6 weeks, to be undertaken when pre-clinical EMS has been completed. It is suggested that students should undertake at least three different types of placements to experience a range of veterinary work.

- Practical EMS should then follow on from this preparatory EMS phase, and should comprise the remaining 20 weeks, to be undertaken during the later clinical years.

It is noted that students are expected to undertake their EMS with no wage and at their own expense in terms of travel and accommodation. The organisation of the EMS is largely left up to the student but support is available through a database system within the universities (based on consultation with two current students at Glasgow and Edinburgh), whereby a list of farmers and veterinary practices that students have previously gained their extra mural experience with is logged.

1.6 Veterinary Medicine School Components

1.6.1 Accreditation

In the UK, the RCVS is the regulatory body and any vet from outside the UK who wishes to practice in the UK is required to register with the body. Outside the UK, each country has its own regulator, who like the RCVS in the UK, provides quality assurance for the approval of veterinary degrees.

The accreditation of university courses is undertaken by EAEVE (European Association of Establishments for Veterinary Education), which essentially seeks to monitor the attainment of university courses of the minimum standards set down in the study programme for veterinary surgeons in European Union Directive 2005/36.

EAEVE use the European System of Evaluation of Veterinary Training (ESEVT) as a professional peer evaluation system for veterinary education establishments and their accreditation. ESEVT is a Europe-wide, profession-specific evaluation system that ensures efficient preparation of the veterinary students that has been in use since 1984. ESEVT an internationally recognised system for the evaluation of veterinary undergraduate training worldwide. Annex C contains a copy of the indicators used in the ESEVT.

All universities in the UK who provide veterinary education have been recognised and accredited by both the RCVS and EAEVE (or are in the process of attaining accreditation in the case of new schools).

According to 2021 datasets, 80 of 101 listed European university courses had EAEVE full membership status and 69 of the 101 listed courses had ESEVT accreditation (includes approval, accreditation, conditional accreditation statuses).[6]

1.6.2 Typical Vet School Infrastructure

There are a number of fundamental building blocks or components required to ensure the necessary infrastructure for the successful delivery of an accredited veterinary school course, in terms of clinical training. These typically see the inclusion of a school veterinary hospital/ small animal clinic, school farm and equestrian facility. The following details the facilities available at Cambridge University:

Example University Facilities **Queen's Veterinary School Facilities**
• Hospital that includes a five-theatre small animal surgical suite; active ambulatory farm animal and equine units; a fully equipped intensive care unit; an equine surgical suite and diagnostic unit, with an MRI machine capable of imaging standing horses and a state-of-the-art post-mortem suite; • Cancer therapy unit (with a linear accelerator used for delivering radiotherapy to both small and large animals with cancer); • Clinical Skills Centre (which hosts interactive models and simulators for students to practise and refine essential technical skills individually and as integrated clinical scenarios) • On-site retention of small animals, farm animals and horses are housed on-site to provide continual opportunities to consolidate your animal handling skills. • University Farm (off campus) (allows all students to become involved in lambing and dairy management) where small animals, farm animals and horses are housed to provide continual opportunities for animal handling skills.

Source: University website, September 2021

There are two approaches as to how a school provides the above facilities:

- The traditional model (whereby the university owns, operates and maintains all aspects of the infrastructure); and
- The distributed model (whereby the university partners with others (generally in the private sector) to ensure access to the requisite infrastructure.

The latter distributed model is a recent development in the UK, with the new courses at Nottingham and Surrey University vet schools currently pioneering variations of same. It is understood that a variation on the distributed model, involving state veterinary service facilities, is operational in Norway whereby they co-locate their teaching facilities with government surveillance facilities, while a further example prevails in Japan between sites 200 miles apart.

1.7 Veterinary Medicine Course Costs & Funding

1.7.1 Introduction

House of Commons Briefing Paper Number 8386 April 2019 "Cost of University Courses in England" collates a number of salient background points:

- Graduates typically only repay 9% of their income above £25,000, with any outstanding debt written off after 30 years – and therefore the government can expect to write off around half of loans issued, noting that loan write-offs now account for more than 90% of government spending on undergraduate HE;
- An estimated average cost per student (for a 2017 cohort) was around £29,000, with the most expensive subject being agriculture/veterinary science (£55,000); and

[6] *http://www.eaeve.org/evaluation/establishments-status.html*

- The average cost to universities (difference between fee income and costs) of providing undergraduate courses in England vary from £7,500 (humanities and social studies) up to £22,000 (veterinary science)[7].

1.7.2 *Veterinary Medicine Ringfenced Funding by Jurisdiction*

It is understood that there are ringfenced amounts for veterinary studentship in each of the GB jurisdictions. This was not available to the SIB Team in the reporting timeframe.

It has been suggested in consultation that despite the introduction of new schools there will not be an increase in GB-domiciled vets in the existing UK vet schools unless the amount of government revenue funding allocated to veterinary medicine is increased, with the outworking being that these additional places will be taken up by non-UK domiciles.

1.7.3 *Veterinary Student Tuition Fees*

In the following tables we detail the 2021/22 annual tuition fee cost to a veterinary medicine/science student applying for courses in the British Isles, based on their UK domicile status and place of study. It is notable that the Scottish system permits lower fee rates (reduced by over 80%) for first time Scottish applicants.

Scottish Courses	UK First Time Applicant Student		Graduate Entry	EU/ International Student
	Scottish	Other	All UK	
Edinburgh	£1,820	£9,250	£33,500	£33,500
Glasgow	£1,820	£9,250	£32,000	£32,000

Welsh Course	UK Student		EU Student	International Student	Channel Islands/ Isle of Man
	Welsh	Other			
Aberystwyth	£9,000	£9,000	Not available	Not available	Not available

English Course	UK Student[8]		EU / International Student[9]	Channel Islands / Isle of Man
	English	Other		
Bristol	£9,250	£9,250	£32,000	£19,250
Cambridge	£9,250	£9,250	£67,923	£9,250
Harper and Keele	£9,250	£9,250	£33,000	£19,250
Liverpool	£9,250	£9,250	£34,550	£9,250
Nottingham	£9,250	£9,250	£31,500	£9,250
Royal Veterinary College	£9,250	£9,250	£36,760	£19,000
Surrey	£9,250	£9,250	£35,500	£9,250

RoI Course	UK Student		Graduate Entry		RoI Student	EU/EEA Student	International
	NI	Other	Non-EU	EU			
UCD Free Fees Initiative[10]	€3,000	€3,000	€37,740	€21,110	€3,000	€3,000	€31,930
UCD	€10,004	€10,004	€37,740	€21,110	€10,004	€10,004	€31,930

[7] Universities UK's submission to the post-18 education review. Also Adapted from Universities UK analysis of Higher Education Funding Council for England TRACT(T) and Office for Fair Access data

[8] Includes students from the Republic of Ireland.

[9] The then Minister of State for Universities announced on 23 June 2020 that EU nationals (except Irish nationals living in the UK or Ireland), other EEA and Swiss nationals will no longer be eligible for home fee status for courses starting in the academic year 2021-22. For most EU students commencing their studies in October 2021, their fee rates will be equivalent to the rates for international students.

[10] There is a reduced fee option for RoI, UK, EU and EEA students registering for the first time on qualifying, full-time, undergraduate degree programmes under the terms of the "Free Fees Initiative", whereby the Irish Exchequer will pay tuition fees to the University on behalf of students. The student will only have to pay the Student Contribution, currently €3,000; the 'free fees' scheme will pay the other element of the published programme fee.

The course demand impact of the recent EU Exit is not yet known – the Review team considers it reasonable to expect that the level of EU students applying to study in UK universities will fall due to the sizeable differential in student fees chargeable – annual tuition fees have gone from less than £10,000 to over £30,000, a rise that, in conjunction with living costs, may discourage EU students from studying in the UK.

If there was a Northern Ireland based vet school the cost to the student in terms of tuition fees would be assumed as follows (based on AY2021/22 QUB medical course fee structure), whereby, similar to Scotland, the home student is charged a lower tuition fee than the other UK students, but the reduced fee is also offered to the Republic of Ireland student.

Hypothetical NI Course – Possible Fee Structure (for illustration purposes only)						
Years	UK Student		RoI Student	EU Other Student	International Student	Channel Islands/ Isle of Man
	NI	Other				
1	£4,530	£9,250	£4,530	£21,170	£21,170	£9,250
2 – 5	£4,530	£9,250	£4,530	£39,650	£39,650	£24,624

1.7.4 *Veterinary Teaching Grants*

Whilst veterinary medical students are required to pay tuition fees, these fees do not cover the full cost incurred by the university of providing the education to the home student. If an NI domicile student attends a NI university the NI government pay teaching grants to the NI university in recognition of the additional costs, such as specialist staff, equipment and facilities. This is referred to as the block grant and the amount of funding is dependent on the course type.

It is understood that any veterinary school course would likely be classified within Teaching Bands B (year one) and A (years two to five), which attributes varying course grant valuations to the course, as follows (based on 2020 rates):

Assumed Annual Block Grant Income Per Student	2021/22
Band A	£17,229
Band B	£6,325

On the basis of the above, the teaching grant cost to the NI government of each NI and RoI domiciled veterinary medicine student at a NI-based vet school would be £75,241 in today's prices.

1.7.5 *Access to Funding by NI Domiciles Attended non-UK or Ireland Veterinary Courses*

The estimated self-funded cost for a student from Northern Ireland studying a standard 5-year veterinary degree in the UK, Ireland and overseas is set out below:

Estimated Annual[11] Cost of 5-year veterinary degree by location										
Region of Study	Estimated Annual Costs			NI Student Support Available					Net Difference to be "self-funded"	
	Annual Tuition Fees	Annual Living Costs[12]	Total Annual Costs	Tuition Fee Loan	Maintenance Loan	Total (w/o maintenance grant)	Means-tested Maintenance/ Special Support Grant	Total (including maintenance grant)	Without maintenance grant	With maintenance grant
NI	£4,530	£6,500	£11,030	£4,530	£4,840	£9,370	Up to £3,475	£12,845	(£1,660)	-
England	£9,250	£8,793	£18,043	£9,250	£4,840	£14,090	Up to £3,475	£17,565	(£3,953)	(£478)
Scotland	£9,250	£8,214	£17,464	£9,250	£4,840	£14,090	Up to £3,475	£17,565	(£3,374)	-
Wales	£9,250	£7,402	£16,652	£9,250	£4,840	£14,090	Up to £3,475	£17,565	(£2,562)	-
Ireland[13]	€3,000[14]	€12,500	€15,500	€3,000	€5,566	€8,566	Up to €3,996	€12,562	(£6,934)	(€2,938)
Poland (Warsaw)	€8,400	€7,425	€15,825	Nil	Nil	Nil	Nil	Nil	(€15,825)	(€15,825)

[11] *Academic year is assumed to be 9 months duration*
[12] *Non-NI annual living costs are calculated using "NatWest Student Living Index 2021" (using Cardiff for the Welsh estimate). NI annual living cost is based on estimate on QUB website.*
[13] *Exchange rate £1: €1.15*
[14] *The tuition fees are paid for by the RoI government. A university charges an annual contribution fee that is capped at €3,000 (2021/22 rates). A student contribution loan for this amount is available to the NI-domiciled student.*

2. UK-WIDE INFORMANTS & NI BENCHMARKING CONTEXT

2.1 Overview

This section of the report provides a summary of the UK-wide informants as to the status quo of the vet profession, including the Defra Review of the Veterinary Sector Submission to the Migration Advisory Committee; survey insights and reports prepared by BVA, RCVS et al; and an overview of UK veterinary related research. It then provides context background datasets for the NI economy.

2.2 Future Veterinary Capacity and Capability Project

2.2.1 Background

The Department for Environment, Food and Rural Affairs (Defra), in conjunction with the RCVS and the BVA, undertook a review of the veterinary sector to *"better understand the UK's workforce needs and ensure that both the Government and veterinary businesses can continue to protect animal health and welfare, safeguard the food chain and maintain levels of public health and public services, and enable trade in animals and animal products."*

The Veterinary Capability and Capacity Project (VCCP) was co-chaired by the UK's Chief Veterinary Officer Nigel Gibbens, RCVS Senior Vice-President Dr Chris Tufnell, and BVA Senior Vice-President Gudrun Ravetz. The Project Board also comprised the CVOs for Scotland, Wales and Northern Ireland, as well as representatives from the APHA and the FSA. Three working groups were set up within the project to look specifically at issues of veterinary resources, recruitment and retention.

It is understood that a key driver for the report was the UK government's Migration Advisory Committee's call for evidence on workforce issues post-EU Exit and the potential workforce shortages foreseen from the possible loss of non-UK EU-qualified vets, particularly in public health work. The press release refers:

> "Vets provide the foundation for the UK's high animal health and welfare and make an essential contribution to the UK economy and wider society. Veterinary teams up and down the country support the UK's 11 million pet-owning households; not a penny of the UK's £12.7 billion livestock industry could be realised without vets; and vets are vital to facilitating UK trade, through health certification and controls, so that consumers have confidence in the food safety and welfare of the products they buy. Non-UK EU vets make up around 50% of our new workforce each year yet, since the EU referendum; we are facing increasing problems in recruiting and retaining EU colleagues to the UK. The impact of the loss of even a small percentage of the veterinary workforce could have serious repercussions on the practices, communities and industries that vets serve. This profession-wide project is pivotal to ensuring we have a veterinary workforce that can serve the UK's needs post-EU Exit."

2.2.2 Key Findings – As presented in the Migration Advisory Committee Call for Evidence

Demand
The report notes that *"The demand for veterinary surgeons is likely to increase following exit from the EU. Nigel Gibbens, Former Chief Veterinary Officer UK, has suggested that the volume of products requiring veterinary export health certification could increase by as much as 325% in the case of no deal being reached between the EU and UK.* *It will be vital that an appropriate number of veterinary surgeons can be recruited from overseas, whether from the European Union post-EU Exit or from outside the EU, to ensure that essential veterinary work continues.* *Before the EU referendum, UK veterinary practices were reporting difficulties in recruiting. This problem has been compounded following the EU Exit vote, as non-UK EU vets are faced with*

considerable uncertainty about their futures. Therefore, as a first step, we ask that the veterinary profession is restored to the Shortage Occupation List.

A future immigration system must prioritise the veterinary profession. The Government should consider the economic and social impact the profession has, beyond its relatively small size."

To ensure animal health and welfare; food safety and public health and the facilitation of trade which requires veterinary certification, due regard should be given to the specific needs of the veterinary profession including:

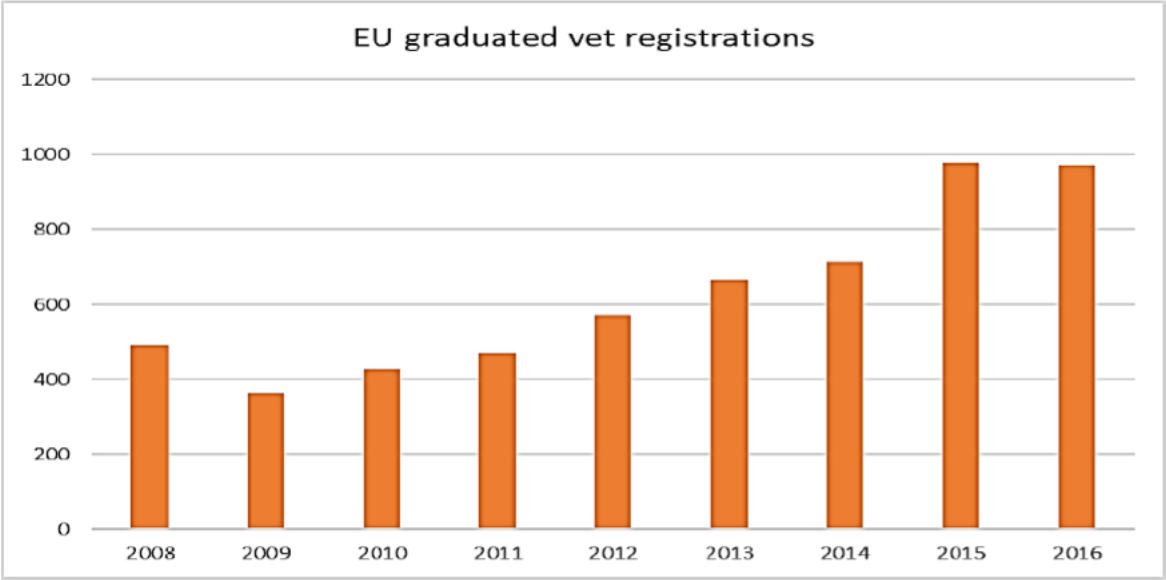
- *The projected demand for veterinary surgeons following the exit from the EU;*
- *The difficulty in meeting this demand with UK citizen vets, including the time and resource needed to increase university capacity;*
- *The nature of veterinary practices as small businesses unable to meet the demands of an onerous visa-based system."*

Agriculture and Food Production

"Vets working within the production animal sector work closely with farmers to ensure biosecurity measures are implemented. Poor biosecurity can have devastating economic and social consequences. Animal disease outbreaks are a strategic risk on the National Risk Register. The Foot and Mouth outbreak in 2001, for example, is estimated to have cost £5billion to the private sector and £3billion to the public sector, damaged the lives of farmers and rural communities and caused a general election to be postponed."

Workforce Reliance on EU Vets

"The UK veterinary workforce is highly reliant on EU graduates. The ramifications of a loss of even a small percentage of the workforce would be great.



Statistics from RCVS reveal the dependence of the UK on non-UK EU vets. RCVS currently registers around 1,000 overseas vets per year, of which EU nationals make up the clear majority. In 2016, the proportion of new registrants in that year from non-UK EU vet schools was 47% (RCVS, 2016).

EU veterinary surgeons make a particularly strong contribution to public health-critical roles. In the meat hygiene sector alone, some estimates suggest 95% of Official Veterinarians (OVs) working in abattoirs graduated overseas with the clear majority of these being non-UK EU graduates. The World Organisation for Animal Health (OIE) has emphasised the importance of the role of veterinary surgeons in abattoirs:

"[The] OIE has identified animal production food safety as one of its high priority initiatives. The Veterinary Services of our Member Countries are central to this mission. They have an essential role to play in the prevention and control of food-borne zoonosis"

It then cites the detection of foot and mouth disease in an abattoir in 2001 as an illustration of the essential role of OVs".

Trade

The report notes *"The import and export of animals and products of animal origin to third countries is dependent on veterinary certification. Veterinary certification is dependent on having available a sufficient number of adequately trained veterinary surgeons."*

Going on to note *"Consequently, post EU Exit there will almost certainly be increased demand for veterinary certification and supervision. Currently, up to 30% of Official Veterinarians engaged in export health certification for exports of animals and animal products to non-EU countries are estimated to be EU nationals. Nigel Gibbens, Chief Veterinary Officer UK, has suggested that this could lead to the volume of animal products requiring veterinary export health certification increasing by up to 325% in the case of no deal being reached between the EU and UK.18 Ensuring the veterinary profession has the capacity to meet this demand will be essential to allowing continued trade."*

Practice

"The Major Employers Group (MEG) represents large veterinary practices, corporate groups and charities that employ over 6,000 veterinary surgeons, predominantly in small animal veterinary practice, representing approximately 30% of all practising veterinary surgeons in the UK. MEG estimates that 30% of their combined workforces are non-UK EU graduates and these figures are borne out by RCVS data. MEG has also found that a higher proportion of non-UK EU graduates work full-time hours compared to UK graduated veterinary surgeons. This therefore increases their overall dependency on non-UK EU vets to above 30%.

The report notes that "*before the EU referendum, UK veterinary practices were reporting difficulties in recruiting, with a BVA Voice of the Veterinary Profession (Voice) survey in early 2015 revealing that 40% of practices with vacancies had taken more than three months to recruit in the last year or had withdrawn the vacancy due to a lack of suitable candidates.*

In the November 2016 Voice survey, members were asked whether the result of the EU referendum had affected recruitment of veterinary surgeons to their own organisation. Of the 650 vets who gave an opinion approximately one fifth reported that it had become harder to recruit, zero respondents reported recruitment of vets had become easier because of the EU Exit vote.

The Veterinary Public Health Association (VPHA) note that in the meat hygiene sector employers have seen a significant decrease in applications for veterinary roles since the referendum.

Following the decision that the UK should leave the EU, RCVS commissioned the Institute for Employment Studies (IES) to conduct three online surveys over a two-year period to gather the views and intentions of veterinary surgeons (VSs) and veterinary nurses (VNs) registered to practise in the UK whose nationality is non-UK European. Of those who responded to the first survey:

- *18% are actively looking for work outside the UK;*
- *32% are considering a move back home;*
- *40% think they are now more likely to leave the UK.*

In the months following the UK's decision to leave the EU, there was a reduction in the numbers of EU graduated vets registering to work in the UK. This contradicts the trend, which had seen a steady increase in the numbers of vets from elsewhere in the EU."

Academia

The report notes that *"non-UK EU nationals make up 22% of veterinary surgeons working in academia in the UK, most of whom will be in roles directly linked to providing education and training within the undergraduate veterinary degree. There are therefore difficulties in recruiting appropriately qualified and skilled staff from the UK to fill the roles that would be needed as this would require significant change in behaviour of UK graduated vets and / or potential financial incentives to persuade them to move from private practice. Movement from public sector posts into academia would be likely to increase the shortage problem in that area".*

2.3 Regulation of Profession

Research[15] shows that the transition from being a veterinary student to becoming a member of the veterinary profession is known to be challenging. Despite being licensed directly after graduation, it is reported that many veterinarians do not feel fully equipped to practice unsupervised when they graduate. The increasing rate of attrition from veterinary practice, and a relatively high percentage of burnout during the first years in practice, has been suggested to be related to a lack of early career support.

Perhaps informed by same, the RCVS recently undertook a review of its CPD which has resulted in a move towards an outcomes-based approach, a re-vamped approach to the further development of new graduates (the Veterinary Graduate Development Programme or VetGDP) and the launch of a new digital recording platform to facilitate the online recording of professional development. Use of this platform will be compulsory from January 2022.

All practising veterinary surgeons and veterinary nurses listed on the RCVS Register must complete the minimum CPD requirement, regardless of whether they are working full-time or part-time. The Code requires veterinary surgeons to do 35 hours per year (and 15 hours per annum for veterinary nurses).

A further change, just implemented for the 2021 cohort of graduates, is the RCVS Approved Graduate Development Practice (GDP) accreditation, which requires practices to meet the following criteria when they recruit newly or recently qualified graduates onto their staff:

- At least one “VetGDP” Adviser (free training is available for same) who has completed the RCVS VetGDP training within the past five years and signed an RCVS declaration, agreeing to provide their new graduate(s) with regular support. This should equate to a minimum of one hour per week per graduate, but can be delivered flexibly if requested by the graduate. The VetGDP Adviser must spend sufficient time at the same practice site as the graduate to be accessible to them. The commitment spans a two-year period; and

- The practice must engage positively with feedback on the delivery programme and any quality assurance activity.

The RCVS also actively encourage GDP-accredited practices to be working towards membership of the RCVS Practice Standards Scheme (PSS), which is a voluntary initiative to accredit veterinary practices in the UK. It has the stated aim of promoting and maintaining the highest standards of veterinary care.

To become accredited, practices volunteer for rigorous assessment every four years and will have to meet a range of minimum standards including hygiene, 24-hour emergency cover, staff training, certain types of equipment and cost estimation procedures.

The RCVS also oversees a modular further education system, the RCVS Certificate in Advanced Veterinary Practice (CertAVP), which is a flexible, modular approach to achieving veterinary postgraduate qualifications, allowing veterinary surgeons to design their own postgraduate certificate by choosing a combination of modules that reflects their area of interest and is directly relevant to their work. These courses are offered by various universities with veterinary faculties.

[15] *Bridging the Gap between Undergraduate Veterinary Training and Veterinary Practice with Entrustable Professional Activities Journal of Veterinary Medical Education, Volume 48 Issue 2 Pages 136-138, April 2021*

2.4 Various Survey Insights

As an introduction to this section the Review Team notes that there appears to be a plethora of surveys of vets and vet nurses that are not always presented in a manner that allows clear comparison, due to varying approaches to sampling etc. It is also not always clear if the respondent to the survey is a full time, part time or other (career break for example) status, which precludes any understanding of the workforce capacity as expressed in full time equivalents**.** Nonetheless, the surveys provide general trend insights and we present a number of surveys, not exhaustive, in a chronological order as follows:

In the 2014 RCVS Survey of the Veterinary Profession, 285 respondents (4.8%) worked outside the profession, with almost half of these (n=139) saying they would not return to the profession and almost a quarter being unsure. The Survey reported that approximately 100 veterinary surgeons were unemployed, with most seeking work, and almost entirely considering a return to the profession, but experiencing a wide range in unemployment durations.

The 2014 RCVS Survey of the Veterinary Nurse Profession identified similar results to veterinary surgeons, with 273 respondents (5%) working outside the profession; however, more veterinary nurses planned to return to their profession, with just 16.2% saying they would not, and 32.5% being unsure.

The BVA Voice of the Veterinary Profession (Voice) survey in early 2015 revealed that 40% of practices with vacancies had taken more than three months to recruit in the last year, or had withdrawn the vacancy due to a lack of suitable candidates.

BVA VetFutures survey from 2015 (an online survey gathered views from 892 veterinary students (via the Association of Veterinary Students) and 1,973 veterinary surgeons who had graduated within the last eight years) reported the following key insights:

- 55% of newly graduated vets are looking for a change in work, of which 23% want another job in the same field and 10% are considering leaving the profession; with veterinary surgeons with five years or less experience feeling least optimistic about their future.
- Almost three-quarters (73%) of students intended to work in the UK, which suggests a quarter will not, and maybe more will only work in UK for a short time until they have done any other required exams to move to another country.

The BVA Voice Survey in 2017 reported the following findings (extract from BVA / Exeter University Motivation, Satisfaction and Retention Publication November 2018):

- The level of work-life balance in the profession is generally regarded as relatively poor, with only 50% of survey respondents (survey of 1,250 vets) agreeing that they have a good work-life balance. With female and male vets typically working 44 and 49 hours per week respectively.
- Self-assessment of career potential was moderate (approximately 55% agreed that they had good career potential), and the level of ambition they expressed was also moderate (approximately 58% agreed they felt ambitious).
- Job satisfaction was moderate, with approximately 61% of respondents indicating that they were satisfied with their job. This satisfaction was shown to be affected, most of all, by having role models, feeling valued at work, and endorsing a culture of long work hours, and, to a lesser extent, feeling a sense of fit with those who have been successful before them. Unsurprisingly, experiencing gender discrimination at work reduced job satisfaction.
- Levels of stress and burnout were not insignificant with 21% of people reporting they were unable to cope with the stress, 63% feeling they were working too hard, and 48% feeling burnout.

A 2017 SPVS survey (Investigation of factors affecting recruitment and retention in the UK veterinary profession) suggested that 52.3% of veterinary business did not have all the veterinary surgeons they required, and that almost half of respondents (n=130) took more than three months to appoint a veterinary surgeon to an open role.

A further BVA survey in 2018 revealed an increase in vacancies and a decline in applications, with only 39% of advertised roles being filled within three months, and a significant number (11%) of vacancies being withdrawn due to a lack of suitable candidates. It reported a figure of 37% actively thinking of leaving the profession.

A 2019 survey by the BEVA and BSVA (in collaboration with the RVC) solicited a total of 5,597 responses from 2,934 veterinary surgeons and 1,170 veterinary nurses. Of those considering a job move in two years, the key findings were:

- The top reason (over 40%) to move jobs was attributed to not currently having a work life balance; with over 30% attributing the move to seeking better salary and over 30% seeking better working hours; and
- 16.7% of potential movers indicated that they would either temporarily (e.g. travel, career break) or permanently leave the profession

2019 RCVS survey of the profession[7] has 9.5% of vets and 24.8% of RVNs saying they wished to leave the profession for reasons other than retirement;

RCVS 2019 Survey of the profession, the majority of vets working within the profession who responded to the survey (79.2%) indicate that they plan to stay in the profession for more than five years, more or less comparable to the percentages who planned to stay in the profession 'for the foreseeable future' in 2014 and 2010. Similarly, the overall percentage planning to leave the profession within the next year for reasons other than retirement is close to that of 2014 and 2010, with small increases in the numbers signalling their retirement.

It has been suggested, in representations made by BVA, that there is about a 11%-13% shortage of vets.[16] If this figure is correct then it would place the profession at the worst outturn in this regard – the ONS public sector vacancy rate monitor notes that the highest vacancy rates are in the NHS (at the UK level) – cited as the highest in the public sector at 8.5%.[17]

2.5 **UK Veterinary-Related Research**

2.5.1 Veterinary Schools Council Publication: Maintaining excellence and sustainability in UK veterinary education and research post-EU Exit

In an open letter to the Prime Minister in October 2016, the RCVS and BVA raised a concern that if immigration controls restrict the number of EU professionals working in the UK, there may not be sufficient veterinary surgeons available to meet workforce demands. The letter contended that *"the most cost-efficient way to increase the number of graduates from UK undergraduate veterinary medicine courses would be to increase the size and capacity of current veterinary schools".*

However, they also noted that existing "*veterinary schools do not currently have the resources needed to do this. The costs per student for veterinary education are high compared to other teaching subjects … this is because of the wide range of clinical and professional skills they need to be equipped with at graduation, as set out in the RCVS Day One Competencies. While*

[16] *https://committees.parliament.uk/oralevidence/869/html/ and https://www.rcvs.org.uk/document-library/letter-to-the-department-of-education-regarding-a-potential-cap/*

[17] *https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/publicspending/articles/whatarethevacancytrendsinthepublicsector/2019-08-06*

further research is needed, schools anticipate that the current cost of veterinary courses could be beyond the £20,000 estimate that was calculated".

It goes on to note that "*to sustainably run a veterinary medical course has its challenges, and this may require further government investment in the near future. In order to increase capacity, investment would certainly be needed in infrastructure and staff, and for other costs such as student support. These costs cannot be covered by a £9,000 student fee plus the current support provided from the HEFCE or similar funding levels provided by the SFC.*

Initial evidence gathered by veterinary schools suggests that the cost of veterinary education already exceeds the funding that they receive for UK students.

A further concern is whether there would be a sufficient number of applicants from the UK, and there is already some concern that the overall number of applications to veterinary medicine in the UK may be declining.

VSC would encourage the government to consider refraining from implementing barriers to EU applicants or students from other areas in coming to study in the UK. The contribution of students studying in the UK from abroad is evident and this is recognised by the wider public."

The national and global impact of UK veterinary school research was also highlighted, with reference made to a recent article in the Veterinary Record; noting the high QS global rankings and the need to maintain the UK's global research position. A significant concern raised related to the residency status of the high proportion of skilled staff at veterinary schools who are non-UK EU nationals. EU nationals constitute approximately 17% of the UK veterinary school workforce, and for some schools this is up to as much as 40%.

2.5.2 *Veterinary Schools Council Publication: Bridging the Gap: Linking Animal and Human Medicine through Veterinary School Research and One Health*

The report strongly advocates the interdependence between animals and humans, recognising that increasingly human and animal health will likely face challenges of greater size and complexity, thereby advocating for the continuation and vigorous support of world-class research, such as that undertaken in veterinary schools. The report suggests that the three key areas of impact from veterinary school-based research are in the areas of animal welfare, Food Chain Security and One Health, noting the following in the latter two areas:

Sustaining the Food Chain

"Disease in farmed animals can undermine food safety and animal welfare as well as weaken the sustainability of our food chain through substantial production losses and waste. This cost is felt not only in the loss of meat but also in the reduced yields of other crucial animal products such as milk and eggs. The impact of animal diseases can be catastrophic.

The 2001 Foot and Mouth epidemic in the UK resulted in the slaughter of over four million livestock and was estimated to have cost the UK economy £8 billion. Therefore veterinary research is fundamental in ensuring the security of the food supply, as well as reducing the economic and safety risks connected to animal health.

The work ranges from creating genetic markers leading to improved selection methods to a range of health schemes that not only help minimise outbreaks but also reduce the conditions where diseases are likely to occur. The research has helped create savings through efficiency measures and reduced losses, benefiting producers, consumers and the overall economy. The veterinary schools' research has also had valuable impact on government policy and best practice in the UK and globally."

Achieving One Health

"The One Health initiative recognises this relationship between animals, humans and their ecosystems and works to 'improve the lives of all species through the integration of human medicine, veterinary medicine and environmental science'.

Though the concept has many definitions, a key feature of One Heath is the promotion of collaboration between all sectors, locally, nationally and globally. Animals share many common features with humans and experience similar chronic illnesses. This has allowed research into comparative medicine which uses animal models to help further our understanding of both animal and human disease. Researchers in this field have encompassed One Health ideas by collaborating with colleagues across the human and animal spectrum of medicine. The One Health initiative is also viewed as essential in developing best practice in the fight against zoonoses – infectious diseases in animals that can be passed on to humans. This is a significant and global problem, with the WHO reporting that 75% of all diseases discovered during the last twenty years have had zoonotic origins. This is due to more efficient and economical travel, increased food production and expanded trade agreements, making transmission of zoonoses easier.

Zoonotic diseases not only pose a threat to public and animal health, but they are also known to have devastating impacts on economies, particularly in developing nations. One Health has encouraged a new approach in responding to these infectious diseases which involves cooperation between physicians, veterinarians, governments and other professionals in the social and environmental field. This has led to joint efforts in diagnosis and prevention measures as well as improved communication to ensure greater control of disease. The case studies that follow demonstrate many examples of the One Health approach. They emphasise Virchow's belief in the interconnectedness of animal and human health by showcasing the impact that animal wellbeing has on public welfare. This includes examples of comparative studies that have furthered our knowledge of non-communicable disease to control measures and vaccination programmes which are helping combat emerging."

2.5.3 *Qualitative Outturns*

The datasets for the REF 2014 score for the Category of "Agriculture, Veterinary and Food Science" (included in Annex D). It is notable that there are 29 universities actively undertaking research and innovation in the area of agriculture, veterinary and food science despite there only being eight teaching veterinary medicine / science at that time (although this has risen to ten with the addition of Aberystwyth and Surrey; and will rise again when the SRUC veterinary science courses become available). This would suggest that veterinary schools are not prerequisites for activity in this Unit of Assessment.

2.5.4 *UK Wide Funding*

The broad nature and interdependencies of the research associated with veterinary, which includes research in the related areas of agriculture and food science (under REF Unit of Assessment 6), makes it very difficult to ascertain the quantum of veterinary-related funding specifically drawn down by research institutes that is wholly reliant on veterinary academia input.

Annex E details the sources of veterinary research as informed by the RCVS. The key historical source appearing to be the UKRI Biotechnology and Biological Sciences Research Council, which has invested over £1bn over the past ten years in sustainable agriculture and food research. It has a "Research in Agriculture and Food Security (AFS)" Strategic Framework (2017) that details the government's key AFS priorities up to 2022; which sets out their support for research and innovation that broadly achieves the following:

- Takes an integrated approach across the food system;
- Enables food and farming systems to be more sustainable and resilient;
- Supports the improvement of crops and farmed animals, including health and welfare;
- Increases the nutritional quality and safety of food;

- Reduces waste on farm and in the food system;
- Enables better exploitation of genetic diversity and more predictive approaches to determining crop and farmed animal phenotype from genotype; and
- Enables and supports smart technology and precision approaches to agriculture.

Support is divided into six focus areas of Sustainable Agricultural Systems; Crop and Farmed Animal Health; Food Safety and Nutrition; Reducing Waste; Understanding and Exploiting Genomics and Precision Agriculture and Smart Technologies.

2.6 NI Context Datasets

2.6.1 Agricultural Context

Northern Ireland, as a region, has a long tradition as being a large farming economy; with 75% of Northern Ireland's land used for agriculture. The following datasets are available for the region:

Key Statistical Datasets for Farming in Northern Ireland	
Farms	25,896, of which 79% are "very small"
Hectares of farmed land	1,029,822
Cattle	1.61m
Sheep	c.2m
Poultry	24.4m birds
Pigs	681,467

Source: The Agricultural Census in Northern Ireland June 2020

The location of the farms by Council area (including area and human population data) is shown below:

Local Government Districts	Area (km^2)	Population	Farms	
			Number	% total
Antrim & Newtownabbey	572	143,504	908	3.5%
Armagh, Banbridge & Craigavon	1,337	216,205	3,431	13.2%
Belfast	132	343,542	47	0.2%
Causeway Coast & Glens	1,980	144,838	2,587	10.0%
Derry & Strabane	1,238	151,284	1,782	6.9%
Fermanagh & Omagh	2,857	117,397	5,248	20.3%
Lisburn & Castlereagh	505	146,002	905	3.5%
Mid & East Antrim	1,046	139,274	1,838	7.1%
Mid Ulster	1,827	161,725	4,357	16.8%
Newry, Mourne & Down	1,633	148,528	4,056	15.7%
North Down & Ards	461	181,368	737	2.8%
Total	**13,588**	**1,893,667**	**25,896**	

Source: NISRA 2019-based population estimates & The Agricultural Census in Northern Ireland June 2020

For information, similar datasets for GB and RoI are presented below:

Region	Area (km^2)	Population	Farms	Cattle	Sheep	Poultry	Pigs
Northern Ireland	13,588	1,893,667	25,896	1.6m	2.0m	24.4m	681k
Scotland	77,911	5,438,000	51,000	1.7m	6.7m	14.4m	338k
Wales	20,736	3,150,000	24,807	1.1m	9.0m	9.8m	28k
England	130,310	55,977,000	106,000	5.2m	15.0m	134.3m	4.0m
UK Total				**9.6m**	**32.7m**	**181.9m**	**5.1m**
Republic of Ireland	68,890	4,995,000	137,500	6.5m	3.9m	76m	1.7m

Sources: As above for NI, Wales Farming Facts and Figures 2020, DfE NI Agri Food Sector Key Statistics Report July 2020. "Structure of the agricultural industry in England and the UK at June" – Department for Environment, Food & Rural Affairs – June 2020 statistics. Republic of Ireland – Central Statistics Office (Cattle, Sheep, Pigs as at December 2020), Agriculture and Food Development Authority (Poultry), The World Bank (Population as at 2020, Area (km2))

Farming is one of the region's biggest industries, with provisional figures indicating that the 'Total Income from Farming' (TIFF)[18] in Northern Ireland increased by 34% (26 % in real terms) from £342 million in 2019 to £456 million in 2020. Total Gross Output for agriculture in Northern Ireland was reported as follows for 2020[19]:

Total Gross Output for Agriculture (2020)		
Genre	**Value**	**Annual Change**
Dairying	£667m	+2%
Cattle	£438m	+2%
Sheep	£84m	+27%
Poultry	£217m	+20%
Pigs	£299m	-3%
Other (includes horticulture and crops)	£525m	
Total	**£2.23bn**	**+4%**

The agri food sector's importance to the NI economy is further represented by the percentage share of Gross Value Added (GVA) it accounts for, which is significantly higher than at the UK-wide level, as shown in the following table:

Agri - food sector GVA and employment, 2019				
Sector	**Northern Ireland**		**UK**	
	£m	**% of GVA**	**£m**	**% of GVA**
Agriculture	533	1.3	10,408	0.5
Food & Drink Processing	921	2.2	28,126	1.5

Source: DfE NI Agri Food Sector Key Statistics Report July 2020

The £921m GVA from food and drink processing is disaggregated in the following table, along with other datasets pertaining to the sub sector level.

Sub Sector	GVA (£m)	Employees	Sales outside NI	Total Sales
Animal By Products	10m	115	Not provided	47
Bakeries	123	4,057	197	376
Beef and sheepmeat	178	5,048	1267	1,436
Drinks	117	1,399	221	415
Eggs	28	413	120	182
Fish	18	633	74	90
Fruit and vegetables	92	2,788	243	363
Milk and milk products	109	2,351	889	1,143
Pigmeat	58	1,652	251	365
Poultrymeat	189	5,171	Not provided	745
Total	**921**	**23,625**	**3,988**	**5,162**

Source: DfE NI Agri Food Sector Key Statistics Report July 2020

2.6.2 *Equine Sector*

DAERA commissioned a review of the sector in 2018 and key insights from the resulting 2019 report are presented below:

Horse Population Estimate Breakdown		
Non-Thoroughbred	Breeders	1,100
	Sport/competition horses	2,230
	Recreational	23,850
	Ancillary	5,120
	Sub total	**32,300**
Thoroughbred	Breeders	1,140

[18] *TIFF represents the return on own labour, management input and own capital invested for all those with an entrepreneurial involvement in farming. It represents farm income measured at the sector level.*
[19] *DAERA Press Release 15 April 2021 Northern Ireland agricultural incomes in 2020*

Horse Population Estimate Breakdown		
	Owners (i.e.in training)	810
	Sub total	**1,950**
Total		**34,250**

Source: Analysis of the NI Equine Industry Report, 2019

The equine industry in Northern Ireland is represented by approximately 30 organisations from across the thoroughbred, sport, recreation and breeding sectors, as well as educational organisations and ancillary services. The industry is structured on an all-island basis, with most organisations and associations coming under the governing bodies of Horse Racing Ireland or Horse Sport Ireland.

A noted positive industry sub-sector was Education, mainly provided by DAERA's CAFRE Enniskillen campus, which *"focuses on the equine industry and offers a range of courses for those looking to make a career in the sector. The employment outcomes for CAFRE BSc Equine Management graduates are positive with 93% of graduates moving into employment (58% in the equine industry)"*. The following is noted with respect to veterinarians:

Vets play a critical role in the industry in ensuring animal care. Vets are involved in all aspects of welfare, from routine preventative care such as vaccinations, dental care and routine blood screens, to primary care as an in or out patient. In case of emergency vets also provide 24 hour call out services for injuries, accidents or emergencies. Breeding tends to involve vets at various stages. Some breeders use vets to carry out evaluations on mares breeding for the first time. The early months for a foal are an important time and so involve regular check-ups with a vet. It is at this stage too where vets microchip foals to identify them for a passport. Vets also become involved when breeders use advanced techniques such as artificial insemination.

Some vets offer sports medicine services and physiotherapy and so play an important part in the competitive elements of the sector. Vets in NI tend to work across different types of animals, though a number do operate equine specific practices. Specialised equine veterinary treatment is typically located in RoI and accessed by equine owners based in NI. An example of this is specialist colic surgery being available only in RoI, as it is not carried out in veterinary practices in NI. There were instances of innovative veterinary businesses, for example, an equine veterinary referral service dedicated to providing an integrated approach to the veterinary treatment and care of horses. This includes preliminary lameness evaluation, veterinary acupuncture, veterinary chiropractic, equine dentistry, chronic pain management, rehabilitation and laser therapy.

It was noted, however, in consultations that there are emerging recruitment challenges and difficulties in attracting and retaining young veterinary staff at the beginning of their career. Many are said to be put off by long hours and unsociable work patterns…An NI specific factor that some consultees believed to be important was the high number of bovine TB tests that take up a lot of junior vets' time. This is suggested to turn a lot of people off the industry.

In addition, there is also no university in NI that offers a full veterinary qualification, and similarly there is no equine hospital. These two factors, while quite reasonable, potentially exacerbate the challenge. With no direct local source nor an 'anchor' private sector employer for talent, NI is potentially more at risk from fluctuations in the supply of young equine vets. Consultations also pointed to a shortage of Continued Professional Development (CPD) opportunities in NI.

Veterinary skills are amongst the most critical skills for the sector. Even a small downward trend in the recruitment and retention of vets would have a damaging effect on the industry, from both a competitiveness and animal welfare point of view. In the context of ambitions to grow the industry, this is a key risk.

2.6.3 *Companion Pets*

According to the PFMA, 17m households (of 27.8m UK households[20]) now have pets, having increased by 3.2m since the start of the pandemic. They estimate that there are now 34m pets in the UK including 12m cats; 12m dogs; 3.2m small mammals, such as guinea pigs and hamsters; 3m birds; and 1.5m reptiles. In addition, another 5m households keep fish in an aquarium.

Regionally Northern Ireland (with 0.7m households[18]) compares to the UK-wide dataset as follows:

% Households by region who own at least one of the major pet species							
Pet	**Dog**	**Cat**	**Indoor Bird**	**Rabbits**	**Guinea Pigs**	**Hamsters**	**Outdoor Fish**
NI	31	12	1	3	0	0	7
UK	25	17	1	1	1	1	7

PFMA Regional Pet Population 2019

[20] *Number of households sourced from www.statista.com*

3. STRUCTURE OF THE PROFESSION

3.1 Overview

This section details the available information pertaining to vets and veterinary nurses, as well as the make-up of the private sector practices and accreditation therein; with comparison to the other UK regions and the UK average presented where available.

3.2 Qualified Vets

3.2.1 Overall Veterinary Surgeons Registrations

The number of registered vets by region is presented below:

Practising Veterinary Surgeons by Region 2012 to 2021							
Region	**2012**	**2016**	**2019**	**2021**	**2021 Share UK Workforce**	**Decade Change**	**Vets per capita (100,000 human population[21])**
NI	707**	764**	856	916**	3.5%	+29.6%	48.4
England	14,231	16,442	19,982	21,058	80.8%	+48.0%	37.6
Scotland	1,884	2,082	2,561	2,712	10.4%	+43.9%	49.9
Wales	956	1,069	1,286	1,370	5.3%	+43.3%	43.5
UK Total	**17,778**	**20,357**	**24,685**	**26,056**	**100.0%**	**+46.6%**	**39.2**
% Change YoY UK Total		+14.5%	+21.3%	+5.6%			
% Change YoY NI		+8.1%	+12.0%	+7.0%			
% NI of UK Total	4.0%	3.8%	3.5%	3.5%			

Source: RCVS Datasets September 2021.
*** Noted that totals per this table do not tally with proceeding tables that disaggregate membership by age, gender and classification.*

Salient points from the above:

- Whilst Northern Ireland has the lowest regional percentage share of vets (and this is declining) the region has an above average number of vets per head of human population; and
- Ten year growth in the Northern Ireland practicing vet popultation (29.6%) has been below the UK average (46.6%).

Inferences from the data:

- If the 2012 NI share of the UK vet workforce (4%) was retained there would be an additional 126 vets within the 2021 figures (1,042 vets). This represents an under provision of circa 12%; and
- If NI achieved the average UK level of workforce growth (46.6%) there would be an additional 120 vets within the 2021 figure (1,036 NI vets). This represents an under provision of circa 12% also.

3.2.2 Roles

A review of the areas of work of NI vets vis-à-vis GB vets shows that there is a difference in the employment traits in NI compared to GB, with a much higher proportion of the workforce employed in government service (20.4% in NI compared to 3.6% in GB) and a marginally smaller workforce in the private clinical practice (70.3% in NI compared to 79.9% in GB).

[21] *Based on population estimates in Section 2.6.1*

Almost certainly reflecting the absence of a vet school in the region, there is also a much lower representation of vets in academia (0.8% in NI compared to 2.6% in GB). The level of workforce in research institutes in NI is on par with the rest of the UK.

GB & NI Practising Veterinarian Surgeons by Area of Work (May 2021)						
Area of Work	**GB**		**NI**		**UK**	
Clinical practice (private)	20,545	79.9%	651	70.3%	21,196	79.5%
Government service	917	3.6%	189	20.4%	1,106	4.2%
Industry and commerce	825	3.2%	21	2.3%	846	3.2%
Universities and colleges	667	2.6%	7	0.8%	674	2.5%
Other	643	2.5%	20	2.2%	663	2.5%
Veterinary schools	656	2.6%	1	0.1%	657	2.5%
Clinical practice (charity)	585	2.3%	11	1.2%	596	2.2%
Not recorded	544	2.1%	18	1.9%	562	2.1%
Research Institutes	154	0.6%	6	0.6%	160	0.6%
Charities and Trusts	148	0.6%	2	0.2%	150	0.6%
Military	40	0.2%	0	0.0%	40	0.2%

Source: RCVS May 2021

The following analysis of vets within clinical practice is also available from the RCVS, noting that based on their records there are *"13,609 UK Practising Veterinary Surgeons who have a relationship with a registered premises, of these 3,791 have more than one relationship"*.

Practising Vets by Species and Region						
Region	**Equine**	**Exotic/Wild**	**Farm Animal**	**Mixed**	**Small Animal**	**Total**
NI	3	-	17	356	156	532
Scotland	52	7	38	696	1,075	1,868
Wales	33	1	131	744	562	1,471
England	903	15	545	3,381	10,615	15,459
Total	**991**	**23**	**731**	**5,177**	**12,408**	**19,330**

Source: RCVS November 2021

Practising Vets by Species and Region						
Region	**Equine**	**Exotic/Wild**	**Farm Animal**	**Mixed**	**Small Animal**	**Total**
NI	1%	0%	3%	67%	29%	100%
Scotland	3%	0%	2%	37%	58%	100%
Wales	2%	0%	9%	51%	38%	100%
England	6%	0%	4%	22%	69%	100%
Total	**5%**	**0%**	**4%**	**27%**	**64%**	**100%**

Source: RCVS November 2021

It is notable that the level of vets (based on the datasets for whom information is held) working with large animals, through either mixed or farm animal practices, is highest in Northern Ireland (70%) which is much greater than the UK average (31%); and is closely followed by Wales (60%); whereas Scotland and England record lower levels at 39% and 26% respectively. Conversely, Northern Ireland has the lowest percentage share of the practising workforce in small animal practice – 29% compared to a UK average of 64%.

3.2.3 Analysis by Age

The following table shows the age profile of the NI workforce, showing that there has only been a marginal change in the age demographic of the workforce - with 28% over 50 in 2012 comparing to 30% over 50 in 2021.

NI Veterinary Surgeons by Age 2012-2021								
Age	**2012**		**2016**		**2019**		**2021**	
Up to 30	19%	133	20%	158	20%	174	20%	185
31 – 40	29%	207	25%	197	26%	219	27%	244
41 – 50	25%	174	25%	201	23%	196	23%	211
51 – 60	17%	117	20%	156	20%	175	20%	182
61+	11%	77	10%	82	11%	92	10%	96
Total	**708**		**794**		**856**		**918**	

Source: RCVS Datasets September 2021

A noted limitation of the above dataset is that it is not clear what proportion of the workforce by age profile is economically active or working reduced hours.

3.2.4 *Analysis by Gender*

The following table shows that there has been a change in the gender make up of the profession, moving from 43% female in 2012 to 52% female in 2021, with females accounting for 83% of the growth/change in the same period (174 additional females and 36 additional males).

NI Veterinary Surgeons by Gender 2012-2021									
Gender	**2012**		**2016**		**2019**		**2021**		**Decade Change**
Female	301	43%	374	47%	412	48%	475	52%	+57.8%
Male	407	57%	420	53%	444	52%	443	48%	+8.8%
Total	**708**		**794**		**856**		**918**		**+29.7%**

Source: RCVS Datasets September 2021

By way of comparison, HSC data shows that the NI qualified doctor workforce increased in size from 4,924 to 5,579 between 2012 and 2017, with the proportion of male practitioners falling from 53% to 51% in 2012 and 2017 respectively.

3.2.5 *Analysis by Gender and Age*

The following table shows that the NI veterinary surgeon population is older than the GB workforce – with 28% compared to 19% of the workforce aged 51 plus. Likewise, the proportion of the workforce aged under 30 is lower in NI compared to the GB workforce – with 20% compared to 26%.

NI Veterinary Surgeons by Age & Gender 2021							
Age category	**Male**		**Female**		**Total NI**		**GB**
Up to 30	56	30%	129	70%	185	20%	26%
31 – 40	91	37%	153	63%	244	27%	34%
41 – 50	104	49%	107	51%	211	23%	21%
51 – 60	112	62%	70	38%	182	20%	13%
61+	62	79%	16	21%	78	8%	6%
Total	**443**	**48%**	**475**	**52%**	**918**	**100%**	**100%**

Source: RCVS Datasets September 2021

3.2.6 *Analysis by Classification*

The following tables sets out the numbers of GB and NI vets registered by the RCVS by classifications - practising, non-practising ("NP") in the UK, and those registered with the RCVS in the UK but resident and / or practising elsewhere - overseas ("O/S") or in the Republic of Ireland ("Southern Irish").

NI & GB Veterinary Surgeons by Classification 2012-2021												
Classification	2012			2016			2019			2021		
	NI		GB	NI		GB	NI		GB	NI		GB
UK Practising	708	87%	86%	794	87%	87%	856	87%	89%	918	87%	88%
O/S Practising	15	2%	1%	12	1%	1%	18	2%	1%	16	2%	1%
Total Practising	**723**	**89%**	**87%**	**806**	**88%**	**88%**	**974**	**89%**	**90%**	**934**	**89%**	**89%**
NP (+70)	48	6%	5%	64	7%	6%	49	5%	4%	61	6%	5%
NP (Other)	36	4%	7%	44	5%	6%	61	6%	6%	53	5%	6%
Total NP	**84**	**10%**	**12%**	**108**	**12%**	**12%**	**110**	**11%**	**10%**	**114**	**11%**	**11%**
Southern Irish	2	<1%	<1%	2	<1%	<1%	2	<1%	0	2	<1%	0
Total	**809**			**916**			**986**			**1050**		

Source: RCVS Datasets September 2021

The above analysis shows that the proportions of vets that choose to practise their profession in UK, practise overseas or to be non-practising is similar across the UK; with only marginal differences between NI and GB and a similar trend is apparent i.e. that circa 90% of the profession is active and circa 10% is inactive, of which circa 50% is due to old age/retirement from working life. The level of Southern Irish registered vets in GB has been nil since 2019.

3.2.7 *Analysis by Country of Origin*

The following table shows the source of qualifications of RCVS members over the past ten years. The following explanation of the classification of registerable qualifications relates:

- General List I – members who have a recognised UK qualification.
- General List II – members who have a scheduled EU qualification.
- Commonwealth List – members who have an accepted Commonwealth qualification, or who have a Commonwealth qualification and have passed the RCVS Statutory Examination for Membership.
- Foreign List – members who have an accepted overseas qualification, or who have an overseas qualification and have passed the RCVS Statutory Examination for Membership.

NI & GB UK Practising Category by Registerable Qualification 2012-2021												
Qualification	2012			2016			2019			2021		
	NI		GB	NI		GB	NI		GB	NI		GB
General List I	348	49%	76%	392	49%	72%	427	50%	68%	452	49%	68%
General List II	355	50%	16%	397	50%	21%	421	49%	26%	457	50%	26%
Commonwealth	4	1%	6%	4	1%	5%	7	1%	5%	8	1%	5%
Foreign	1	0%	1%	1	0%	1%	1	0%	1%	1	0%	1%

Source: RCVS Datasets September 2021

As is shown, the level of UK-based qualifications in the NI membership is lower than GB, 49% compared to 68% in 2021. The level of UK and EU (including Ireland) qualified vets on the register in NI is 99% compared to 94% in GB; presumably due to the higher level of NI domiciles attaining their qualification over the past thirty years at UCD.

It is notable how the reliance in GB on EU qualified staff has increased over time, while reliance on UK qualified vets has reduced.

The following table provides further insights into the origin on the General List II registrations in Northern Ireland:

Region of Qualification	UK	Ireland	Elsewhere	Total
NI Membership	463	225	238	926
% Total	50%	24.3%	25.7%	100%

Source: RCVS Datasets May 2021

An analysis of the list of current registrees (which is largely reduced through retirement for the first two referred decades) by their year of registration with the RCVS shows that there has

been a variable trend as to the region of qualification of the RCVS NI register, with higher proportional reliance on outside UK and Ireland in the 1980s and 2010s.

Membership with an NI Register or Correspondence Address by Year of Registration and Region of Qualification							
Registration Years	**UK**		**Ireland**		**Elsewhere**		**Total**
1960-1969	3	38%	0	-	5	63%	8
1970-1979	14	41%	0	-	20	59%	34
1980-1989	49	39%	13	10%	64	51%	126
1990-1999	102	56%	64	35%	17	9%	183
2000-2009	107	51%	60	28%	44	21%	211
2010-2021	188	52%	88	24%	88	24%	364

Source: RCVS Datasets May 2021

Benchmark Comparator

HSC datasets shows that 85% of doctors working in NI graduated from a UK medical school – which is a higher proportion than is seen in Scotland, England or Wales. This proportion increases to 92% doctors when graduates from Irish medical schools are included. A relatively small number of registered and licensed doctors living in NI graduated from continental Europe (2.5%) or other countries (5.5%). The Gardiner Review noted in this regard *"NI is very dependent on UK and Ireland medical graduates and in particular QUB graduates, for its medical workforce."*

3.2.8 *Analysis by Awards*

The following table shows the 2021 veterinary surgeons for NI and UK total with RCVS award types:

Veterinary Surgeons by RCVS Award 2021						
RCVS Award Type	**NI**	**GB**	**Total**	**NI % Total**	**NI Award % of NI Total**	**GB Award % of Total**
Specialists	6	867	873	0.7%	6.7%	17.4%
Fellowships	8	241	249	3.2%	9.0%	4.8%
Advanced Practitioner	9	920	929	1.0%	10.1%	18.5%
Diploma holders	4	274	278	1.4%	4.5%	5.5%
Certificate holders	42	1,406	1,448	2.9%	47.2%	28.3%
CertAVP	20	1,268	1,288	1.6%	22.5%	25.5%
Grand Total	**89**	**4,976**	**5,065**	**1.8%**	**100.0%**	**100.0%**
% Total	1.8%	98.2%	100.0%			

Source: RCVS Datasets September 2021

The following table shows the historical Northern Ireland trend with respect to awards:

NI Veterinary Surgeons by RCVS Award 2012-2021						
RCVS Award Type	**2012**	**2016**	**2019**	**2021**	**% of Total 2021**	**% change 2012 to 2021**
Specialists	2	2	4	6	6.7%	200.0%
Fellowships	6	3	6	8	9.0%	33.3%
Advanced Practitioner	0	7	12	9	10.1%	0.0%
Diploma holders	4	5	5	4	4.5%	0.0%
Certificate holders	29	33	38	42	47.2%	44.8%
CertAVP	0	2	8	20	22.5%	0.0%
Grand Total	**41**	**52**	**73**	**89**	**100.0%**	**117.1%**

Source: RCVS Datasets September 2021

It has been suggested that, at the UK level, the profession is moving to more specialists, which appears to be reflected in the above tables. It is however noted that the NI profession appears

to contain lower numbers and levels of higher qualified vets – with only 1.8% of the UK total, being half the figure expected if pro-rated for the population of Northern Ireland. Specialists, fellowships and advanced practitioners in Northern Ireland make up only 25.8% of the workforce, compared with 40.7% in the corresponding workforce in GB.

3.3 Qualified Vet Nurses

3.3.1 Veterinary Nurses Total Registration

The number of registered veterinary nurses by region is presented below:

Registered Veterinary Nurses by Region 2012 to 2021						
Region	**2012**	**2016**	**2019**	**2021**	**% 2021**	**% Change 2021 vs 2012**
NI	114	171	214	256	1.3%	+124.6%
England	8,845	11,599	14,858	16,602	86.9%	+87.7%
Scotland	659	958	1,270	1,466	7.7%	+122.5%
Wales	354	470	639	788	4.1%	+122.6%
UK Total	**9,972**	**13,198**	**16,981**	**19,112**	**100.0%**	**91.7%**
% Change YoY UK Total	-	32.4%	28.7%	12.5%		
% Change YoY NI	-	50.0%	25.1%	19.6%		
% NI of UK Total	1.1%	1.3%	1.3%	1.3%		

Source: RCVS Datasets September 2021

Salient points:

- Northern Ireland has the lowest share of veterinary nurses in the UK, with only 1.3% of the total registered population; and
- The growth in veterinary nurses in Northern Ireland was greater than the UK average in 2016 and 2021; and it has seen the largest percentage increase between 2012 and 2021 of all regions (124.6% uplift).

3.3.2 Roles

The following analysis of vet nurses within clinical practice is also available from the RCVS, noting that based on their records there are at the time of receiving the following datasets there were 20,787 Registered Nurses, of these *"11,113 have a relationship with a registered premises and 2,379 have two or more relationships with registered premises."*

Practising Vet Nurses by Species and Region					
Region	**Other**	**Farm Animal**	**Mixed**	**Small Animal**	**Total**
NI	-	-	88	94	182
Scotland	13	-	309	858	1,180
Wales	4	5	322	349	680
England	126	44	2,030	10,076	12,276
Total	**143**	**49**	**2,749**	**11,377**	**14,318**

Source: RCVS November 2021

Practising Vet Nurses by Species and Region					
Region	**Other**	**Farm Animal**	**Mixed**	**Small Animal**	**Total**
NI	0%	0%	48%	52%	100%
Scotland	1%	0%	26%	73%	100%
Wales	0%	0%	47%	51%	100%
England	1%	0%	17%	82%	100%
Total	**1%**	**0%**	**19%**	**79%**	**100%**

Source: RCVS November 2021

It is notable that there is a very small level of vet nurses working in farm practices, with Wales and NI both showing similar working prevalence in mixed and small animal practices.

3.3.3 *Analysis by Age*

The following table analyses the NI VN population by age over time, showing that the profession is showing a higher age profile over time:

NI Veterinary Nurses by Age 2012-2021								
Age	**2012**		**2016**		**2019**		**2021**	
20-29	52	46%	60	35%	73	34%	83	32%
30-39	43	38%	75	44%	98	46%	116	45%
40-49	17	15%	29	17%	33	15%	40	16%
50-59	-	-	5	3%	9	4%	16	6%
Over 60	2	2%	2	1%	1	0.5%	1	0.4%
Total	**114**		**171**		**214**		**256**	

3.3.4 *Analysis by Age & Gender*

The following table shows that overwhelmingly the veterinary nurse vocation in Northern Ireland is almost fully female-based, with 98% of the nurses being females.

NI Veterinary Nurses by Age & Gender 2021						
Age category	**Male**		**Female**		**Total**	
20-29	1	1%	82	99%	83	32%
30-39	3	4%	113	97%	116	45%
40-49	2	2%	38	95%	40	16%
50-59	-	-	16	100%	16	6%
60-69	-	-	-	-	-	-
70-79	-	-	1	100%	1	0.4%
80+	-	-	-	-	-	-
Total	**6**	**2.3%**	**250**	**97.7%**	**256**	**100%**

Source: RCVS Datasets September 2021

3.3.5 *Comparison of Vet-Led Team Ratios*

There appear to be marked differences in the ratio of vets to vet nurses, with Northern Ireland showing the lowest level of team diversification i.e. for vet surgeon there is 0.28 veterinary nurses compared to 1: 0.79 in England and 1: 0.73 UK average.

Ratio Veterinary Surgeons (VS) to Registered Veterinary Nurses (RVNs) by Region 2012 to 2021 (VS:RVN)					
Region	**2012**	**2016**	**2019**	**2021**	**% Change 2021 vs 2012**
NI	0.16	0.22	0.25	0.28	73.3%
England	0.62	0.71	0.74	0.79	26.8%
Scotland	0.35	0.46	0.50	0.54	54.5%
Wales	0.37	0.44	0.50	0.58	55.3%
UK Total	**0.56**	**0.65**	**0.69**	**0.73**	**30.8%**

Source: RCVS Datasets September 2021

3.4 Practice Overview

3.4.1 Overall Registered Practices

The number of registered veterinary practices by region is presented in the following table, with Northern Ireland showing the highest level of growth in the past ten years (27.8% growth compared to 17.3% UK average growth).

The ratio of practices per head shows that NI is as per the UK average (albeit that the total vet numbers include those outside of practice e.g. working for DAERA).

Registered Veterinary Practices by Region 2012 to 2021							
Region	**2012**	**2016**	**2019**	**2021**	**2021 (%)**	**Ratio Practising Vets /Practices**	**Total Growth (2012 to 21)**
NI	169	183	198	216	3.5%	4.24	+27.8%
England	4,338	4,559	4,880	5,033	81.5%	4.18	+16.0%
Scotland	466	482	525	566	9.2%	4.79	+21.5%
Wales	289	311	334	359	5.8%	3.82	+24.2%
UK Total	**5,262**	**5,535**	**5,937**	**6,174**	**100.0%**	**4.22**	**+17.3%**
% Change YoY UK Total		5.2%	7.3%	4.0%			
% Change YoY NI		8.3%	8.2%	9.1%			
% NI of UK Total	3.2%	3.3%	3.3%	3.5%			

Source: RCVS Datasets September 2021

3.4.2 Analysis by Practice Type

The following table shows the types of practice in the region, with marked differences insofar as Northern Ireland has a very different structural make up of its clinical practices when compared to other UK jurisdictions:

Registered Veterinary Practices by Region & Main Species Type 2021					
Region	**England**	**Northern Ireland**	**Scotland**	**Wales**	**UK Total**
Small Animal	3,536	67	298	185	4,086
Mixed	698	89	160	110	1,057
Not Recorded	327	35	57	24	443
Equine	296	11	19	18	344
Farm Animal	160	14	19	21	214
Exotic/Wild	14	-	3	1	18
Aquatic Animal	2	-	10	-	12
UK Total	**5,033**	**216**	**566**	**359**	**6,174**
% of UK Total	81.5%	3.5%	9.2%	5.8%	100.0%

Source: RCVS datasets "Practices by Region and Species Type 2012 to 2021"

This is compared as follows, showing the NI has the highest level of workforce effort directed towards large animals (through mixed and farm animal practices), - with 47% of practices classified as such, compared to a GB level of 19%, and more than double the UK average number of such practices, with over 8% of the UK's total in Northern Ireland

Registered Veterinary Practices by Region & Main Species Type 2021					
Region	**England**	**Northern Ireland**	**Scotland**	**Wales**	**UK Average**
Small Animal	70%	31%	53%	52%	66.2%
Mixed	14%	41%	28%	31%	17.1%
Not Recorded	6%	16%	10%	7%	7.2%
Equine	6%	5%	3%	5%	5.6%
Farm Animal	3%	6%	3%	6%	3.5%
Exotic/Wild	0%	0%	1%	0%	0.3%
Aquatic Animal	0%	0%	2%	0%	0.2%

Consultations with stakeholders reported that there was a perception that large animal practices are at risk due to the working hours/conditions, remoteness, repetitiveness of the role and the salary (compared to government and small animal practices). The following reports were referred and these are summarised thus:

Unlocking Potential: A Report on Veterinary Expertise in Food Animal Production

This report, prepared in 2007, was prepared just after the commencement of the OV Reform Programme and reports *"The shrinking involvement of the profession in farming and food work is … a cause for concern, in terms of the potential loss of focus of the profession, the consequences for these sectors and the wider public interest in the health and welfare of food animals. It also has implications for the governance of veterinary services."* Noting that "*this personal report draws on the deliberations of a working group set up … following the Foot and Mouth inquiries of 2001…. [the main concern being] whether there was sufficient veterinary expertise to support the farming industry."*

The report concluded the following:

- Based on an assessment of the overall demographics of veterinarians and trends in farm animal work, there was considered to be no absolute shortfall in supply and that, while there will be a need to replace older and experienced farm animal veterinarians when they retire, there was no evidence of a systemic problem with succession.

- The main issues are the relative attractiveness of food animal work to young veterinarians and their preparedness for such work. The need to attract the right applicants to veterinary school, to produce the right graduates and to ensure that young veterinarians gain the right professional experience is considered. It notes that newly-qualified veterinarians felt that *'their University experience of farm animal work was not entirely realistic' and 'they were not fully prepared for the economic nature of farming'*. The Farm Animal Welfare Council, observing that *'the content of husbandry and practical skills in undergraduate courses has been reduced over the past decade'*, reported also the comments of experienced veterinary surgeons that 'new veterinary graduates appear to be less competent in dealing with livestock husbandry.'

  Such perceptions have fuelled concern over whether the veterinary schools and professional bodies are doing enough to ensure that they attract the right types of recruits and to prepare and equip them appropriately for careers in the farming and food sectors.

- There does not seem to be evidence that student debt is a specific deterrent to taking up farm animal work. A more relevant factor is the need to prepare graduates for the disparity between the veterinary school environment and the realities of full-time work.

- The relationship between veterinarians and farmers needs to be renewed; on the basis that there appears to be lack of awareness, poor marketing and weak communication between the two parties.

- There is scope for a broader involvement of veterinarians in assuring the integrity and safety of food. The private and public sectors of the veterinary profession need to ensure that their respective contribution extends across the farm gate to the abattoir and vice versa. Farmers need help in pursuing value added strategies and veterinarians have a potentially crucial role to play in helping to ensure the connection between healthy animals, public hygiene and safety and the healthy, quality assured food that consumers want.

- It is also crucial that veterinarians better understand and anticipate their client's needs and then demonstrate and sell their skills and services. Farmers' expectations are changing and veterinary businesses need to be able to respond. Industry will have a far greater say in the development of animal health policy and, if it is to retain its influence, the veterinary profession must nurture its relationship with the livestock sector.

Ensuring the veterinary profession meets the needs of livestock agriculture now and in the future, John Remnant

This report, prepared in September 2020, notes that there are reports of a recruitment and retention crisis for farm animal vets, noting that whilst this is a worldwide concern with no easy solutions, efforts should be targeted at the key stages of the pipeline:

a. Outreach from and admissions to veterinary schools – encouraging the profession to be more inclusive and welcoming of vets into the farm veterinary career path who are from a non-farming background;
b. Training and inspiring veterinary students at veterinary school - promoting the achievements and goals of farm vets and demonstrating how these align with societal values;
c. Recruiting and retaining vets into jobs in farm animal practice – facilitating part time working in farm animal veterinary practices and promoting the value of the vet services to encourage better compensation for this work; and
d. Ensuring farmers receive the services they need from sustainable veterinary businesses – by inter alia widening the veterinary practice team to include other professionals, including greater use of technicians to help with practical tasks on farms.

Noting that *"across all these stages more data are needed to quantify the problems and identify which changes and interventions can improve the situation. This will also allow clearer definitions of the problems"*.

3.4.3 *Analysis by Accreditation*

The following analysis compares the NI and UK total and accredited practices.

Practice Standards Scheme Practices by Region 2012 to 2021						
Region	**2012**	**2016**	**2019**	**2021**	**% of Total 2021**	**% Change 2021 vs 2012**
NI	33	46	70	70	0.4%	112.1%
England	2,228	2,533	3,063	3,133	16.4%	40.6%
Scotland	206	249	315	317	1.7%	53.9%
Wales	132	157	196	206	1.1%	56.1%
UK Total	**2,599**	**2,985**	**3,644**	**3,726**	**19.5%**	**43.4%**
% Change YoY UK Total		14.9%	22.1%	2.3%		
% Change YoY NI		39.4%	52.2%	0.0%		
% NI of UK Total	1.3%	1.5%	1.9%	1.9%		

Source: RCVS Datasets September 2021

The region of Northern Ireland appears to have the lowest level of accredited practices in the UK, at about half the figure expected pro rata for the population of Northern Ireland. The following table provides a ratio analysis of the regions to inform same:

Ratio Practice Standards Scheme (PSS) Practices to Registered Veterinary Practices (RVP) by Region 2012 to 2021 by Region 2012 to 2021 (PSS:RVP)				
Region	**2012**	**2016**	**2019**	**2021**
NI	20%	25%	35%	32%
England	51%	56%	63%	62%
Scotland	44%	52%	60%	56%
Wales	46%	50%	59%	57%
UK Total	**49%**	**54%**	**61%**	**60%**

Source: RCVS Datasets September 2021

3.4.4 *Analysis by Practice Accreditation*

The following tables detail the types of accredited practices prevailing in NI and GB since 2012, showing that whilst NI has no equine hospital, there has been an expansion in the provision of accredited emergency services clinics and small growth in veterinary hospitals.

Northern Ireland Accreditation breakdown	2012	2016	2019	2021
Core Standards	9	17	28	44
Emergency Services Clinic	1	1	3	5
Equine Accredited General Practice (including ambulatory)	3	5	5	6
Equine Accredited Hospital	0	0	0	0
Farm Animal Accredited General Practice	4	8	7	10
Small Animal Accredited General Practice	19	23	29	29
Small Animal Accredited Hospital/ Veterinary Hospital	3	3	4	4
Total	**39**	**57**	**76**	**98**

3.5 Evidence of Unmet Demand

Similar to the UK-wide level, much of the evidence on unmet demand is based on anecdotal feedback as detailed below.

VetNI

VetNI offers a recruitment portal to its membership[22]. The following statistics from VetNI NI Vet Vacancies page was provided to the Review Team in July 2021, providing evidence of the upward trend in the quantum of advertisements placed. Vet NI does not record if positions are filled or interest shown in same.

Advertisements Placed with Vet NI by Year and Month							
Month	**2017**	**2019**	**2021**	**Month**	**2017**	**2019**	**2021**
January	14	18	20	July	8	19	
February	6	9	8	August	8	15	
March	9	6	31	September	9	13	
April	5	9	21	October	10	18	
May	12	14	21	November	9	16	
June	13	18	20	December	7	8	
Sub Total	**59**	**74**	**121**	**Sub Total**	**51**	**89**	

VetNI notes that *"these adverts are mainly for vacancies within practices ... and most practice jobs in NI are advertised with us (perhaps upwards of 90%) but we attract a much lower percentage of other vet vacancies (DAERA, AFBI, industry)."*

DAERA

In addition, the following data shows the experience by DAERA in recruiting into veterinarian positions:

Role	**Veterinary Officer**	
Application Date	**Oct 2011**	**Nov 2012**
Total Applications	**40**	**64**
Offers Made	15	5
Offers Accepted	15	5
Failed - Eligibility	3	4
No Post On Offer	6	10
Withdrawal	3	9

[22] *https://www.vetni.co.uk/category/ni-vacancies*

Role	Veterinary Inspector				
Application Date	**Sep 2018**	**Jun 2019**	**Nov 2019**	**Sept 2020**	**Feb 2021**
Total Applications	**40**	**23**	**36**	**33**	**26**
Offers Made	16	9	12	11	5
Offers Accepted	14	8	10	10	[TBP]
Failed - Eligibility	2	2	4	3	5
No Post On Offer	-	-	-	-	-
Withdrawal	15	4	3	2	4

4. PUBLIC SECTOR ROLES, RESOURCES & INFRASTRUCTURE

4.1 DAERA

4.1.1 Overview

The Department of Agriculture, Environment and Rural Affairs (DAERA) has responsibility for food, farming, environmental, fisheries, forestry and sustainability policy and the development of the rural sector in Northern Ireland. The Department assists the sustainable development of the agri-food, environmental, fishing and forestry sectors of the Northern Ireland economy, having regard for the needs of the consumers, the protection of human, animal and plant health, the welfare of animals and the conservation and enhancement of the environment.

DAERA provides a Knowledge Advisory Service for farmers and growers and a Veterinary Service for administration of animal health and welfare. The Department's College of Agriculture, Food and Rural Enterprise (CAFRE) delivers training and further and higher education courses in the agri-food sector. DAERA is responsible to Defra in Great Britain for the administration of schemes affecting the whole of the United Kingdom. The Department also oversees the application of European Union agricultural, environmental, fisheries and rural development policy to Northern Ireland.

DAERA has responsibility for environment, the Green Growth agenda and climate change, food, farming, fisheries, marine, forestry, rural development and sustainability policy. The Department supports the development of thriving rural communities; the conservation and enhancement of the environment; the sustainable development of a £5 billion agri-food industry, having regard for the needs of the consumers, the protection of human, animal and plant health and the welfare of animals; the development of the fisheries sector; and the development of our forested land. Given the importance of the EU exit agenda to these sectors and activities, DAERA is at the centre of the transition arrangements.

DAERA Top Management Group comprises five groups - of relevance to the report is the Veterinary Service Animal Health Group, with the following oversight of same provided below.

VETERINARY SERVICE ANIMAL HEALTH GROUP
RESPONSIBILITES Veterinary Service Animal Health Group (VSAHG) is responsible for the development of animal health and welfare policy for both farmed and non-farmed animals and the implementation of that policy in respect of farm animals. VSAHG is also responsible for policy development and implementation in respect of food animal identification, imports of livestock and products of animal origin into Northern Ireland, and work with Defra in the export of animals and animal products internationally. VSAHG contributes to DAERA's strategic goal to: "*Develop sustainable agricultural, fisheries and industrial sectors*" (Goal 1) by ensuring that the health standards of the farmed animal population are such that the NI producers have the maximum access to all markets, European and overseas, and that production costs associated with poor animal health and welfare are minimised. VSAHG also supports DAERA and the Food Standards Agency through the implementation, delivery and the enforcement of veterinary public health controls, and agri-food legislation relating to feed and food safety, product certification, marketing standards, labelling, classification and price reporting. Through its work efforts, and those of its partners, and in the public interest VSAHG: (i) Enable exports and imports of animals and agri-food products through: • Delivery of official controls including export health certification;

- Import controls; and
- Developing access to new markets.

(ii) Safeguard the welfare of all kept animals, farmed, companion and sporting, including where appropriate: on farm; during animal transport; and at point of export or slaughter.

(iii) Protect and improve the health of farmed animals through:

- Rigorous standards of animal identification, registration and movement controls based on an integrated animal health and public information system (APHIS) with approximately 25 years of recorded data;
- Surveillance for economically important diseases whilst implementing plans to eradicate those present and prevent establishment of those which pose a threat;
- Effective regulatory controls on the import of live animals and products of animal origin;
- Effective controls on animal waste products;
- Assisting the Industry to help itself; and
- Enforcing non-compliance in line with the Department's enforcement policy.

(iv) Protect public health through:

- Delivering, on behalf of the Food Standards Agency, official control systems for primary meat and milk production;
- Promoting responsible use of anti-microbial products in animals; and
- Investigating and controlling important zoonotic conditions.

STRATEGIC OBJECTIVES

VSAHG's purpose is to develop and implement policies that aim to prevent, control and/or eradicate animal diseases affecting livestock production and trade, to ensure that meat is safe and wholesome, animal welfare requirements are observed and agri-food legislation relating to feed and food safety is implemented. This will support and underpin the delivery of the Department's vision.

ORGANISATIONAL STRUCTURE

VSAHG is headed by a Chief Veterinary Officer (CVO), Unified Grade 3. VSAHG comprises several groups of staff including professional, technical and administrative staff. There are five Grade 5 officers heading up the various divisions and sections that make up VSAHG: three Deputy Chief Veterinary Officers and two business area Directors all of whom report to the CVO.

4.1.2 DAERA Science Strategy Framework and Innovation Strategy

In November 2020 DAERA published its Science Strategy Framework (2020-2035) which, inter alia, discusses how DAERA will use science to deliver on departmental and PfG objectives, particularly related to Green Growth issues. The report differentiates the science commissioned as either 1) Monitoring and Surveillance Science (which attracts two-thirds of the DAERA science spend) or 2) Research and Development Science. The Strategy's mission is "*to commission relevant, fit-for-purpose, impartial science efficiently, from high quality scientists, and to maximise and evaluate the impact achieved from it, facilitated by fit for purpose infrastructure and robust governance mechanisms*". DAERA has recently published its Innovation Strategy, and the Research and Development Strategy and Monitoring and Surveillance Strategy are both currently under development by DAERA.

DAERA currently funds research and innovation through the following programmes:

DAERA-directed AFBI Research Work Programme
This funds annually commissioned research projects (typically of two-to-four-year duration). This has committed £6.5m to 28 projects within 11 major themes on animal health since 2017 – themes include AMR, Avian Influenza, Bee Disease Control, Bee Health, bTB, BVD, Cattle Disease Diagnosis, Chicken Astrovirus, Disease Vector Control, Pig Welfare and Diseases, Sheep and Goat Viral Disease.

Collaborative Research Programme
DAFM Competitive Call (DAERA co-funding) - This is a co-funded programme with the Department of Agriculture, Food and Marine (DAFM), Dublin that has funded two projects since 2017 in the areas of Johne's Disease and bTB..DAERA has invested £216k to-date in projects with a total value of approx. £1m. US-Ireland Research and Development Programme (DAERA co-funding) - US Department of Agriculture (USDA), DAFM and DAERA fund collaborative projects in areas of shared priority, including animal health and welfare. Since 2017, DAERA has invested £828k on four collaborative projects covering three themes (cattle disease diagnosis, pig welfare and diseases and other endemic diseases with a total value of approx. £2.5m. UKRI-BBSRC (DAERA co-funding) - DAERA is co-funding with BBSRC in a new research funding programme to research endemic diseases that present a significant threat to UK livestock. Areas of focus include those of digital agriculture, breeding, farm management, vaccines, novel approaches and co-infection. Total funding (BBSRC and partners of £9.25m (DAERA co-funding £400k). DAERA Research Challenge Fund - An industry-led challenge fund which is coming to completion. One animal health project on AMR has more recently been funded in this programme (DAERA funding of £155k since 2017).
DAERA Postgraduate Studentship Scheme
DAERA issues its Research Needs and funds post graduate researchers (three-year PhD studentships) on an annual basis. Since 2017, 18 studentships have been awarded in the areas of animal health and welfare (total of £909k of investment). See Annex G for currently funded PhD students' projects.

DAERA Science Team is also currently exploring new collaborative arrangements with UKRI, Science Foundation Ireland and other NICS Departments in relation to new research and innovation virtual centres. Research themes relevant to animal health are amongst those currently being considered.

4.1.3 *Qualified Veterinarian Staffing*

As of October 2021 there were 179 vets within the DAERA staffing as follows:

DAERA Veterinary Grade Staff Resources by Grade (Substantive Grade)		
Role	**Headcount**	**FTE**
Chief Veterinary Officer (Grade 3)	1	1.00
Assistant Secretary (Grade 5)	1	0.60
Deputy Chief Veterinary Officer (DCVO) (Grade 5)	3	3.00
Sub Total	**5**	**4.60**
Senior Principal Veterinary Officer (SPVO) (Grade 6)	8	6.70
Divisional Veterinary Officer (DVO)	36	35.40
Temporary Veterinary Officer	3	3.00
Front line Veterinary Officer (includes OV roles)	69	56.50
Front line Veterinary Inspector (Grade DP)	41	40.60
Front line Veterinary Officers Testing[23]	17	16.00
Sub Total	**174**	**158.20**
Total	**179**	**162.80**

[23] *These roles are contracted testing staff. They are not an NICS grade and are not analogous to any grade. They are paid a daily testing rate and headage.*

The age profile of the staff is as follows, showing that approximately 45% of staff are aged 50 and over.

DAERA Staff Resources by Age					
Grade	**Less than 30**	**30-39**	**40-49**	**50-59**	**Over 60**
DVO and below staff	9	29	54	53	21
%	5.42%	17.47%	32.53%	31.93%	12.65%

Source: DAERA as at end of July 2021

The allocation of these roles (SPVO and below) to function is as follows:

FTEs by Grade and Role	SPVO	DVO	VO/VI	VOT/TOV	Total
Portal Control and Imports	1.54	5.00	14.00	1.00	21.54
Veterinary Public Health Programme	1.00	4.00	29.71	1.00	35.71
Field Delivery	1.60	9.79	39.64	17.00	68.03
Veterinary Epidemiology and Wildlife/ Welfare & Enforcement/ TB & BVD Programmes and Contracts	1.00	5.00	7.90	-	13.90
International Trade Facilitation	1.56	5.94	1.77	-	9.27
IRM, Cross Compliance, Standards & Compliance, TSE/ABP, Epizootics (inc.BR) & CPED	-	4.00	3.60	-	7.60
SPS Policy & Logistics	-	0.67	-	-	0.67
Projects/ Project Management	-	1.00	0.48	-	1.48
Total	**6.70**	**35.40**	**97.10**	**19.00**	**158.2**

The country of origin of the DAERA staff's veterinarian qualification was not available from DAERA in the reporting timeframe.

It was noted during consultation that the grade at which new recruits are brought into the NICS has been altered following a formal job evaluation process from a Grade 7 (Principal Officer) to that of a Deputy Principal. It was considered by some within DAERA to be a contributory factor in the reduced appeal of the job role/ level of applications; particularly given a corresponding increase in starting salary rates and improved terms and conditions on offer from private sector employers. The following pros and cons of working in DAERA were provided:

Pros	Cons
• Comparably better working hours • Better pension (but not felt to be a consideration at graduate intake)	• Perception of the type of work not as appealing e.g. OV in ports or in meat plants

The country of origin of DAERA vets is not available but informal estimates of its front-line vets (i.e. excluding those in senior management) indicate that at least 20% (and 33% of those in the Public Health Programme) originate from / received their veterinary qualification in universities outwith the British Isles.

It is not clear which staff are at risk of leaving the region due to EU Exit the effects of the UK's exit from the European Union but to date there has been no evidence of any significant alteration in retention from the rates prior to 2020.

4.1.4 Key Functions of the DAERA Veterinary Service - Ports

Background to Function

There is a long standing requirement for Official Controls in relation to the health status of animals and products of animal origin and their movement into NI from Third Countries, which

are delivered by DAERA Official Veterinarian (OV) led teams at NI Points of Entry (PoE). These veterinary border checks are a key factor in ensuring that live animals and products of animal origin (POAO) entering the EU SPS zone are safe and meet the specific import requirements laid down in EU legislation.

The EU Official Controls Regulation, 2017/625 (OCR) sets out the SPS controls that must take place on live animals and products of animal origin that enter the EU SPS regulatory zone from a Third Country, or those defined as such by the EU for the purpose of import controls.
A consignment of live animals (or POAO) can only enter into the EU SPS zone if it:

- Is accompanied by an official certificate/attestation;
- Has satisfactorily undergone the specific checks; and
- A CHED[24] has been validated on TRACES[25] by an OV.

Prior to EU Exit, movements of such animals and products between GB and NI did not fall under the OCR. However, since EU Exit January 2021, the EU has required such movements between NI and GB to be subject to the OCR. The impact of which has been to significantly increase the number of daily checks.

Certifying Officer / Port OV Resourcing

As detailed in Section 2, the impact of EU Exit is significant in terms of the workload uplift associated with undertaking certification work, with Northern Ireland particularly adversely affected by increased workload.

This is an ongoing development and as part of its business planning process DAERA has prepared a report on the potential resource requirements needed to deliver the various controls required in ports going forward, which is informed by a time spend model to ascertain the minimum Portal OV resource required to deliver the requisite controls in accordance with OCR. This model assigns resource requirements to CHED A & P based imports at Larne and Belfast.

Consultation with the DVO for Ports reveals a reticence in quoting figures from this paper on the basis that the status quo and future business as usual are changing in real time which means that the projected resource requirement prepared in May 2021 is now outdated and void. However it is currently estimated that approximately 20% of the European Union's entire battery of SPS checks are currently being carried out at Northern Ireland's ports on GB imports.

The projected resource requirement is dependent on a number of factors including level of automation, out-workings of the Command Paper and approach to retail consignments etc, all areas of work that are currently subject to development/discussion. Presently the estimation is that this could result in a need for an OV workforce up to circa 100 staff (worst case scenario and not allowing for automation).

Other Resourcing – Trade Certifying Support Officers

In 2018, in anticipation of increased product certification workloads resulting from EU exit, DAERA trained circa 400 DAERA staff members to become accredited Trade Certification Support Officers (TCSOs). TCSOs are allowed to work on behalf of the government under the direction of a Certifying Officer (CO), to collect the evidence required for the CO to complete Export Health Certificates for animal products (excluding germplasm/germinal products).

[24] There are a number of different CHEDs depending on the nature of consignment. CHED-A for consignments of live animals. CHED-P for consignments of POAO, germinal products, animal by-products, composite products, hay &straw. CHED-PP for consignments of plants and plant products. CHED-D for consignments of food and feed of non-animal origin.
[25] TRACES is the EU's online platform for sanitary and phytosanitary certification required for the importation of animals, POAO, food and feed of non-animal origin and plants into the EU, and the intra-EU trade and EU export of animals and certain POAO.

It is understood that the level of accredited TCSOs within DAERA has fallen to circa 100 at the time of reporting and that circa 30 of the TCSOs are regularly used in milk certification. It is understood that TCSOs are not used to assist in the export of live animals and their deployment in meat certification is only partial (scope for increase).

It is notable that milk and meat certification services are chargeable services in other jurisdictions of the UK. It is noted however that DAERA does not charge either the meat or milk industry for same in Northern Ireland, but does charge a certification fee to farmers who are exporting large animals. There were 5,324 export health certificates issued by DAERA in 2021, which would have generated fees in the region of circa £0.8m to £1m if a charging policy was in place.

Benchmark Comparison

Information from the UK CVO Office within DEFRA indicates that *"there are about 7,300 Official Vets authorised by APHA to issue Export Health Certificates and about 500 Certifying Support Officers (CSOs)".* Within Wales the feedback was thus *"apart from the small team of vets working directly within my team in Welsh Government, all other Government vets work either for the APHA or for the FSA."*

Consultation with the BVA indicated that there has anecdotally been 170 FTE years certifying work undertaken in the first six months of 2021 (a function of volume of certificates and average processing time).

4.1.5 Key Functions of the DAERA Veterinary Service – Veterinary Public Health Unit (Meat Inspection)

Background to Function

The Food Standards Agency (FSA) is the "Competent Authority" with regard to the food hygiene legislation and DAERA's VSAHG delivers the inspection, audit, verification, and enforcement on the Agency's behalf, as part of its integrated service delivery. Meat establishments are approved by the Food Standards Agency.

The VSAHG's Veterinary Public Health Programme (VPHP) also oversees the maintenance of animal welfare standards in slaughterhouses and maintains vigilance for animal diseases. Export capability and veterinary certification of meat is another important function of the service in meat premises.

Meat Inspection Teams are led by an Official Veterinarian (OV) who is based at the meat premises. The OV is assisted in relation to meat hygiene and inspection duties by qualified Official Auxiliaries (referred to as Meat and / or Poultry Meat Inspectors). The OV has overall responsibility for the following functions:

- Health certification of fresh meat
- Ante-mortem health inspection of animals
- Monitoring of animal welfare at slaughter
- Post-mortem health inspection of slaughtered animals
- Residue sampling
- Seizure of unfit meat or meat not produced in accordance with food hygiene requirements
- Health marking of fresh meat
- Verifying food business operators' compliance with food law, in particular the specific requirements of Regulations (EC) No. 852/ 2004 and 853/2004
- Verifying that specified risk material is handled and disposed of correctly by the food business operator

- Verifying that other animal by-products are handled and disposed of correctly by the food business operator.

OV Resourcing

Within DAERA's staffing there are veterinary officers with contracts that permit flexible overtime working for vets as OV in abattoirs. There are 47 of these staff and consultation with DAERA Grade 5 indicates that a significant number of these staff (12/37 on the front line) are non-UK/Ireland qualified staff. It is noted that DAERA has, in the more distant past, been able to secure EU-qualified staff with a broad veterinary experience from North Western European countries such as Belgium, Denmark and the Netherlands (as opposed to the more recent trend of OVs from Southern and Eastern European states who do not have same wider veterinary experience) as it pays a relatively good salary compared to the GB counterpart.

The apparent benefit of this flexibility between the vets in VPHP and the rest of the service is that provides DAERA with surge capacity in other areas e.g. testing or animal welfare work but in practical terms, given the primacy of veterinary public health the main direction of travel is of field DVO vets being available to work in meat plants.

it is understood that DAERA has the following staffing assigned (noted that this varies from detail provided in Section 4.1.2 as this is based on headcount):

<table>
<tr><th>Grade</th><th>Number</th><th>Role</th></tr>
<tr><td>6</td><td>1 staff</td><td></td></tr>
<tr><td>Divisional Veterinary Officer</td><td>5 staff</td><td>• Three have a remit for abattoirs; and
• Two have a remit for the Cutting Plan Compliance, Trade and Audit Function within the VPHP</td></tr>
<tr><td rowspan="3">Official Veterinarian</td><td>20 staff</td><td>Each abattoir in NI has a resident OV presence as follows:
<table>
<tr><th colspan="2">All 1.0 FTE</th><th>Less than 1.0 FTE</th></tr>
<tr><td>Foyle Campsie</td><td>Lakeview Farm Meats</td><td>Grants (0.5 FTE)</td></tr>
<tr><td>Foyle Omagh</td><td>Karro</td><td>Kearns Poultry</td></tr>
<tr><td>Cranswick</td><td>Rockvale Poultry</td><td>McKeowns Fine Foods (Seasonal)</td></tr>
<tr><td>WD Meats</td><td>ABP Lurgan</td><td>More than 1.0 FTE</td></tr>
<tr><td>DMP Foods</td><td>ABP Newry</td><td>Moy Park B'Mena (2 FTE)</td></tr>
<tr><td>Linden Foods</td><td>Primestock</td><td>Moy Park D'Gannon (3 FTEs)</td></tr>
<tr><td>Dunbia</td><td></td><td></td></tr>
</table></td></tr>
<tr><td>5 staff</td><td>Trade and Audit Team has one FTE OV at both the Granville and Interfrigo Coldstores.

The role of auditor is undertaken by 3FTE OVs.</td></tr>
<tr><td>7 staff</td><td>Additional OV posts who provide locum cover and support across the programme as required. The majority of abattoirs operate outside, and in excess of, normal working hours, with Moy Park for example requiring cover 21-22 hours/day.</td></tr>
</table>

Staff resourcing is based on the presence of an OV within a meat plant at all times, which aligns to the EC standard to permit exports. It was noted in consultation that the FSA, as competent authority in the UK, has comparatively high standards internationally; with a comparator being that of the USA, whose meat plants have no vets present.

Other Resourcing – Official Auxiliary

Reporting to the OV, an Official Auxiliary / Meat Inspector is also individually authorised under appropriate legislation to sample meat for the presence of residues and to carry out animal identification checks, which will assist the OV to establish the eligibility of animals for human consumption. Meat Inspectors are also involved in disease and animal welfare surveillance duties. They also are involved in the supervision of food premises to facilitate veterinary certification for export trade.

OAs/ Meat Inspectors are not required to be veterinarians but are required to have a qualification recognised by the Food Standards Agency for authorised officers for meat inspection e.g. a Diploma in Meat Inspection (RCVS) or similar.

Resourcing is as follows:

Grade	Number	Role
Meat Inspectors	124 headcount	

Location	SMI	MI	PMI	TMI
ABP Lurgan		10	-	4
ABP Newry	1	8	-	4
Cranswick	1	3	2	2
DMP	-	3	-	1
Dunbia	1	6	1	2
Foyle (Campsie)	-	10	-	2
Foyle (Omagh)	1	6	-	4
Karro	1	5	-	2
Lakeview	-	2	-	-
Linden	1	6	-	4
Moy Park	-	-	3	-
Moy Park (B'Mena)	-	1	4	-
Prime Stock Meats	-	2	-	-
Rockvale	-	2	-	-
WD Meats	1	7	-	3
WM Grant	-	1	-	-

Cutting Plant Compliance - 2.0FTE MI
Granville Coldstore - 1.0FTE MI

Locums – 1.0FTE SMI
Animal By Product – 2.0FTE Meat Inspectors (MI)
Regulatory and Compliance - 1.0FTE Senior Meat Inspector (SMI)

Benchmark Comparison

The delivery of the FSA official controls at meat and dairy establishments in England and Wales is undertaken by a private sector ccontractor Eville & Jones (E&J), which recently renewed its contract with the Food Standards Agency (FSA) for three years. It is understood that E&J was already implementing contingency plans to cope with current gaps in OV rotas; and that they are proactively trying to make OV roles more attractive. Christine Middlemiss, the UK's chief vet, referring to the situation in England was recently quoted as saying that *"Abattoir vets, to date, have probably been our lowest paid colleagues"*.

4.1.6 *Key Functions of the DAERA Veterinary Service – Herd Health Testing*

Background to Function

A November 2018 NIAO report [Eradicating Bovine TB in Northern Ireland] considers the successes of, and ongoing approach towards, the eradication of bovine tuberculosis (bTB) in Northern Ireland, concluding that whilst 18 (out of 28) EU member states have achieved bTB-free (OTF) status[26] Northern Ireland has not yet achieved this status, noting that only Scotland has achieved OTF status within the UK (which was achieved in 2009).

The report notes that the eradication of bTB became Departmental policy in 1964. Over 50 years later, incidence of the disease remains relatively high. In 2017, 0.91% of animals tested had a positive reaction and the annual herd prevalence rose from 4.9% in 1997 to 12.4% in 2017. The report also notes that DAERA has spent £356m on its bTB eradication programme over the past 12 years, with a total of £555m (of which taxpayer has funded £470m) spent since 1996. bTB testing is delivered through outsourced contracts with private practices and by DAERA testing veterinary officers (referred to as VOTs).

It is noted that in 2017-18 the annual cost of the programme was circa £44.4m, consisting of £23m farmer compensation payments, £9.1m DAERA staff testing costs, £8.2m private sector testing costs and £4.1m other (laboratory testing, research, haulage and disposal costs). For this spend, 3 million 'skin tests' were performed on almost over 1.7 million cattle in herd tests in Northern Ireland

The report concludes "*The programme has cost the taxpayer £470 million pounds since 1996. The Department's intervention has maintained an industry which exports £1.5 billion a year: without it, the prevalence of bTB would undoubtedly have been significantly higher and the sales of livestock and livestock products outside Northern Ireland would have been jeopardised. In that sense, the programme has delivered value. Nevertheless, the continuous cycle of testing, removing, and compensating for infected animals has failed to achieve the desired outcome and without eradicating the disease, it is hard to argue that it represents best value for the public purse.*"

Current Arrangements

Within the remit of the field vet team within DAERA there are 16 VOTs who are primarily in post to undertake TB testing. DAERA vets carry out mostly the high risk tests such as Reactor Herd Tests following disease disclosure. These 16 VOTs undertook circa 2,292 herd tests in 2020/21.

Annually DAERA commissions private veterinary practices to undertake TB tests – in 2022/21 PVPs carried out 33,891 herd tests, at an annual cost of circa £8m; which represents circa 94% of all TB tests undertaken. Contractors are expected to deliver all TB tests for herdkeepers who have nominated them as a service provider. There is no guarantee that the volumes of work provided in the past will be offered and Contractors should expect volumes to fluctuate due to changes in disease prevalence and government policy. The following rates apply:

TB Testing Procedure	Price Paid
First animal	£54.50
For each animal tested between 2 and 100 animals	£2.50 each
For each animal tested from 101 animals	£2.28 each

Source: DAERA website October 2021

[26] *Requiring demonstration that the percentage of confirmed bTB cattle herds has not exceeded 0.1 % each year for six consecutive years*

Feedback from various sources indicates that the TB testing funding provides a "*reliable source of income*" to practices, perhaps typically covering the cost of 1.5FTE out of 2 FTE veterinarian staff in small practices, which enables practices to *"undertake less intense work and still remain viable".* Whilst this perhaps explains the lower level of vet-led team ratios in Northern Ireland, this is not a proven hypothesis.

Benchmark Comparison

England

The Review Team notes that in Northern Ireland there is no legislation for TB lay person testing, however, in GB there has been Approved Tuberculin Testers (ATTs) in operation since 2005 and is currently rolling out their prevalence to a greater extent following a successful pilot study which ran from December 2018 to February 2020 and involved a selection of Veterinary Delivery Partner (VDP) practices across England. The pilot study tested the methods and procedures involved with using ATTs including registration, theoretical and practical training, veterinary supervision, authorisation and quality assurance.

These para-veterinary professionals carry out statutory TB skin testing of cattle and are known as Animal Health Officers, carry out TB testing under APHA veterinary direction i.e. although ATTs can conduct skin tests, responsibility for interpretation of their test results rests with an APHA vet.

ATTs are only being rolled out in private veterinary practices in England, and are not currently permitted to carry out TB testing in Wales and Scotland. Skin tests completed by ATTs in England are recognised by Wales and Scotland e.g. for cross border pre-movement testing purposes.

Scotland

The Highland and Islands Veterinary Services Scheme is funded by the Scottish Government and aim is to ensure the provision of an adequate veterinary service to prevent and eradicate animal diseases for all animals kept for agricultural purposes and belonging to crofters and others of like economic status, where no other provisions are available on the market. The premise of the scheme is that *"it is necessary to support large animal veterinary practices, in some remote areas of the Scottish Highlands and Islands, because without them, crofters and their animals would be completely without practical veterinary cover. It is important to ensure these practices continue to provide cover for remote areas as they play a vital role in prevention and identification of animal disease."*

In practical terms, this means that crofters and other eligible persons can arrange a visit by a participating veterinary surgeon for a modest maximum charge. This charge is supplemented by a grant to the veterinary practice which will cover the costs of a visit when vets are called out to take preventative and eradication measures for animal diseases. The funding covers livestock, working dogs and horses/ponies.

4.2 CAFRE

4.2.1 Overview

CAFRE is a Division within the Food and Farming Group in DAERA. It provides education, knowledge transfer and field innovation programmes to the Northern Ireland agriculture, food, horticulture, equine and rural enterprise sectors. This is achieved through the delivery of:

- Further and Higher Education Programmes (see section 6);
- Knowledge Transfer and Innovation Schemes;

- Knowledge and Technology Transfer;
- Benchmarking; and
- Industry Training.

Whilst CAFRE does not have a remit for undertaking research, it has strong linkages with AFBI and Teagasc on its Innovation and Technology Transfer projects linking to Research findings from AFBI and other research organisations.

CAFRE has an annual budget of approximately £23m (excluding capital) and 410 staff located at its three campuses and in DAERA offices across Northern Ireland. On an annual basis CAFRE aims to deliver programmes to 1,900 students enrolled on education programmes and over 10,000 people working in the agri-food industry.

4.2.2 Infrastructure

CAFRE has campuses at Enniskillen, Greenmount (Antrim) and Loughry (Cookstown). The following facilities are retained:

Loughry Campus
Overview
Facilities comprise of: • Food Innovation, Food Technology and Food Business Incubation Centres • Food Packaging Centre • Science laboratories and teaching facilities*. The world class facilities are used during the academic year by learners enrolled on full-time and part-time programmes from Level 2 to Level 7. These learners are mainly destined for roles within the Northern Ireland Food and Drink Sector *The science facilities will be refurbished as part of the campus redevelopment plan.
Utilisation
Each year the campus enrolls approximately 400 learners who utilise the campus facilities extensively (Monday – Friday) throughout the academic year for course activities. There may be some limited capacity to host vet programmes outside of term time, mainly in the summer although the availability of resources will be dependent on other priority courses. The facilities are currently not fit for purpose for research.

Greenmount Campus
Overview
CAFRE comprises: • Dairy Centre (169 ha), with 180 dairy cows and replacements; • Beef & Sheep Centre (127 ha) with 90 suckler cows, 200 finishing cattle, 220 breeding ewes and 5ha of crops. • Hill Farm Centre (100ha) with 100 suckler cows and 1,100 breeding ewes. The three farm centres are used throughout the academic year by agriculture students for routine practical usage, to develop practical competence, develop enterprise management skills, obtain data for projects and assignments and undertake specialist projects. The farm centres are also used extensively by Technologists and Advisers to demonstrate and promote the adoption of the latest technological advances within the livestock and arable crop sectors. Greenmount Veterinary Nursing teaching facilities includes a specialist veterinary nursing classroom fitted with the equipment necessary for small animal veterinary nursing, surgical nursing and diagnostic imaging.

Greenmount Campus
The existing Veterinary nursing teaching facilities at Greenmount Campus will be replaced as part of the Greenmount Campus redevelopment project. It is anticipated that construction for the redevelopment project will commence in 2023 with expected completion in 2028.
Utilisation
Each year CAFRE enrolls over 600 agriculture students on courses from Level 2 to Honours degree. First year students (~170) utilise the College farm extensively (Monday – Friday) throughout the academic year for course activities. Second and final year students also utilise the farm resource for specialist projects and enterprise management activities.

Enniskillen Campus
Overview
The campus is set in 60-hectare site that hosts buildings and 70 horses are fully utilised to provide education, knowledge transfer and innovation programmes to meet the needs of the equine industry.
Utilisation
There may be some limited capacity to deliver vet programmes outside of term time, mainly in the summer although the availability of resources will be dependent on other priority courses. The facilities are currently not fit for purpose for research.

4.2.3 *Course Offerings*

All agriculture courses from Level Two to Honours degree offered by CAFRE include animal health and veterinary-related content. The current portfolio of full-time and part-time further and higher education courses offered by CAFRE includes:

CAFRE Further and Higher Education Courses
Level 2 through to Honours Degree in Agriculture, (including Land-based Engineering at Level 3)
Level 2 through to Honours Degree in Equine Studies
Level 2 through to Honours Degree in Food Technology, Food Innovation & Nutrition and Food Business Management
Level 2 through to Honours Degree in Horticulture
Level 2 (one-year course) Animal Nursing Assistant Course Level 3 Diploma in Veterinary Nursing (two-year course leads to registration with the RCVS as Registered Veterinary Nurse) (focuses on small animals)
Postgraduate courses in Business for Agri-Food and Rural Enterprise
BSc (Hons) Sustainable Agriculture (new for AY21/22)

The CAFRE Curriculum Board regularly reviews the curriculum and its forward plans include the following:

- The Level 2 Animal Nursing Assistants course will be replaced in 2022 with the VetSkill Level 2 Certificate in Veterinary Care Support;
- Enniskillen has developed a fully online Certificate in Higher Education which was validated by Ulster University in October 2021; and
- Plans are in place for the development of master level qualifications in the future.

4.2.4 *Staffing*

The Veterinary Nursing Teaching team currently comprises one Grade III (honours degree qualified) Veterinary Nurse and two Group 2 Diploma qualified veterinary nurses. The fourth member of the teaching team has been a Vet on secondment from DAERA Veterinary Service. This Officer returned to Veterinary Service in June 2021 and CAFRE are currently undertaking an external recruitment competition to replace this officer with an honours degree qualified Veterinary Nurse or qualified Vet. This post is at Inspector Grade II.

DAERA Veterinary Service has also historically provided two members of veterinary staff to lecture on agriculture and equine education programmes at CAFRE. This arrangement ended in June 2021. CAFRE is currently undertaking an external recruitment competition to appoint two vets at Inspector Grade III.

CAFRE does not currently have any qualified Vets within its staff complement. Recruitment competitions are currently underway to appoint two qualified vets to deliver the animal health components of agriculture and equine education courses and to input into development and delivery of CAFRE's knowledge transfer and innovation programmes in agriculture and equine Enniskillen.

4.3 **AFBI**

4.3.1 Overview

The Agri-Food and Biosciences Institute (AFBI) refers to itself as Northern Ireland Government's main research and science provider in the areas of agri-food, fisheries and the environment, noting that "*AFBI's science plays a crucial role in providing the underpinning statutory and analytical testing, research and development work, emergency response and expert scientific advice required to support the work of the Department of Agriculture Environment and Rural Affairs (DAERA) and the wider agri-food industry."*

AFBI has the vision of "*advancing the local and global agri-food sectors through scientific excellence"* and in doing so, AFBI seeks to be an influential, internationally recognised, centre for research and scientific services in the agri-food and marine sectors.

AFBI has three Science Divisions and one Division providing financial, business support and science enabling services. The three Science Divisions are: Environment and Marine Sciences; Sustainable Agri-Food Sciences and Veterinary Sciences (known as 'VSD').

AFBI's science is outcome-driven and aimed at solving important practical problems for a wide range of local, national and international funders in the public and private sectors. AFBI staff carry out world class research, surveillance, and analytic and diagnostic testing for a wide range of customers in the fields of animal health and welfare, sustainable agricultural systems, plant science, food innovation and safety, environmental protection, fisheries and aquatic ecosystems, and agricultural and rural economics.

AFBI considers itself as a knowledge generator, through fundamental and applied research, and works as a disseminator to a range of end user partners, including CAFRE. Over the last number of years AFBI has been building strong strategic partnership with CAFRE, ensuring that the knowledge that AFBI generates is provided to the wider farming sector in NI and QUB.

AFBI's 'Science Impacts 2020' publication outlines key outcomes from AFBI science. Notably over the past five years AFBI have delivered approximately 4m animal, plant and food safety tests to support sales from the NI agri-food industry to the value of £3.2 billion. A key drive within AFBI is to produce high quality peer review publications while also ensuring the research conducted has impact through an active dissemination programme.

Over the past five years, AFBI have delivered over 90 evidence and innovation projects for DAERA, approximately 400 peer review scientific publications and have secured £44m of external research grants and contracts working with partners from across 35 countries. It is not known what share of this funding is specifically delivered by the VSD.

AFBI is also actively developing strategic alliances with other research organisation and dissemination partners to facilitate a pipeline of research from fundamental to applied and onward application to ensure the impact of AFBI Science.

AFBI has a current staff complement of approximately 700 people, with an annual turnover of approximately £60 million. AFBI receives around 60% of its operational funding from DAERA, the remainder being made up of external funding from R&D, commercial testing and royalties. The DAERA funding covers work commissioned from the various DAERA policy areas which is collectively grouped into an Assigned Work Programme (AWP).

4.3.2 AFBI's Veterinary Sciences Division

VSD currently employs approximately 260 veterinary, scientific, technical and support staff across its four Branches (Bacteriology, Chemical and Immunodiagnostic Sciences, Disease Surveillance and Investigation, and Virology). The Division is predominantly based at Stoney Road, Belfast with a smaller disease surveillance centre based at Omagh.

The Division undertakes an **integrated programme of statutory, disease surveillance, emergency response and R&D work on the diseases of major animal and human health significance along with significant programmes of work on the chemical and microbiological safety of food.** The work supports government policy and disease eradication and control programmes in areas such as bovine tuberculosis, food-borne zoonotic infections and transboundary diseases.

VSD also provides a **disease investigation service** covering all of the major farm animal species and fish, and provides **commercial laboratory services in support of industry led disease eradication and control programmes**. The work of the Division is underpinned by research and development (R&D) on animal diseases and food safety issues relevant to the local industry. VSD has a world renowned group involved with bovine Tb research aiming to better understand and control the spread of disease and produce improved diagnostics. Other areas of interest include:

- Next generation vaccines;
- Host/pathogen interactions;
- Modulation of pathogens through feed additives;
- Anti-Microbial Resistance (AMR);
- Improved control of endemic diseases; and
- Pharmacokinetics of veterinary medicines.

In terms of R&D staff, AFBI notes that *"the drive is very much around increasing postgraduates (specifically PhD students) and, if possible, fixed term staff arising from external funding"*.

One of the market failures facing AFBI is based on its ineligibility as a primary applicant for many of the research body awards - however there are plans underway to rectify this. There are also issues around the level of overheads funded through competitive grant awards, insofar as the current rates do not cover all the overheads incurred. There were no quantified targets available as to the planned level of future external funding to be achieved by the VSD.

Details of the four main areas of work by VSD Branch are set out below:

Bacteriology Branch - The branch work programme includes statutory, analytical and research work on the major bacterial pathogens of animal and public health significance. Much of this work underpins important DAERA animal disease control programmes in areas such as bovine tuberculosis, brucellosis and salmonellosis. Other work areas include food-borne zoonoses, antimicrobial resistance and paratuberculosis. The skill base within the Branch comprises traditional and specialist bacteriology methods, molecular diagnostics, test development, molecular epidemiology, experimental infection models, immunology, genetics, experimental design, wildlife ecology, veterinary epidemiology and biometrics. Multi-2 disciplinary approaches to bovine tuberculosis and the detection and control of *Campylobacter* are currently major research focuses of the Branch.

Bacteriology Branch incorporates the National Reference Laboratories (NRL-UK-NI) for Brucellosis and the NRL-UK-NI for *Salmonella*. Laboratory tests in support of statutory disease control are accredited and audited to ISO17025 and projects are managed and audited to ISO9001 certification standard.

Chemical and Immunodiagnostics Sciences Branch (CISB) – This branch undertakes a wide programme of mainly statutory work in the animal disease and chemical residues/contaminants areas. The Branch has EU NRL status for illegal veterinary drug residues, and provides screening and confirmatory analysis for a wide range of veterinary drug residues, marine biotoxins, pesticides, mycotoxins and heavy metals. Tests are carried out for residues in meat products from cattle, sheep, pigs, poultry, shellfish and fish, milk and eggs, as well as animal feeding-stuffs. This work is supported by basic and strategic research that has resulted in the development of novel analytical methods for a wide range of compounds. A large volume of serological testing is carried out in CISB on behalf of DAERA and industry customers. This work includes serological testing in support of DAERA's brucellosis eradication programme, surveillance for exotic diseases such as enzootic bovine leucosis, bluetongue virus and highly pathogenic avian influenza, equine viral serology, avian viral and *Mycoplasma* serology, and testing required for the export/import of animals. The Branch also encompasses a transmissible spongiform encephalopathy (TSE) testing unit. The Branch provides DAERA and FSA with an emergency response in the event of outbreaks of major epizootic diseases, marine biotoxin incidents, and misuse of veterinary drugs, pesticides or chemical contaminants.

Disease Surveillance and Investigation Branch (DSIB) - The animal disease diagnostic services provided by the AFBI Stormont and Omagh laboratories safeguard animal and public health by identifying the causes of disease in submitted material and promote the competitiveness of the agri-food industry. Surveillance for notifiable, zoonotic (transmissible to humans) and emerging diseases forms an important part of this work. A comprehensive range of laboratory tests is available to assist in the diagnosis of animal disease and to provide detailed information on the health status of herds and flocks. Specialist advice on animal diseases is given to the agricultural industry and veterinary profession. A high throughput of diagnostic work allows AFBI to identify outbreaks of notifiable diseases, new or emerging diseases, changes in patterns of endemic diseases and conditions appropriate for further research. These activities underpin the animal health status of Northern Ireland.

DSIB also operates the AFBI Cattle Health Scheme which provides voluntary eradication of certification disease control programmes. Benefits of this scheme include improved disease control, improved profitability, advice on biosecurity and certification of cattle health status with regard to bovine viral diarrhoea (BVD), infectious bovine rhinotracheitis (IBR), leptospirosis, neosporosis and Johne's disease.

Virology Branch - The work of the Virology Branch is aimed at improving the diagnosis and control of viral diseases of farmed animals (pigs, poultry, cattle, sheep and aquaculture) in support of DAERA policy objectives on animal health and welfare of Northern Ireland livestock. Through its research programme, the Branch aims to develop or improve diagnostics for a range of virus infections, particularly exotic viruses which pose a potential threat to the local industry; to provide or improve vaccines for the control of viral diseases; and to investigate new disease syndromes of potential viral etiology, with the aim of providing new diagnostics and control measures. The Branch has responsibility for the molecular confirmation of major infectious / epizootic diseases in animals and provides a range of support services to other branches such as tissue culture and the animal services unit. Virology staff provides expert scientific advice to DAERA on animal health issues including the statutory testing programmes for animal diseases, emerging animal health risks and emergency responses to epizootic disease incidents. The skill base within the Branch comprises traditional and specialist virology methods, molecular diagnostics, test development, experimental infection models, immunology, experimental design and access to veterinary epidemiology and biometrics.

4.3.3 *Infrastructure*

The AFBI estate, which is leased from DAERA, consists of seven sites (Newforge, Stormont, Hillsborough, Crossnacreevy, Loughgall, Omagh and Bushmills) across Northern Ireland; with its headquarters at Newforge Lane, Belfast. In addition AFBI has a dedicated marine research vessel, the RV Corystes, based in Port of Belfast. The delivery of veterinary services programmes is mainly undertaken by the Veterinary Science Division (VSD) sites at Stormont and Omagh. These are detailed below.

AFBI VSD Stormont
Located on the Stoney Road, Belfast this site consists of laboratories (include ACDP and SAPO Containment Level 3 laboratories and experimental animal facilities), post mortem suite, carcass incinerator and animal experimental facilities (cattle, small ruminants, pigs, poultry, fish). In terms of building infrastructure, the site is undergoing a significant redevelopment of replacement of older buildings. A new Animal Health Sciences Building (AHSB) is progressing at pace, delivering a state-of-the-art facility of around 11,000m^2 on the site by 2024/25. The new facilities include replacement CL2 laboratory, laboratories for microbiology, molecular biology, analytical chemistry, post mortem suite, incinerator, administrative spaces, boardroom, adaptive meeting rooms, library. The design is very much aligned to a collaborative science environment, enabling collaborative science and networking within the building envelope. The site lends itself to further strategic development including consolidation of other laboratory areas both on the Stormont site and wider on other AFBI sites, development of high containment laboratory space for veterinary pathogens, replacement accommodation for animal services on the Stormont site.

AFBI VSD Omagh
Located on the Beltany Road on the outskirts of Omagh, this relatively modest site consists of a post mortem suite, laboratories, carcass incinerator and associated office accommodation.

Outside of VSD development of the AHSB referred above, plans are afoot for enhanced research farm facilities at AFBI Hillsborough and a replacement sea-going research vessel.

4.3.4 *Veterinary Staff*

Currently AFBI has 294 staff within VSD, the majority (281) of whom are based at Stormont and 13 at VSD Omagh; comprising permanent staff, agency staff, fixed term contract R&D staff and PhD students. Within this cohort there are 12 veterinarians (3 in Omagh, of which two work part time), two post mortem attendants (in Omagh), laboratory scientists (six in Omagh) and administrative support officers.

All AFBI veterinarians are at Veterinary Research Officer (VRO) grade which is equivalent to NICS Grade 7 (Principal Officer). AFBI has a fixed number of posts at this grade and if vacancies arise, they are recruited through external competitions; although occasionally AFBI utilises agency appointments to cover maternity and/or short notice vacancies. It is understood that the average age of veterinarian staff is over 55 years of age.

The VRO staff perform a management role within their respective branches, directing scientific staff within their unit delivering the following statutory e.g. passive surveillance/post mortems funded by DAERA AWP and non-statutory functions e.g. CHS and BVD testing. A typical VRO covers the following roles (with estimated time allocation for indicative purposes):

VRO Role	**Allocation**
Front facing vet advisory role to DAERA, PVPs and farmers	25%
Specialty advice e.g. post mortem, passive surveillance	60%
Administration/ Supervisory	15%

In addition, owing to AFBI's designation as a scientific procedure establishment, staff hold the role of Named Veterinary Officer under the ASPA[27] legislation - which is a part-time role for various veterinary staff at VSD, including the head of Disease Surveillance and Investigation Branch (DSIB) who is the establishment licence holder for the division. This role is outsourced to an external contractor in AFBI Hillsborough.

4.3.5 Staff Training

Staff Training is by observation and self-directed learning; with any pathology qualification undertaken done so through their own dedicated time (albeit supported by colleagues and study leave as appropriate). Veterinary staff meet their annual CPD requirement through self-directed reading/learning, attendance at conferences, webinars, etc; most of which is mostly undertaken in staff's sown time.

4.3.6 Future Demand Considerations

It was noted that there has been a level of disappointment as to the experience and expertise of those applying for veterinary roles in AFBI insofar as there is an apparent lack of R&D / scientific programme delivery experience. It was noted that AFBI consider that a local vet school with research will allow vets to develop that may reinvigorate this pool of AFBI researchers.

It was noted that the current position, whereby there is a shortage of vets with an interest in R&D did not previously exist – typically, in the past, vets with circa three years post qualification experience were recruited into AFBI and encouraged to undertake a post graduate qualification; with the system at that time geared towards the development of vet research staff. Whilst there is now an "Assistance to Study Scheme" in AFBI it was noted that the workload has moved predominantly to a statutory role which has largely led to a reduction in the ability of AFBI to attract vets with an interest in research (the exception being post mortem vets who have to undertake a post graduate qualification in pathology). It is noted that three of the ten vet staff hold PhD qualifications, of which one achieved same whilst working in AFBI.

AFBI does not currently have a specific workforce strategy for veterinary staff but notes that there are no immediate plans to increase its VRO representation on their VSD staff other than aspiring to increase veterinary representation at Head of Branch level, which has proved difficult (in terms of attracting suitably qualified staff to the Grade 6 post).

Given the prevalence of science staff who undertake veterinary/animal health related work as part of the VSD team, AFBI foresee an increase in science staff to deliver EU exit related activities, particularly NI Point of Entry testing, expansion of accreditation scope and an uplift in some of the statutory surveillance schemes (particularly ones which have in the past benefited from inclusion of NI as part of a UK total).

[27] Animal (Scientific Procedures) Act 1986 which applies to scientific procedure establishments and breeding and supplying establishments. Under this legislation they are required to name a veterinary surgeon(s) in their licence schedule, who accepts responsibility under ASPA to provide advice on the health, welfare and treatment of animals within these establishments. Exceptionally, another suitably qualified expert may be nominated where it can be shown that they are more appropriate for this role. ASPA is a UK-wide Act and is administered by the DHSSPS in Northern Ireland.

5. STATUS QUO AT CAFRE, QUB AND UU

5.1 CAFRE

5.1.1 Course Delivery

The following table details the existing uptake of current courses offered at CAFRE. CAFRE has advised that, across all agriculture courses, the majority of students come from Northern Ireland, while the nursing course is exclusively NI-domicile students.

CAFRE Further and Higher Education Course Offering - Agriculture	
Further Education Course	**Annual Enrolment**
Level 2 Technical Certificate in Agriculture	c.15
Level 3 Advanced Technical Extended Diploma in Agriculture	c.60
Level 2 / Level 3 Apprenticeships / Diploma in work-based Agriculture	c.110
Higher Education Course	**Annual Enrolment**
BSc (Hons) Agricultural Technology (validated by QUB)	c. 25-30
BSc (Hons) Sustainable Agriculture (validated by UU) new for 2021/22)	c. 25
FdSc (validated by UU)	c. 25-30

CAFRE Further and Higher Education Course Offering – Veterinary Nursing	
Further Education Course	**Annual Enrolment**
Level 2 Certificate for Animal Nursing Assistant	c.30
Level 3 Diploma in Veterinary Nursing (delivery model for the Level 3 Diploma requires student nurses to be employed in an approved veterinary training practice)	c.25

CAFRE Further and Higher Education Course Offering – Equine	
Further Education Course	**Annual Enrolment**
Foundation Degree in Equine Management	c.30
Higher Education Course	**Annual Enrolment**
BSc (Hons) Degree in Equine Management (validated by UU)	c.30

CAFRE note that the equine course students originate mainly from the island of Ireland. CAFRE also delivers The Farriery Upskilling course which is delivered to practising farriers and includes veterinary modules.

5.1.2 Research and Development

CAFRE has strong linkages with AFBI and Teagasc, with CAFRE Innovation and Technology Transfer projects linking to Research findings from AFBI and other research organisations. It is understood that Enniskillen is currently seeking to collaborate with other institutions for the purposes of equine research and knowledge transfer, with relationships noted as being "at the very early formative stage" in this regard.

5.2 Queen's University Belfast (QUB)

5.2.1 Course Delivery

In addition to medicine, dentistry, pharmacy, nursing and environmental sciences there are a number of courses allied to veterinary medicine / science currently offered by QUB, these are listed as follows:

- BSc and MSci Zoology (available with Professional Studies)
- BSc (Hons) Agricultural Technology (taught in conjunction with CAFRE) (available with Professional Studies)

- BSc and MSci Food Quality, Safety and Nutrition (available with Professional Studies)
- MPhil Food Safety and Biotechnology
- MSc Animal Behaviour & Welfare
- MSc Parasitology and Pathogen Biology (inter alia course is open to intercalating Veterinary applicants who have completed three years of their primary course)

The delivery of these such classes affords the university with "*experience and networks for on farm visits and links to animal welfare charities".*

Queen's currently offers the following pre-clinical and para-clinical sciences within its School of Biological Sciences / Institute of Global Food Security:

- Preclinical Sciences – Biomolecular Sciences, Physiology, Animal Husbandry, Anatomy, Animal Behaviour, Animal Welfare, Communication Skills, Business, Innovation & Entrepreneurship; and
- Paraclinical Sciences – Pharmacology, Pathology, Microbiology, Parasitology

5.2.2 Estate

QUB has a Marine Research Laboratory at Portaferry, as well as access to Animal Laboratory Services at Belfast Zoo and Farm Animal Research Facilities. Their website notes that following with respect to the animal facilities *"Queen's has a state-of-the-art Biological Services Unit (BSU) which is the largest and best-equipped animal facility on the island of Ireland (1800m^2, budget £7m). The BSU encompasses Conventional, Specific-Pathogen-Free (SPF), and Category 2 Infection units, which are split over two floors and are all essential for the development and study of different models of human and animal disease. As such, it is more advanced than the majority of all other similar facilities in the UK and underpins the world-leading animal research conducted at the University."*

In terms of opportunities for existing estate to be made available for a distributed model the university notes that *"other than for animal husbandry and gross dissection for anatomy and pathology… all of the expertise, lecture and lab space" (currently used in the delivery of pre and para clinical sciences) could be accommodated within the existing QUB estate."*

5.2.3 Research and Development

Queen's School of Biological Sciences has many active areas of research related to animals including Parasitology, Animal Physiology and Tracking, Animal Behaviour, Animal Welfare and Zoonotic Diseases.

The university notes that there was a strong track record of working between AFBI and QUB *"Historically, right back to when QUB had a Department of Veterinary Science, there have been very strong links between Veterinary Sciences Division Stormont (now AFBI Stormont) and the university. A VSD-QUB collaboration in the 1980s and 1990s led to the creation of the world's first vaccine for porcine circovirus type 2 (PCV-2) – when this went into commercial production (Circovac, Mérial Animal Health), it went on to be the largest selling vaccine product in the world with significant royalties generated for QUB and AFBI. A VSD-QUB collaboration in the 1990s and 2000s led to the creation of the world's first vaccine for salmonid pancreas disease – when this went into commercial production (Norvax Compact PD, MSD Animal Health / Merck), it went on to generate significant royalties for QUB and AFBI. A VSD-QUB collaboration between the 1970s and 2000s resulted in the OIE (World) Reference Laboratory for leptospirosis being in Belfast.*

In recent years, considerable effort has gone into rejuvenating the links between AFBI and the university. Collaborations in animal health, animal welfare, productivity and environmental sustainability have been, and continue to be, successful.

There is a wealth of relevant experience at AFBI – particularly at Stormont (including vets) and Hillsborough – and QUB-AFBI collaborations have been particularly strong in areas such as parasitology, diagnostics (including Johne's Disease), sustainable ruminant production, sustainable grassland management, pig and poultry welfare. QUB and AFBI recently collaborated to facilitate the rapid scale-up of COVID-19 diagnostics for Northern Ireland."

It is noted that the R&D offering within QUB could be expanded by increasing the Masters and PhD offering at Queen's to build up expertise in veterinary science in the areas of diagnostics and disease control. Also more researchers could be nurtured through the delivery of a BSc in Veterinary Biosciences (course dedicated to the biology underpinning veterinary medicine), which is currently offered at four UK universities, all of which also offer veterinary science (Surrey, Glasgow, Aberystwyth and Harper Adams). It is understood that this course could be implemented in the absence of a veterinary school.

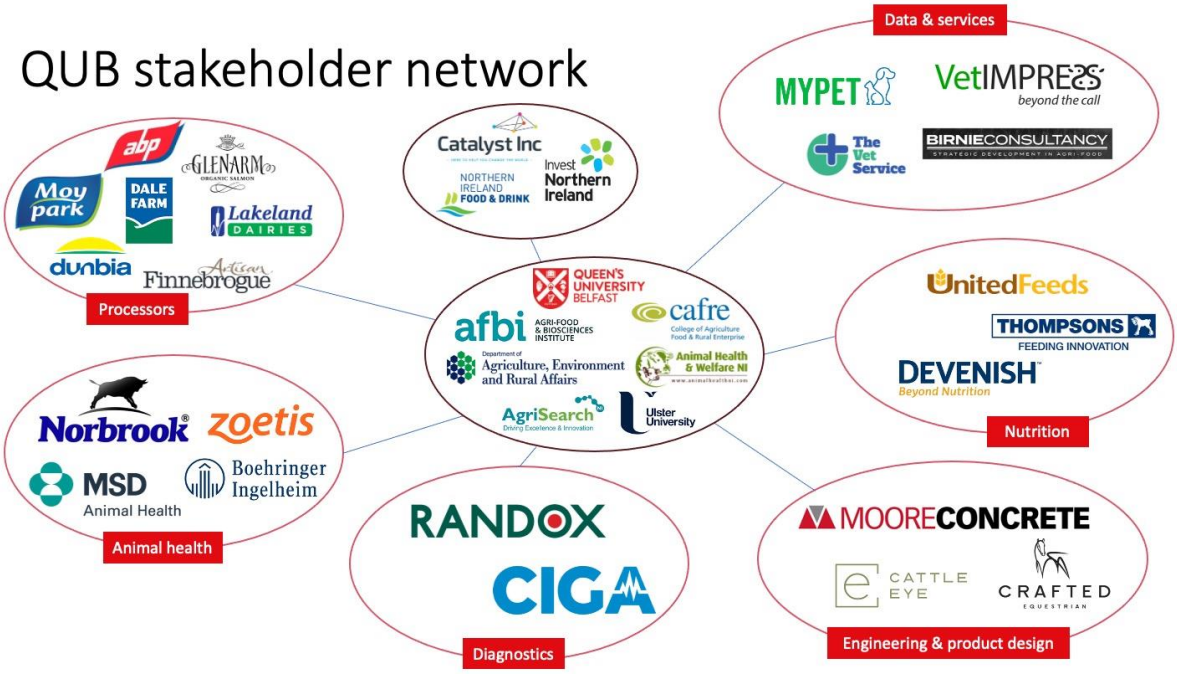
5.2.4 *Staffing*

There are currently three vets within the QUB staff, two of whom are Fellows of the RCVS and who have "*well-established links with other relevant agricultural / agri-food bodies such as the Ulster Farmers Union, AgriSearch and the NI Food & Drink Association, as well as the National Farmers Union, RUMA and the Oxford Farming Conference."*

5.2.5 *Collaborations*

The university notes that there are *"significant opportunities to build transdisciplinary One Health collaborations, bringing together experts in human wellbeing, animal wellbeing and environmental wellbeing to tackle global issues such as antimicrobial stewardship, transboundary zoonotic diseases (such as rabies and COVID) and mental / physical wellbeing (including access to green spaces)."*

The following is an illustration (not exhaustive) of the existing QUB School of Biological Sciences / Institute for Global Food Security network of regional, national and international stakeholders across the animal health and welfare, agri-food and agri-tech sectors. QUB has also advised that it has links with local veterinary practices, both directly, and indirectly through the veterinary associations.



5.3 Ulster University

5.3.1 Overview

The University's course provision covers Arts, Business and Management, Engineering, Information Technology, Life and Health Sciences and Social Sciences. Organisationally, the faculties are responsible for the development and delivery of the University's core business activities of teaching, learning, research, technology and knowledge transfer, outreach and partnership. There are four faculties within the University - Arts, Humanities and Social Sciences, Computing, Engineering and the Built Environment, the Ulster Business School and the Faculty of Life and Health Sciences (LHS), within which there are eight academic schools and a Doctoral college – namely Biomedical Sciences, Geography and Environmental Sciences, Health Sciences, Nursing, Psychology, Sport, Medicine (first intake of students due September 2021) and Pharmacy and Pharmaceutical Sciences. There are over 6,700 students (including over 2,000 postgraduates) within the LHS faculty.

5.3.2 Course Delivery

Within the UU School of Biomedical Sciences and the School of Pharmacy and Pharmaceutical Sciences there are a number of courses currently offered that are allied to veterinary medicine / science, these include the following:

- BSc Hons Biomedical Science
- BSc Hons Nutrition
- BSc Hons Food and Nutrition
- MPharm Hons Pharmacy
- MSc Food Regulatory Affairs
- MSc Veterinary Public Health

Within UU there are existing taught modules in Veterinary Biology; Human, Animal and Plant Physiology; Medical Cell Biology; Biochemistry; Veterinary Public Health 1 – Regulatory; Veterinary Public Health 2 – Applied; Zoonoses and Public Health.

5.3.3 Estate

UU's existing research facilities detailed as being complementary to vet school infrastructure include mass spectrometry and bio-imaging that provide *"world-leading agri-food, medical, pharmaceutical and veterinary analysis."*

5.3.4 Research and Development

UU has indicated that current areas of research that compliment veterinary medicine are:

- Environmental systems and their impact on food production;
- Human food and nutrition;
- Antimicrobial resistance (AMR); and
- Drug discovery and delivery.

Cited examples of existing research capability are included in Annex H.

5.3.5 Staffing

UU notes that *"the underpinning science years of Veterinary Medicine typically covers subjects such as anatomy and physiology of the body systems to health and disease, cellular processes, animal and food safety, study skills, population medicine, veterinary public health and veterinary pharmacy",* all of which are within the teaching capacity of the UU LHS existing

staff. Current staff includes one member of staff with a PhD in Veterinary Medicine, while another has a special interest in Veterinary Pharmacy.

5.3.6 Collaborations

UU has formed a strong relationship with the Norbrook Laboratories Ltd. Through this association, the Norbrook Chair in Pharmaceutical Science was established following a £1m investment to fund research investigating novel drug delivery and therapeutic strategies for treatment of human / animal disease.

The University also notes that it "*was key in pioneering the establishment of the Northern Ireland AMR network"* that brings together academic, industrial and government stakeholders under a "One Health" umbrella to combatting AMR. Several DAERA funded PhD students have been awarded to UU, focusing on the link between antimicrobial resistance and the agri-environment.

6. STUDENTSHIP IN VETERINARY MEDICINE

6.1 Introduction

In this section of the report we provide an overview of the existing overall level of studentship by NI domiciles in HE courses within the UK; as well as presentation of available datasets as to the demand for undergraduate (and in some instances graduate) veterinary medicine / science courses by NI domiciles as informed by UCAS, HESA, CAO and others.

6.2 NI-Domicile Higher Education Studentship

The following table details the annual level of UK-domiciled applicants applying to UK universities through UCAS, disaggregated by region of domicile:

UCAS UK Domicile Applicants to UK Universities						
Year	**2014/15**	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**
Scotland	41,080	45,100	45,420	44,530	44,900	43,340
Wales	21,010	21,000	21,130	19,620	19,100	18,850
England	408,300	411,420	408,990	385,870	374,440	373,730
NI	19,550	20,040	20,400	19,470	18,630	17,910

Source: UCAS Analysis and Insights Report

The % share of NI students applying for Veterinary Science, Agriculture and Related is higher than in Scotland and England but lower than Wales.

UCAS Applications by UK Domiciles by Subject Group – 2019 Cycle				
Applications	**Scotland**	**Wales**	**England**	**NI**
Vet Science, Agriculture and Related	1,960	1,080	19,740	1,030
All Subjects	176,790	78,360	1,657,230	79,820
% Share	**1.11%**	**1.38%**	**1.19%**	**1.29%**

Source: UCAS Analysis and Insights Report

The following table details the annual level of NI-domiciled students obtaining their qualification (including all course types) from universities within the UK jurisdictions.

HE NI-Domicile Qualifiers by Region of Study and Sex – Overall Course [Includes Post Graduates]								
Academic Year	**Scotland**	**Wales**	**England**	**NI**	**Total**	**Female**	**Male**	**Other**
2014/15	1,155	180	3,820	12,930	18,080	10,585	7,495	-
2015/16	1,145	160	3,715	13,175	18,190	10,750	7,440	-
2016/17	1,130	165	3,805	13,175	18,275	10,655	7,615	-
2017/18	1,070	185	4,100	12,505	17,860	10,570	7,285	5
2018/19	1,135	160	4,225	13,545	19,065	11,370	7,695	-
2019/20	1,155	185	4,045	12,130	17,515	10,560	6,950	5

Source: HESA Table 18

The table shows that:

- The level of HE NI-domicile qualifier students has fallen to a six-year low in AY19/20, having been at a six-year high in AY18/19;
- The majority of HE NI-domiciled qualifiers (range 69% to 72%) obtained their qualifications from within a NI-based university; and
- The majority (range 58% to 60%) of HE NI-domiciled qualifiers are female.

6.3 Overview of Vet School Courses in UK

6.3.1 UK Veterinary School Teaching Places

The supply of veterinary school teaching places (totalled over the whole five years of each course) for the six years to AY19/20 is set out below:

Student Places by Region - Veterinary Science [Includes Post Graduates]					
Academic Year	**Scotland**	**Wales**	**England**	**Total**	**Annual Change**
2014/15	1,555	-	4,345	5,900	-
2015/16	1,520	-	5,255	6,775	[redacted]
2016/17	1,545	-	5,605	7,150	[redacted]
2017/18	1,550	-	6,310	7,860	[redacted]
2018/19	1,630	-	6,770	8,400	[redacted]
2019/20	2,105	150	8,385	10,640	[redacted]

Source: HE student enrolments on Veterinary Science CAH level 1, HESA Table 13

Salient points:

- The level of vet school places, across the five and six year courses, has risen by 80[redacted]% in the six years, with a greater rises anticipated as new courses mature; and
- Most of this growth has come from the rise in English university places (+93%).

The following table splits the uptake by gender of the student, showing that there is a majority female studentship, whereby the proportion of female students increased from 76% in 2014/15 to 82% in 2019/20, which shows a higher female representation than the overall HE population (58% to 60%).

UK Course Enrolments on Veterinary Science [Includes Post Graduates] by Gender							
Academic Year	**Female**		**Male**		**Other**		**Total**
2014/15	4,495	76[redacted]%	1,405	23[redacted]%	-	-	5,900
2015/16	5,205	76[redacted]%	1,570	23[redacted]%	-	-	6,775
2016/17	5,520	77[redacted]%	1,625	22[redacted]%	-	-	7,150
2017/18	6,110	77[redacted]%	1,745	22[redacted]%	-	-	7,860
2018/19	6,520	77[redacted]%	1,875	22[redacted]%	5	[redacted]	8,400
2019/20	8,695	81[redacted]%	1,945	18[redacted]%	-	-	10,640

Source: HE student enrolments on Veterinary Science CAH level 1, HESA Table 13

6.3.2 UK Veterinary Course Enrolments by Student Domicile

The following table shows the uptake of UK veterinary medicine / science courses (including post graduate studies) by student domicile.

Student Enrolments on UK Vet Science Courses by domicile [Includes Post Graduates]							
Domicile	**AY14/15**	**AY15/16**	**AY16/17**	**AY17/18**	**AY18/19**	**AY19/20**	**Change**
England	3,890	4,660	4,870	5,360	5,625	7,065	+81[redacted]%
Wales	215	245	240	255	270	435	+102[redacted]%
Scotland	515	555	580	585	600	910	+76[redacted]%
NI	150	160	165	190	205	265	+76[redacted]%
Other UK	20	20	25	20	20	25	+25[redacted]%
Sub Total	**4,790**	**5,640**	**5,880**	**6,410**	**6,720**	**8,700**	**+81[redacted]%**
Other EU	165	195	260	335	400	505	+206[redacted]%
Sub Total	**4,955**	**5,835**	**6,140**	**6,745**	**7,120**	**9,205**	**+85[redacted]%**
Rest of World	950	940	1,005	1,120	1,275	1,440	+51[redacted]%
Total	**5,905**	**6,775**	**7,145**	**7,865**	**8,395**	**10,645**	**+80[redacted]%**
NI Students as % UK Students	**3[redacted]%**	**2[redacted]%**	**2[redacted]%**	**3[redacted]%**	**3[redacted]%**	**3[redacted]%**	

Source: https://www.hesa.ac.uk/data-and-analysis/students/table-22 [Noted small, immaterial variations between Table 13 and 22]

The split of NI-domiciles on UK courses is as follows:

NI Domicile Studentship - Veterinary Science - All Students					
Academic Year	UG - First Course	UG - Graduate	Post Graduate - Research	Post Graduate - Taught	Total
14/15	135	0	5	10	150
15/16	145	0	0	20	160[28]
16/17	145	0	0	20	165
17/18	165	0	0	25	190
18/19	180	0	5	20	205
19/20	235	5	5	20	265

Source: https://www.hesa.ac.uk/data-and-analysis/students/table-22

Salient points from the above:

- Whilst the number of Northern Ireland students has risen by 76[redacted]%, the proportion of NI studentship of overall UK studentship has fallen – in AY19/20 the NI studentship account for 2[redacted]% of the total UK-taught veterinary science / medicine studentship and represent 3[redacted]% of the UK-domiciled student population in UK-taught courses;

- The greatest growth in the uptake of additional UK-based veterinary course places was by EU students (+206[redacted]%);

- Rest of world studentship on UK-based veterinary courses has fallen from 16[redacted]% in AY14/15 to 13[redacted]% in AY19/20, with an average of 14[redacted]% over the six years;

- Non-UK domiciled studentship on UK-based veterinary courses was relatively steady over the six years at an average of 18[redacted]%; and

- It is not clear why there is such a large increase in Welsh domicile student vets in AY19/20, with the opening of the Welsh school not reflected in these figures.

Benchmark Comparator

In the UK there is approximately 41,000 medical school teaching places at any given time i.e. almost four times the scale of vet studentship.

In both England and Wales the proportion of international students (defined as 'international' students are those from outside the EU who also do not qualify as 'settled' or 'ordinarily resident' in the UK) is capped at 7[redacted]% and is regulated by the Office for Students, which effectively ringfences the number of available government-funded student places (subject to the fact that the number of home medical students is a function of the amount of money allocated by government for medical training). The percentage applied in Scotland and NI is a matter for the devolved administrations. In Northern Ireland there is a payment made by the DoH to the DfE for a proportion of the home medical training cost.

[28] *As presented in Table 22 – appears to include a totting error*

6.3.3 *UK Veterinary School Annual Intake*

The following table shows the annual first year enrolment onto UK veterinary science / medicine courses by region:

First Year Enrolments onto Veterinary Science / Medicine Courses by Region of Provider					
Academic Year	**Scotland**	**England**	**Wales**	**NI**	**Total**
2015/16	285	935	-	-	1,220
2016/17	300	890	-	-	1,190
2017/18	315	960	-	-	1,275
2018/19	305	1,105	-	-	1,410
2019/20	335	1,400	-	-	1,735

Source: UCAS HE Application Process for "D1 - Pre-clinical Veterinary Medicine" courses by Applicant Domicile

Notably, in respect of the Scottish places there are stipulations as to the level of places available to varying domiciles with a large proportion of the Scottish places awarded to international students, see below (sourced from Edinburgh University website):

Edinburgh University - Undergraduate Admission Statistics – Veterinary Medicine				
Year	**Scotland & EU**	**Rest of UK**	**Non-EU & Overseas**	**Total**
2018	52	31	111	194
2019	54	30	101	185
2020	49	31	134	214

Source: https://www.ed.ac.uk/student-recruitment/admissions-advice/admissions-statistics

6.3.4 *Application rates to UK Veterinary Courses*

The following table details the unique applications received by UK universities for D1-pre clinical veterinary medicine courses in 2016 through to 2020; showing that demand for places has risen with increased supply.

Unique Applicants for Veterinary Science / Medicine Courses by Domicile											
Cycle Year	**UK**			**EU**			**Rest of World**			**Total**	
	No.	**% Total**	**Change**	**No.**	**% Total**	**Change**	**No.**	**% Total**	**Change**		
2016	5,975	76.4%	-	1,040	13.3%	-	810	10.4%	-	7,825	-
2017	5,705	77.5%	-4.5%	855	11.6%	-17.8%	805	10.9%	-0.6%	7,365	-5.9%
2018	7,115	79.0%	+24.7%	955	10.6%	11.7%	940	10.4%	+16.8%	9,010	22.3%
2019	7,895	79.1%	+11.0%	1,035	10.4%	8.4%	1,050	10.5%	+11.7%	9,980	10.8%
2020	7,385	76.8%	-6.5%	1,060	11.0%	2.4%	1,175	12.2%	+11.9%	9,620	-3.6%

Source: UCAS HE Application Process for "D1 - Pre-clinical Veterinary Medicine" courses by Applicant Domicile

The disaggregation of the UK applicants shows that NI-domicile proportion of UK applications has fallen, as has the Scottish and Welsh proportion. The uplift in the English share of applications could possibly be linked to increased home course provision release, with new English places introduced to the market in October 2015 (Surrey) and October 2020 (Harper and Keele).

Cycle Year	**Scotland**		**Wales**		**England**		**NI**		**Total UK**
2016	535	9.0%	275	4.6%	4,915	82.3%	250	4.2%	5,975
2017	495	8.7%	225	3.9%	4,740	83.1%	245	4.3%	5,705
2018	455	6.4%	330	4.6%	6,020	84.6%	310	4.4%	7,115
2019	550	7.0%	355	4.5%	6,715	85.1%	275	3.5%	7,895
2020	515	7.0%	295	4.0%	6,310	85.4%	265	3.6%	7,385

Source: UCAS HE Application Process for "D1 - Pre-clinical Veterinary Medicine" courses by Applicant Domicile

The circa 250 to 310 NI applicants are applying to universities in the following regions:

Cycle Year	2016	2017	2018	2019	2020
Scotland-based Courses	75	85	80	70	85
England-based Courses	175	160	230	205	180
Total Unique Applicants	**250**	**245**	**310**	**275**	**265**

Source: UCAS HE Application Process for "D1 - Pre-clinical Veterinary Medicine" courses by Applicant Domicile

The following table shows the ratio of vet applicants to total applicants (from Section 6.2), which seems to suggest that the proportion of available students applying to university to study veterinary medicine is broadly similar in NI as the UK average:

Proportion of Total UK-Domiciled Applicants Applying to a UK University that are applying to Veterinary Science / Medicine				
Year	**2016/17**	**2017/18**	**2018/19**	**2019/20**
Scotland	1.2%	1.1%	1.0%	1.3%
Wales	1.3%	1.1%	1.7%	1.9%
England	1.2%	1.2%	1.6%	1.8%
NI	1.2%	1.3%	1.7%	1.5%
Average	**1.2%**	**1.2%**	**1.6%**	**1.7%**

Source: UCAS Analysis and Insights Report and UCAS HE Application Process for "D1 - Pre-clinical Veterinary Medicine" courses by Applicant Domicile

The above would suggest that there is not an issue with the comparative level of interest in veterinary medicine amongst NI-domicile students Offer Rates to UK Veterinary Courses.

The offer rate of students applying to universities is shown below. The percentage of offers varies between region of domicile, with the lowest offer rate evident for EU-domiciled applicants, and the offer rate for UK-domiciles being the highest and broadly similar to that for the "rest of world" domiciles.

Offers for Veterinary Science / Medicine Courses by Domicile											
Cycle Year	UK			EU			Rest of World			Total	
	No.	% Applied	% Total	No.	% Applied	% Total	No.	% Applied	% Total	No.	% Applied
2016	1,865	31.2%	85.4%	60	5.8%	2.7%	260	32.1%	11.9%	2,185	27.9%
2017	2,165	37.9%	86.9%	65	7.6%	2.6%	260	32.3%	10.4%	2,490	33.8%
2018	2,290	32.2%	83.9%	85	8.9%	3.1%	355	37.8%	13.0%	2,730	30.3%
2019	2,650	33.6%	85.9%	105	10.1%	3.4%	330	31.4%	10.7%	3,085	30.9%
2020	2,960	40.1%	84.2%	160	15.1%	4.6%	395	33.6%	11.2%	3,515	36.5%

The disaggregation of the UK applicants shows that offer rate amongst NI-domicile applicants to UK veterinary courses is in general the highest of the four UK regions, despite being the lowest in 2020 cycle year.

Offers for Veterinary Science / Medicine Courses by UK-Domicile									
Cycle Year	Scotland		Wales		England		NI		Total UK
	No.	% Applied	No.	% Applied	No.	% Applied	No.	% Applied	
2016	150	28.0%	75	27.3%	1,555	31.6%	85	34.0%	1,865
2017	180	36.4%	75	33.3%	1,800	38.0%	110	44.9%	2,165
2018	150	33.0%	95	28.8%	1,945	32.3%	100	32.3%	2,290
2019	190	34.5%	125	35.2%	2,230	33.2%	105	38.2%	2,650
2020	210	40.8%	115	39.0%	2,540	40.3%	95	35.8%	2,960
Average Offer Rate	**34.5%**		**32.8%**		**35.1%**		**36.8%**		**35.0%**

Source: UCAS HE Application Process for "D1 - Pre-clinical Veterinary Medicine" courses by Applicant Domicile

The above would suggest that there is not an issue with the comparative level of offers issued in veterinary medicine to NI-domicile students by GB universities.

6.3.5 *Acceptance Rates to UK Veterinary Courses*

The acceptance rate of students in receipt of an offer is shown below, and the percentage of acceptances varies between domicile, with the highest acceptance rate evident amongst rest of world-domiciled applicants.

Acceptances for Veterinary Science / Medicine Courses by Domicile											
Cycle Year	UK			EU			Rest of World			Total	
	No.	% Offered	% Total	No.	% Offered	% Total	No.	% Offered	% Total	No.	% Offered
2016	990	53.1%	81.1%	40	66.7%	3.3%	190	73.1%	15.6%	1,220	55.8%
2017	975	45.0%	81.9%	35	53.8%	2.9%	180	69.2%	15.1%	1,190	47.8%
2018	1,000	43.7%	78.4%	40	47.1%	3.1%	235	66.2%	18.4%	1,275	46.7%
2019	1,145	43.2%	81.2%	40	38.1%	2.8%	225	68.2%	16.0%	1,410	45.7%
2020	1,375	46.5%	79.3%	85	53.1%	4.9%	275	69.6%	15.9%	1,735	49.4%

Source: UCAS HE Application Process for "D1 - Pre-clinical Veterinary Medicine" courses by Applicant Domicile

The disaggregation of the UK applicants shows that acceptance rate amongst NI-domicile applicants to UK veterinary courses shows is marginally above the UK average acceptance rate.

Acceptances for UK Veterinary Science / Medicine Courses by UK-Domiciles										
Cycle Year	Scotland		Wales		England		NI		Total UK	
	No.	% Offered	No.	% Offered	No.	% Offered	No.	% Offered		
2016	90	60.0%	45	60.0%	820	52.7%	35	41.2%	990	53.1%
2017	105	58.3%	35	46.7%	785	43.6%	50	45.5%	975	45.0%
2018	90	60.0%	40	42.1%	825	42.4%	45	45.0%	1,000	43.7%
2019	95	50.0%	60	48.0%	935	41.9%	55	52.4%	1,145	43.2%
2020	100	47.6%	45	39.1%	1,185	46.7%	45	47.4%	1,375	46.5%
Ave Rate	**54.5%**		**46.4%**		**45.2%**		**46.5%**		**46.0%**	

Source: UCAS HE Application Process for "D1 - Pre-clinical Veterinary Medicine" courses by Applicant Domicile

The above would suggest that there is no apparent issue with the comparative acceptance rate of veterinary places in GB universities by NI-domicile students.

6.4 Overview of Vet School Courses in the Republic of Ireland (RoI)

6.4.1 *RoI Veterinary School Teaching Places*

In the Republic of Ireland there is only one provider of veterinary medicine / science places, namely UCD. The annual supply of places is as follows:

Total Student Enrolments on RoI Veterinary Science Courses [Includes Post Graduates]							
Course	AY07/08	AY08/09	AY09/10	AY10/11	AY11/12	AY12/13	AY13/14
Masters Research	12	4	1	1	13	12	9
PhD	19	13	4	8	35	44	53
Undergraduate	403	412	491	564	646	714	735
Undergraduate (occasional)	-	-	-	-	1	1	3
Total	**434**	**429**	**496**	**573**	**695**	**771**	**800**

Course	AY14/15	AY15/16	AY16/17	AY17/18	AY18/19	AY19/20
Masters Research	6	7	7	12	8	6
PhD	65	65	57	61	51	55
Undergraduate	732	719	734	748	761	762
Undergraduate (occasional)	7	8	7	16	11	15
Total	**810**	**799**	**805**	**837**	**831**	**838**

The NI-domicile uptake of the above courses is as follows:

NI Domicile Student Enrolments on RoI Veterinary Science Courses [Includes Post Graduates]							
Course	**AY07/08**	**AY08/09**	**AY09/10**	**AY10/11**	**AY11/12**	**AY12/13**	**AY13/14**
Masters Research	-	-	-	-	-	-	-
PhD	-	-	-	-	1	2	1
Undergraduate	43	48	53	56	52	42	37
Undergraduate (occasional)	-	-	-	-	-	-	-
Total	**43**	**48**	**53**	**56**	**53**	**44**	**38**

Course	**AY14/15**	**AY15/16**	**AY16/17**	**AY17/18**	**AY18/19**	**AY19/20**
Masters Research	-	-	-	-	-	-
PhD	2	2	1	1	-	-
Undergraduate	37	30	28	27	17	11
Undergraduate (occasional)	-	-	-	-	-	1
Total	**39**	**32**	**29**	**28**	**17**	**12**

6.4.2 *RoI Veterinary School Offers and Acceptances*

The following datasets are available for 2016 to 2021 shows that the level of demand for the course was on a downward trajectory from AY14/15 through to AY19/20, with a sizeable interest shown in AY21/22.

HE Application Outturns for "Veterinary Medicine" UCD Course by All Domiciles								
AY	**Applications**	**First Preferences**	**Offers**			**Acceptances**		
			No.	**% Applications**	**% First Preference**	**No.**	**% Offers**	**% First Pref**
13/14	909	614	113	12.4%	18.4%	95	84.1%	15.5%
14/15	919	625	117	12.7%	18.7%	92	78.6%	14.7%
15/16	838	584	114	13.6%	19.5%	90	78.9%	15.4%
16/17	834	555	119	14.3%	21.4%	86	72.3%	15.5%
17/18	730	546	111	15.2%	20.3%	89	80.2%	16.3%
18/19	682	501	116	17.0%	23.2%	95	81.9%	19.0%
19/20	638	483	108	16.9%	22.4%	92	85.2%	19.0%
20/21	771	563	107	13.9%	19.0%	98	91.6%	17.4%
21/22*	853	608	105	12.3%	17.3%	95	90.5%	15.6%
Ave	**797**	**564**	**112**	**14.1%**	**19.9%**	**92**	**82.4%**	**16.4%**

** Provisional release*
Source: CAO

A review of the above also shows a much lower offer rate in RoI compared to UK (19.9% vis-à-vis 35%) and a much higher acceptance rate in RoI compared to GB (82.4% vis-à-vis 46%).

The following is available for NI-domicile applicants:

HE Application Outturns for "Veterinary Medicine" UCD Course by NI-Domicile Students								
AY	**Applications**	**First Preferences**	**Offers**			**Acceptances**		
			No.	**% Applications**	**% First Preference**	**No.**	**% Offers**	**% First Pref**
13/14	56	39	16	28.6%	41.0%	9	56.3%	23.1%
14/15	57	38	12	21.1%	31.6%	9	75.0%	23.7%
15/16	45	27	11	24.4%	40.7%	6	54.5%	22.2%
16/17	57	44	8	14.0%	18.2%	2	25.0%	4.5%
17/18	50	43	6	12.0%	14.0%	3	50.0%	7.0%
18/19	48	35	5	10.4%	14.3%	1	20.0%	2.9%
19/20	27	24	4	14.8%	16.7%	1	25.0%	4.2%

HE Application Outturns for "Veterinary Medicine" UCD Course by NI-Domicile Students								
AY	Applications	First Preferences	Offers			Acceptances		
			No.	% Applications	% First Preference	No.	% Offers	% First Pref
20/21	31	27	7	22.6%	25.9%	5	71.4%	18.5%
21/22*	53	42	5	9.4%	11.9%	4	80.0%	9.5%
Ave	**47**	**35**	**8**	**17.5%**	**23.2%**	**4**	**51.1%**	**12.5%**

** Provisional release*
Source: CAO

The above table illustrates that despite NI-domicile students historically achieving an annual intake of nine students per annum onto the UCD course, representing circa 10% of the overall intake, this dropped significantly in AY16/17 through to AY19/20 to an average of less than two students. This appears to have recovered somewhat in AY20/21 and AY21/22.

It would appear that the acceptance rate of offers in UCD was also very low and much lower than the course average (20% in AY18/19 compared with 81.9% overall acceptance rate) in this referred period (AY16/17 through to AY19/20).

A review of the above suggests there is a level of attrition amongst the NI-domicile students at the UCD veterinary medicine as illustrated below:

Illustration of Attrition on UCD Course					
AY	**17/18**	**18/19**	**19/20**	**20/21**	**21/22**
Year 1	3	1	1	5	4
Year 2	2	3	1	1	5
Year 3	6	2	3	1	1
Year 4	9	6	2	3	1
Year 5	9	9	6	2	3
Total Starters	**29**	**21**	**13**	**12**	**14**
Actual Total	**27**	**17**	**12**	**Not known**	**Not known**
Attrition	**-2**	**-4**	**-1**		

** Provisional release*
Source: CAO

6.5 Overview of European English Taught Vet School Courses

The Review Team contacted all of the universities offering English taught veterinary medicine / science (Brno, Kosice, Stara Zagora, Sofia and Warsaw) to ascertain the level of NI-domiciled applications and studentship. A response was received from Warsaw as follows:

Academic Year	Intake	Attrition to date	Residual Intake	Of which, are from	
				Ireland	UK
2018/19	60	-4	56	36	1
2019/20	60	-15	45	21	3
2020/21	69	-6	63	34	6
2021/22 (planned)	88				

The university notes that it cannot verify whether a student is from Northern Ireland and the categories are either UK or Ireland; indicating that remainder of students come from Sweden, Norway, France, Poland, US, Canada and others countries.

6.6 Careers Service Member Survey

6.6.1 Overview

The Careers Service website and information leaflets provided to would-be under graduate NI domicile students is presented below for comparison purposes across courses with similar medical focus and entry requirements as veterinarians:

Course/ Profession	Starting Salary	With Experience	Senior Positions
Veterinary Medicine	£27,000 - £35,000	£35,000 - £50,000	£55,000
Medicine	£28,243	£40,037 - £74,661	£79,860 - £107,688
Pharmacy	£31,365 - £37,890	-	£91,004 – £104,927

Source: Careers Service Information Sheets, August 2021

The Careers Service within DfE has a team of circa 100 professionally qualified advisers providing impartial advice to primary and post primary students in assisting them in making career choices.

The SIB team engaged with the Careers Strategy Delivery and Performance Unit within DfE to understand if they hold any datasets with respect to interest levels or activity around veterinary science/ medicine courses. Unfortunately their current client management system does not collate any such information and instead a number of questions were issued to the careers advisers in an attempt to capture anecdotal feedback.

The collated feedback is presented in the following sub sections.

6.6.2 Query One: There would appear to be between 240 and 310 NI domicile students applying for undergraduate veterinary science courses in the UK; of which about 100 are offered a place and of which about 50 take the place. There has been a year-on-year fall in application levels since 2018. Is there any feedback as to why the acceptance level is not higher than the circa 50% or is this comparatively normal across all courses? Or why there has been a year on year decrease in UCAS applications by NI domiciles for veterinary medicine GB courses since 2018?

- Sometimes students in NI will use both UCAS and CAO system to apply to university, particularly if they are considering medicine as well. Medicine would be considered as a better paid career. For someone who has an offer for Veterinary medicine across the water, they may opt for medicine in RoI
- Some students who have been offered a place on veterinary courses at universities in both UK and RoI, may decide to go with RoI as the fees are much cheaper.
- Some students may not want to leave NI for university.
- Costs are a barrier whilst students apply, closer to the time they realise the costs.
- Some do not want to be away from home as they have commitments here - family, friends, sports teams that they do not want to leave. Teachers have for a long time complained that there should be a course available in NI.
- The Fees in England and Scotland are definitely a deterrent, as are the Entry Requirements; students from NI may well get offers, but they may not meet the conditions of this offer. Students from NI are also at a distinct disadvantage, in that it is not easy for them to visit Veterinary Schools and attend Open Days in the RUK, as this would prove very expensive.
- I also feel Veterinary Medicine has become less appealing as a career option - even young people from agricultural backgrounds, acknowledge it is a very challenging career, and unless you own your own practice, or are a partner, the financial benefits are outweighed by the lifestyle and demanding work environment.

- Some students would have taken up opportunities in European locations at courses that are taught through English with less of a fee burden.
- UCD is the only university in Ireland providing training in veterinary medicine; but it is extremely competitive to get a place …. [and therefore] many A-level students do not even bother applying. A veterinary college in Northern Ireland is long overdue.

6.6.3 *Query Two: With respect to UCD, HEA Data shows that there is a large fall off in the numbers of NI domicile students enrolled on the Dublin-based course. Is there any feedback as to the drivers for this large fall off? Are there any perceived or actual barriers or issues raised by school students when choosing to study veterinary medicine?*

- It is very difficult for even a high achieving A-Level student to reach the CAO points needed to gain a place on UCD's veterinary course. Students need to be studying a minimum of three A-level and on AS-level subjects with top grades, to be in with any chance of gaining a place. It is more likely that students will need to have studied four full A-level subjects (with top grades) to get onto UCD's vet course.
- Rightly or wrongly there may be an impression that NI students have to get higher grades to get in?
- There is little doubt that grades have played a huge part in the fall off, especially since the CAO system changed the points allocated for a student's fourth A-level subject. Cost of living and the availability of accommodation in Dublin is also a real barrier, for students and their parents. Potential veterinary applicants need at least two sciences, which means these same students, have a vast array of career options available to them and are making career decisions based around earnings potential, work environment, impact on future family commitments, personal life and the stress of running their own practice - self-employment.
- Accommodation issues and costs have risen steeply over the last number of years.
- Again I would say the drop off in enrolments from NI is due to the very competitive, almost daunting mountain to climb to secure a place at UCD. I think a few years ago there was an issue about whether a full complement of A-level top grades from NI was meeting the grade criteria for UCD. I believe it had something to do with how grades in NI translated to the Irish Republic.

6.6.4 *Query Three: The English-taught veterinary science course in Warsaw provided the following datasets: 37 students from UK & Ireland in 2018 (66% intake), 24 in 2019 (53% intake) and 40 in 2020 (64% intake). Is there a noticeable upwards trend towards non-UK study and if so, what are the reasons driving same? Affordability, grades, other?*

- There are a number of foreign nationals already working as vets in NI. Many of our students go on work experience and get speaking to these employees. They are also aware that financially it is a more attractive option.
- Grades needed for non-UK vet courses may not be as high as those expected from UK universities. Also, the amount of work experience needed before even applying to UK vet schools is extensive and for those young people without access to family farms, etc., they may not be able to obtain enough experience to be shortlisted for interview. Non-UK vet school options may not ask for as much work experience prior to applying.
- Costs. Some pupils who studied abroad in other subjects - not met one who did veterinary - have said costs were a factor. They 'heard it somewhere that it was cheaper' and this led them to look into [these course options].

- Perhaps a reason driving this [trend] is the perception that vet schools in the UK are extremely hard to get into and the application process can be quite arduous i.e. UCAS form and personal statement, plus supplementary application form for each Vet School, whereby students must detail all their work-related learning; the second driver could be the perceived lower cost of living and the course fees in Warsaw.

- We would see cost as a key component but also those who apply have been very proactive about researching it and consciously wish to leave the UK for their education.

- Many young people find mainland European countries appealing places to study. I would think students are taking up veterinary training places in the EU as a plan B due to not finding a place in Dublin or the UK.

ANNEXES

Annex A – RCVS Guidance on delegated duties to VNs and "Unqualified Persons"
Annex B – University Entrance Requirements
Annex C – EAEVE Accreditation Guidance
Annex D – REF Results for Unit Assessment 6 – Agriculture, Veterinary & Food Science
Annex E - RCVS Certification Guidance (including delegated duties to TCSOs)
Annex F - RCVS Published Sources of Veterinary-Related R&D Funding
Annex G - DAERA-funded Post Graduate Research
Annex H – UU Veterinary-aligned research

ANNEX A

Delegation to Veterinary Nurses

18.3 The Veterinary Surgeons Act 1966 (Schedule 3 Amendment) Order 2002 provides that veterinary surgeons may direct registered or student veterinary nurses who they employ, to carry out limited veterinary surgery.

18.4 Under this Schedule 3 exemption, the privilege of giving any medical treatment or carrying out minor surgery, not involving entry into a body cavity, is given to:

a. Registered veterinary nurses under the direction of their veterinary surgeon employer to animals under their employer's care. The directing veterinary surgeon must be satisfied that the veterinary nurse is qualified to carry out the medical treatment or minor surgery (see paragraph 18.5).
b. Student veterinary nurses under the direction of their veterinary surgeon employer to animals under their employer's care. In addition, medical treatment or minor surgery must be supervised by a veterinary surgeon or registered veterinary nurse and, in the case of minor surgery, the supervision must be direct, continuous and personal. The medical treatment or minor surgery must be carried out in the course of the student veterinary nurse's training (see paragraph 18.5).

18.5 The RCVS has interpreted these as follows:

a. 'direction' means that the veterinary surgeon instructs the veterinary nurse or student veterinary nurse as to the tasks to be performed but is not necessarily present.
b. 'supervision' means that the veterinary surgeon or registered veterinary nurse is present on the premises and able to respond to a request for assistance if needed.
c. 'direct, continuous and personal supervision' means that the veterinary surgeon or veterinary nurse is present and giving the student veterinary nurse his/her undivided personal attention.

18.6 A veterinary nurse or student veterinary nurse is not entitled independently to undertake either medical treatment or minor surgery.

18.7 In considering whether to direct a veterinary nurse or student veterinary nurse to carry out 'Schedule 3 procedures', a veterinary surgeon must consider how difficult the procedure is in the light of any associated risks, whether the nurse is qualified to treat the species concerned, understands the associated risks and has the necessary experience and good sense to react appropriately if any problem should arise. The veterinary surgeon must also be sure that he/she will be available to answer any call for assistance, and finally, should be satisfied that the nurse feels capable of carrying out the procedure competently and successfully.

18.8 Veterinary surgeons and veterinary nurses when supervising veterinary nurses undertaking Schedule 3 procedures, should confirm that their names are currently on the Register of Veterinary Nurses maintained by the RCVS and have not been removed from the Register by direction of the VN Disciplinary Committee.

Maintenance and monitoring of anaesthesia

18.9 Veterinary nurses and student veterinary nurses may be directed to assist veterinary surgeons with the maintenance of anaesthesia and the monitoring of patients under anaesthesia.

Vaccination of companion animals

18.10 To give a first vaccination with a POM-V medicine, the animal must be under care of the prescribing veterinary surgeon and the veterinary surgeon must carry out a clinical assessment and then the veterinary surgeon may administer, or under his or her direction, a veterinary nurse or student veterinary nurse may administer (see paragraph 18.5). If the veterinary surgeon is to certify the vaccination, the certification rules apply and generally he or she must do it him or herself or witness it done.

18.11 The subsequent vaccination some two weeks or so later (close in time to the first vaccination) is usually authorised by the veterinary surgeon at the time of the first vaccination (directed by the veterinary surgeon when the animal is under his or her care and when the clinical assessment is carried out), and therefore the administration of this second vaccination and all dealings may be through a veterinary nurse or student veterinary nurse at the practice, provided the veterinary surgeon is not intending to certify this vaccination. Nevertheless, it is helpful for a veterinary surgeon to be on the premises at the time the vaccine is administered to the animal, to be able to assist in the event of the animal suffering an adverse reaction.

18.12 For booster or subsequent vaccinations not close in time to the first vaccination, the advice is the same as for the first vaccination (see paragraph 18.10).

Veterinary nurses and dentistry

18.13 Veterinary nurses and student veterinary nurses working under the direction of a veterinary surgeon may carry out routine dental hygiene work.

18.14 The extraction of teeth using instruments may readily become complicated and should only be carried out by veterinary surgeons. The RCVS considers that the extraction of teeth using instruments is not within the meaning of "minor surgery" in Schedule 3.

Treatment of Animals by Unqualified Persons

19.1 The purpose of this guidance is to explain the restrictions that apply under the Veterinary Surgeons Act 1966 ('the Act') to ensure that animals are treated only by those people qualified to do so. These restrictions apply where the 'treatment' is considered to be the practice of 'veterinary surgery', as defined by the Act.

19.2 Section 19 of the Act provides, subject to a number of exceptions, that only registered members of the Royal College of Veterinary Surgeons may practise veterinary surgery. 'Veterinary surgery' is defined within the Act as follows:

'"**veterinary surgery**" means the art and science of veterinary surgery and medicine and, without prejudice to the generality of the foregoing, shall be taken to include:

a. the diagnosis of diseases in, and injuries to, animals including tests performed on animals for diagnostic purposes;
b. the giving of advice based upon such diagnosis;
c. the medical or surgical treatment of animals; and
d. the performance of surgical operations on animals.'

19.3 A number of exceptions apply which can be found in the Act itself (Schedule 3), as well as in the form of specific exemption orders.

19.4 Veterinary surgeons and veterinary nurses should be aware of the exceptions as they apply, for example, to:

a. the animal owner, a member of his household or his employee, who may carry out minor medical treatment, in accordance with Schedule 3 of the Veterinary Surgeons Act 1966;
b. the animal owner or person engaged in caring for animals used in agriculture, who may carry out medical treatment or minor surgery not involving entry into a body cavity, in accordance with Schedule 3 of the Veterinary Surgeons Act 1966;
c. registered veterinary nurses who may carry out medical treatment and minor surgery (not including entry into a body cavity), in accordance with Schedule 3 of the Veterinary Surgeons Act 1966;
d. student veterinary nurses who may carry out medical treatment and minor surgery (not including entry into a body cavity), in accordance with Schedule 3 of the Veterinary Surgeons Act 1966;

e. veterinary students who are undertaking the clinical part of their course, in accordance with the Veterinary Surgeons (Practice by Students) (Amendment) Regulations 1993;
f. registered farriers in accordance with the Farriers (Registration) Acts 1975 and 1977;
g. persons providing physiotherapy in accordance with the Veterinary Surgeons (Exemptions) Order 2015
h. blood sampling under the Blood Sampling Order 1983, as amended;
i. animal husbandry trainees over 17 years of age in castration of certain male animals, disbudding of calves and docking of lambs' tails, in accordance with Schedule 3 of the Veterinary Surgeons Act 1966; and,
j. anyone administering emergency first aid to save life or relieve pain or suffering, in accordance with Schedule 3 of the Veterinary Surgeons Act 1966.

Veterinary students

19.5 Veterinary students, as part of their clinical training, are required to undertake acts of veterinary surgery.

19.6 The Veterinary Surgeons (Practice by Students) (Amendment) Regulations 1993 identify two categories of student, full-time undergraduate students in the clinical part of their course and overseas veterinary surgeons whose declared intention is to sit the RCVS Statutory Examination for Membership within a reasonable time. The Regulations provide that student may examine animals, carry out diagnostic tests under the direction of a registered veterinary surgeon, administer treatment under the supervision of a registered veterinary surgeon and perform surgical operations under the direct and continuous personal supervision of a registered veterinary surgeon.

19.7 The RCVS has interpreted these as follows:

a. 'direction' means that the veterinary surgeon instructs the student as to the tests or treatment to be administered but is not necessarily present.
b. 'supervision' means that the veterinary surgeon is present on the premises and able to respond to a request for assistance if needed.
c. 'direct and continuous personal supervision' means that the veterinary surgeon is present and giving the student his/her undivided personal attention.

Unqualified (or 'lay') practice staff

19.8 Many veterinary practices employ staff who are not veterinary surgeons, veterinary nurses or student veterinary nurses. Regardless of any training or experience these staff members may have, in the context of the veterinary practice, such staff should be regarded as unqualified or laypeople. Their job titles should not be misleading and should reflect their demarcation from qualified members of staff. In particular, veterinary surgeons and veterinary nurses should not hold out a colleague as a 'veterinary nurse' unless that colleague is appropriately registered with the RCVS.

19.9 The RCVS recognises that veterinary surgeons may wish to delegate certain tasks to unqualified members of staff. There is no specific legal dispensation in the Veterinary Surgeons Act for a veterinary surgeon to delegate to a layperson employed by a veterinary practice. This means that unqualified members of staff have no legal dispensation to undertake delegated medical treatments or minor surgical procedures, regardless of how well trained or experienced they are considered to be.

19.10 In the absence of any legal basis for such delegation, and with the aim of preserving animal welfare, the RCVS advice is that any delegation to a lay member of staff needs to be justified and is a matter of professional judgement in any individual case following risk assessment. The delegation should:

a. Be reasonable in all the circumstances;
b. Not put the animal at risk; and
c. Not amount to more than 'minor medical treatment' of the sort which an owner could undertake, for example, the administration of uncomplicated oral medications or subcutaneous injections.

19.11 The delegation of veterinary procedures, even 'minor medical treatment', will involve consideration of all the circumstances, not just the procedure itself. The delegating veterinary surgeon should therefore have regard to the following:

a. the nature of the task (i.e. its level of complexity);

b. the individual animal concerned (i.e. species, its condition, the likelihood of complications, the owner's wishes);
c. the individual staff member (i.e. their training and experience, their confidence and willingness to accept delegation, their awareness of when to seek the assistance of a qualified colleague); and
d. the availability of qualified assistance.

19.12 The RCVS considers that there are certain tasks that should not be delegated to unqualified members of staff; examples include intramuscular or intravenous injections, and invasive procedures such as the introduction of an IV catheter or the passage of a urinary catheter.

19.13 Veterinary surgeons should generally ensure that the client is made aware of any procedures to be performed by practice staff who are not veterinary surgeons, where appropriate.

19.14 The directing veterinary surgeon remains responsible for their decision to delegate to unqualified members of staff. Should a delegation decision become the subject of a professional conduct investigation, the RCVS would consider the reasonableness of the veterinary surgeon's decision. A clearly-reasoned and recorded decision should therefore be behind every delegation to an unqualified member of staff.

Farriers

19.15 Both veterinary surgeons and farriers are involved in the treatment of horses' feet. While veterinary surgeons are exempt from the restrictions in the Farriers Registration Acts 1975 and 1977, farriers are not exempt from the restrictions in the Veterinary Surgeons Act 1966, and may not carry out procedures deemed to be acts of veterinary surgery.

19.16 There is no clear demarcation line between veterinary surgeons and farriers in the exercise of their professional responsibilities, so that much depends on individuals and the relationship between them. Decisions as to whether a particular procedure should be performed by one or the other are a matter for consultation and cooperation. Veterinary surgeons should make every effort personally to discuss cases with farriers.

19.17 Farriery consists of trimming and balancing the equine hoof prior to and for the fitting of conventional or surgical shoes, and where a veterinary surgeon requires particular work from a farrier, this should be specified in personal contact between them.

19.18 A farrier must not normally penetrate sensitive structures, cause unnatural stress to the animal, make a diagnosis or administer drugs. If he feels that either the veterinary surgeon is treating the animal incorrectly, or that a further condition is present requiring treatment, he should notify the veterinary surgeon or advise the owner to call in the veterinary surgeon. If a veterinary surgeon considers that a farrier's work is inadequate, he should contact the farrier directly. Neither should make detrimental comments about the work of the other unless in the course of a formal complaint to their regulatory bodies: the Royal College of Veterinary Surgeons and the Farriers Registration Council.

Physiotherapy, Osteopathic Therapy and Chiropractic Therapy

19.19 Musculoskeletal therapists are part of the vet-led team. Animals cared for or treated by musculoskeletal therapists must be registered with a veterinary surgeon. Musculoskeletal therapists carry out a range of manipulative therapies, including physiotherapy, osteopathy and chiropractic therapy.

19.20 As per the Veterinary Surgeons (Exemptions) Order 2015 (which revokes the Veterinary Surgery (Exemptions) Order 1962) remedial treatment by 'physiotherapy' requires delegation by a veterinary surgeon who has first examined the animal. The Order allows the treatment of an animal by physiotherapy if the following conditions are satisfied:

(1) the first condition is that the person providing the treatment is aged 18 or over
(2) the second condition is that the person is acting under the direction of a qualified person who—
(a) has examined the animal, and
(b) has prescribed the treatment of the animal by physiotherapy.

19.21 The Order specifies that a qualified person "means a person who is registered in the Register of Veterinary Surgeons or the Supplementary Veterinary Register".

19.22 'Physiotherapy' is interpreted as including all kinds of manipulative therapy. It therefore includes osteopathy and chiropractic but would not, for example, include acupuncture or aromatherapy. It is up to the professional judgement of the veterinary surgeon to determine whether and when a clinical examination should be repeated before musculoskeletal treatment is continued.

19.23 The delegating veterinary surgeon should ensure, before delegation, that they are confident that the musculoskeletal therapist is appropriately qualified and competent; indicators can include membership of a voluntary register with associated standards of education and conduct, supported by a disciplinary process. As the RCVS does not regulate musculoskeletal therapists it cannot recommend specific voluntary registers.

19.24 Musculoskeletal maintenance care for a healthy animal, for instance massage, does not require delegation by a veterinary surgeon. However, the animal must still be registered with a veterinary surgeon. Maintenance should cease and the owner of the animal should be asked to take their animal to a veterinary surgeon for clinical examination at the first sign that there may be any underlying injury, disease or pathology. Alternatively, the musculoskeletal therapist may ask the client for formal consent to disclose any concerns to the veterinary surgeon that has their animal under their care.

Other complementary therapy

19.25 It is illegal, in terms of the Veterinary Surgeons Act 1966, for non-veterinary surgeons, however qualified in the human field, to treat animals. All forms of complementary therapy that involve acts or the practise of veterinary surgery must be undertaken by a veterinary surgeon, subject to any exemption in the Act. At the same time, it is incumbent on veterinary surgeons offering any complementary therapy to ensure that they are adequately trained in its application.

'Anaesthesia-free dental procedures' for cats and dogs

19.26 Lay people may be involved in providing grooming services for animals and should be aware of the statement on 'Anaesthesia-free dental procedures' for cats and dogs, supported by the RCVS Standards Committee.

Annex B

Veterinary Science / Medicine Course Entry Requirements

UK University Courses					
Course	**Established**	**Grades**	**Work Experience**	**Assessment**	**Interview**
Edinburgh	1823	AAA including Chemistry, Biology and one other university-approved subject.	No stipulation. Required to complete a Work Experience Questionnaire.	30% on academic performance, 20% on extracurricular (information derived from references and personal statement), 30% veterinary work experience, 20% animal-related work experience.	Yes – 100% offers based on interview
Glasgow	1863	AAA including Chemistry and Biology.	Confidential reference from a veterinary surgeon, and work experience report form.		Yes – 50% offers based on interview and 50% based on ethical reasoning scores.
Bristol	Not known	AAA including Chemistry and one of Biology, Physics or Maths.	No stipulation.	100% on personal and professional attr butes.	Not typically.
Cambridge	Not known	A*AA including Chemistry and one, preferably two, of Biology, Maths and Physics	No minimum requirement. Recommends applicants gain 10 days' clinical work experience observing veterinary surgeons at work.	Applicants to complete Supplementary Application Questionnaire and undertake a Natural Sciences Admissions Assessment	Yes – offers based on 60% academic performance, 25% interview performance relating to science and maths, 10% on interview performance relating to work experience, 5% other.
Harper & Keele	2020	AAB to include grade A in Biology or Chemistry, a second science subject.	No stipulation.	Vocational Experience form, detailing work experience, and reflecting on how this experience has prepared student to study veterinary medicine and for a career as a veterinary surgeon.	Yes – 100% offers based on interview.
Liverpool	1904	AAA, including Biology and one other science-related subject.	To obtain experience with at least two of small, equine or farm animals. Must have 15 days of any type of animal or veterinary-related work experience or 10 days of work experience plus the Virtual Work Experience and Exploring the veterinary profession MOOC.	Applicants to complete online work experience questionnaire.	Yes – 100% weighting. Further review applicants with borderline scores at interview and consider contextual data and prior academic performance (50% interview and 50% academic performance)
Nottingham	2007	AAB including A in both Biology and Chemistry	No stipulation.	Applicants to complete three forms. 1) Widening participation and work experience. 2) SJT and 3) Personal Qualities Review.	Yes – 100% offers based on interview.
RVC	1791	AAB to include Biology and Chemistry grade A.	All applicants to have achieved 70 hours experience in one or more veterinary practices and 70 hours experience in one or more non-clinical working environment. This is a	Based on academic achievement, achieved/predicted grades and animal related work experience.	Yes

UK University Courses					
Course	**Established**	**Grades**	**Work Experience**	**Assessment**	**Interview**
			condition of offer for successful applicants	Applicants who pass this stage complete an online questionnaire about animal related work experience and includes Situational Judgement Tests (SJTs).	
Surrey	2015	AAB including A in both Biology and Chemistry	Minimum of four weeks of animal related work experience, including at least one week in a Veterinary Practice. The other weeks could include farm, stable yard, kennels, rescue centre, research laboratory or abattoir work.		Yes
Aberystwyth	2021	AAA to include Biology, Chemistry	As per RVC stipulations.	As per RVC stipulations.	Yes

Source: VSC Admissions Guide (July 2021) and www.courses.aber.ac.uk/undergraduate/vet-sci/#how to apply

ROI University Courses					
Course	**Established**	**Grades**	**Work Experience**	**Assessment**	**Interview**
UCD	1960[29]	CAO points range 589-625 – 601 in 2021 4 A levels at Grade A* (A* equates to 150 CAO points)	Applicant are required to demonstrate that they have acquired at least 15 hours practical experience relevant to animal handling between 1st February 2019 and 7th July 2022	Graduate entry candidates will be assessed on a combination of: i) GAMSAT score ii) educational performance iii) a personal statement outlining their motivation to study Veterinary Medicine. iv) animal handling experience in at least two or more species is recommended v) applicants may be called for an interview	Noted as a poss bility

Institution	**Established**	**Grades**	**Assessment**
University of Veterinary Medicine, Budapest	1786 – English course 30 years EAEVE accredited 1995	High School Leaving Certificate	In addition to entrance exam, also assesses letters of recommendation and student's motivation letter; also has an oral interview.
University of Veterinary, Brno	1994	3 A-levels plus 3 GCSEs Entrance exam.	All assessed through a university entry examination in biology and chemistry.
University of Veterinary Medicine & Pharmacy, Kosice	1992	3 A-levels (grades A - E) + 3 GCSE (grades A - C) including Maths.	
Faculty of Veterinary Medicine, Trakia University, Stara Zagora	1995	3 A-Levels, including Biology & Chemistry at C, or above	
University of Forestry, Sofia	1953	3 A-levels including Chemistry and Biology, both at C or above.	
Faculty of Veterinary Medicine, Warsaw University of Life Sciences	1824 English course 2007 EAEVE accredited 2000	3 A-levels plus 3 GCSEs	

[29] *The first vet education in Ireland was through the Royal Veterinary College of Ireland in 1900. In 1960 this function transferred to two faculties - one at UCD and one at Trinity. The two faculties merged in 1977 under UCD.*

Annex C
European System for Evaluation of Veterinary Training (ESEVT)

The following table details the indicators used, with accreditation awarded based on the achievement of recommended minimal values equal to the 20th percentile and the use of three-year mean data (to smooth out annual variations). The guidance notes that interpretation is not undertaken in a strictly mathematical and isolated sense, but in the light of all other indicators and data.

EUROPEAN SYSTEM FOR EVALUATION OF VETERINARY TRAINING - Indicators	
STAFF AND STUDENTS	
I1	n° of FTE academic staff involved in veterinary training / n° of undergraduate students
I2	n° of FTE veterinarians involved in veterinary training / n° of students graduating annually
I3	n° of FTE support staff involved in veterinary training / n° of students graduating annually
TYPES OF TRAINING	
I4	n° of hours of practical (non-clinical) training
I5	n° of hours of clinical training
I6	n° of hours of Food Safety and Quality (FSQ) & Veterinary Public Health (VPH) training
I7	n° of hours of extra-mural practical training in FSQ & VPH
PATIENTS AVAILABLE FOR INTRA-MURAL CLINICAL TRAINING	
I8	n° of companion animal patients seen intra-murally / n° of students graduating annually
I9	n° of ruminant and pig patients seen intra-murally / n° of students graduating annually
I10	n° of equine patients seen intra-murally / n° of students graduating annually
I11	n° of rabbit, rodent, bird and exotic seen intra-murally / n° of students graduating annually
ANIMALS/HERDS/UNITS AVAILABLE FOR EXTRA-MURAL CLINICAL TRAINING	
I12	n° of companion animal patients seen extra-murally / n° of students graduating annually
I13	n° of individual ruminants and pig patients seen extra-murally / n° of students graduating annually
I14	n° of equine patients seen extra-murally / n° of students graduating annually
I15	n° of visits to ruminant and pig herds / n° of students graduating annually
I16	n° of visits of poultry and farmed rabbit units / n° of students graduating annually
NECROPSIES AVAILABLE FOR CLINICAL TRAINING	
I17	n° of companion animal necropsies / n° of students graduating annually
I18	n° of ruminant and pig necropsies / n° of students graduating annually
I19	n° of equine necropsies / n° of students graduating annually
I20	n° of rabbit, rodent, bird and exotic pet necropsies / n° of students graduating annually
POST GRADUATE DEGREES	
I21*	n° of FTE specialised veterinarians involved in veterinary training / n° of students graduating annually
I22*	n° of PhD graduating annually / n° of students graduating annually

Source: EAEVE

Annex D

Research Excellence Framework Results for Unit Assessment 6 – Agriculture, Veterinary and Food Science

2014 Research Excellence Framework Results for Unit of Assessment 6: Agriculture, Veterinary and Food Science							Vet School
Institution name	FTE Category A Staff Submitted	4*	3*	2*	1*	U/C	
University of Bristol	34.03	35	53	11	0	1	✓
University of Cambridge	39.60	40	40	18	2	0	✓
Canterbury Christ Church	12.50	2	31	48	17	2	×
Cranfield University	26.30	23	49	27	1	0	×
University of East Anglia	11.00	32	57	11	0	0	×
University of Greenwich	23.50	21	34	39	6	0	×
Harper Adams University	17.00	10	46	44	0	0	×*
University of Hertfordshire	11.60	10	35	41	14	0	×
University of Leeds	14.40	30	48	20	2	0	×
University of Lincoln	14.00	31	47	20	2	0	×
University of Liverpool	54.64	42	40	17	1	0	✓
Newcastle University	25.40	19	47	33	1	0	×
University of Nottingham	111.45	37	43	17	1	2	✓
University of Plymouth	24.45	13	40	42	4	1	×
University of Reading	73.00	45	36	17	2	0	×
Royal Agricultural University	12.00	3	4	39	38	16	×
Royal Veterinary College	103.49	35	44	18	3	0	✓
University of Warwick	12.60	46	46	8	0	0	×
University of West of England	13.90	14	49	35	2	0	×
Writtle College	8.80	0	20	29	28	23	×
University of Aberdeen	20.40	56	36	8	0	0	×
University of Edinburgh	122.62	42	32	23	3	0	✓
University of Glasgow	38.80	46	45	9	0	0	✓
Heriot-Watt University	9.50	23	42	34	1	0	×
SRUC	57.37	42	32	23	3	0	× *
University of Stirling	28.00	40	48	11	1	0	×
Aberystwyth University	70.21	32	46	19	1	2	× *
Bangor University	18.20	32	46	19	1	2	×
Queen's University Belfast	33.40	44	40	15	0	1	×

** Announcement of new veterinary courses subsequently released*

Annex E
RCVS Certification

Updated 21 September 2021

Introduction

21.1 Veterinarians are frequently required to sign certificates as part of their day-to-day professional duties. Some examples include signing pet or equine passports, fitness to travel certificates, fitness to breed certificates or equine pre-purchase examination (PPE) certificates.

21.2 Some veterinarians may also work as Official Veterinarians (OVs). These are practitioners, who are designated by the UK Government to carry out certain duties, including certification responsibilities. Veterinarians in salaried employment of the UK Government, mainly Defra and its executive agencies (principally the Animal and Plant Health Agency – APHA) and the devolved administrations (e.g. in Northern Ireland the Departments of Agriculture Environment and Rural Affairs – DAERA) are also considered OVs. OVs may be asked to sign certificates relating to live animals or products of animal origin (for example, meat and dairy products, animal by-products, genetic material).

21.3 Veterinary certification plays a significant role in the control of animal health and welfare, the continuity of European and international trade and the maintenance of public health. Veterinarians have a professional responsibility to ensure the integrity of veterinary certification. The simple act of signing their names on documents should be approached with care and accuracy.

21.4 Veterinarians must certify facts and opinions honestly and with due care, taking into account the 10 Principles of Certification set out below. They should not sign certificates which they know or ought to know are untrue, misleading or inaccurate. This applies equally to hand-written, printed and electronic certificates.

21.5 Veterinarians should also familiarise themselves with the form of certificate they are being asked to sign and any accompanying Notes for Guidance, instructions or advice from the relevant Competent Authority.

21.6 This chapter of Supporting Guidance is intended to help veterinarians understand and meet their professional responsibilities in the context of certification.

What is a certificate?

21.7 A certificate is a written statement made with authority; the authority in this case coming from the veterinarian's professional status.

21.8 It should be noted that not all certificates contain the word 'certificate'. Some documents (for example, forms, declarations, insurance claims, witness statements and self-certification documents) may involve the same level of responsibility even if they do not contain the word 'certificate'.

Official certification for export of live animals and animal products

21.12 Veterinarians involved with official certification should familiarise themselves with all regulatory requirements, instructions and guidelines pertaining to the particular category of official assurance being dealt with. They should read and understand any supporting explanatory material and check carefully for any ambiguity or incompatibility with the Competent Authority. Veterinarians should also ensure they have the necessary prior authority and knowledge before issuing any particular category of official assurances.

21.13 Where appropriate Notes for Guidance should be provided to the certifying veterinarian by the Competent Authority indicating the extent of the enquiries he or she is expected to make; the examinations he or she is required to carry out; the extent to which OAPs may carry out checks on behalf of the OV; or to clarify any details of the certificate which may require further interpretation. Whilst some certificates are self-explanatory, most Export Health Certificates are highly complex and need further guidance to allow veterinarians to sign these. The RCVS strongly encourages Competent Authorities to provide clear Notes for Guidance to certifying veterinarians, where appropriate.

21.14 In cases where further advice or clarification is sought, veterinarians should record, in writing, the information received, the date and time it is received and the name and details of the official giving the advice. Veterinarians should expect their own queries to be similarly recorded. They may request and expect to receive written confirmation of the guidance given to them.

21.15 Guidance issued by the Competent Authority for the completion of these certificates should be scrupulously followed. This might include guidance on important areas such as how to deal with errors, deletions, corrections or even copy or replacement certificates. When problems are identified, Defra or APHA (or the equivalent body in the devolved administrations) should be consulted and, if not then resolved, the advice of the RCVS should be sought.

21.16 In some cases, advice from the Competent Authority may not be available (e.g. during holiday periods or out of hours). In such emergency situations veterinarians may wish to consult an experienced colleague for advice and make a note of the discussion. Veterinarians should also comply with any practice policies on seeking external advice.

21.17 A veterinarian who acts in an official capacity must only use an official stamp issued to him or her on official certificates issued or approved by the Competent Authority.

21.18 For the avoidance of doubt, 'Competent Authority' means the relevant national government department responsible for animal health or public health official controls (e.g. Defra/DAERA) or agencies or bodies to which the Competent Authority has delegated the relevant functions (e.g. APHA, FSA/FSS or Local Authorities).

Remote certification of low risk products by Official Veterinarians (OVs)

21.19 In some limited or exceptional circumstances as directed by the Competent Authority it may be appropriate for OVs to certify low risk products remotely based on knowledge of the production establishments and working processes or supported by an OAP acting under the OV's direction. Requirements for remote certification will need to be agreed with the Competent Authority and OVs should be familiar with these requirements before proceeding.

21.20 In these limited cases, where the product is the result of an industrial process, and the OV inspects the production establishment periodically and checks the quality control systems that are in place, and the certificate does not require the OV to be present at the time of loading, then the consignment could be certified remotely. In order for this to happen certain strict conditions should be met such as:

a) there is no requirement in the certificate for the certifying officer to be present or to directly apply an official seal;

b) the consignment is identified by marks and all necessary tests have been completed satisfactorily;

c) the certificate describes the consignment such that substitution with product, which had not been inspected, would not be possible;

d) there are accurate, up-to-date and accessible records from audited systems which can be used to confirm that the consignment complies with the certification requirements; and

e) the certifying OVs carries out regular audits of the production establishment, is familiar with its quality assurance systems, where applicable, has relevant assurances from the enforcement authority responsible for the establishment and, where a CSO/TCSO is used, is confident to rely on records or the declaration of a CSO/TCSO acting under the OV's direction.

21.21 Under these circumstances, OVs should judge whether it is necessary to personally inspect consignments at the time of certification, but in doing so must be in a position to provide a clear account of the factors which led them to that decision.

21.22 OVs should always seek advice from the Competent Authority and/or from instructions provided in relevant Notes for Guidance before considering remote certification as this will not be acceptable in all cases.

Electronic Certification

21.23 The RCVS considers electronic veterinary certificates are acceptable, subject to sufficient safeguards and security.

21.24 An example of a system that has been accepted by the RCVS is TRACES (Trade Control and Expert System), an EU-wide electronic certification and notification system that is being used for the provision of export health certificates and supporting documents for intra-Community trade in certain circumstances; and currently used by DEFRA. Other examples might include electronic signatures on pre-purchase examination or other certificates.

21.25 Veterinarians asked to complete any form of electronic certification (including the use of electronic signatures) should consider whether there are sufficient controls and security (e.g. system encryption, passwords, etc.) to avoid unauthorised access to and use of the veterinarian's electronic identity. Veterinarians should also consider whether the certificate is unalterable and lockable to avoid unauthorised modification or manipulation once it has been signed. In most cases, veterinarians will need to seek advice from those with relevant knowledge to give assurances about how to meet these requirements. The RCVS cannot provide this type of technical advice.

21.26 For advice on the deployment of digital signatures within the TRACES or any other export certification system. It is essential that veterinarians do not consider using electronic signatures or producing electronic versions of official certificates without first discussing the implications with the Competent Authority.
21.27 Veterinarians should keep a copy of the completed certificate to ensure that a trail of document 'originals' can be maintained, particularly if the document is likely to pass through a sequence of electronic 'hands'.

21.28 Veterinarians engaged in providing certification or other formal correspondence solely through electronic means should familiarise themselves with the relevant provisions of the UK legislation: the Electronic Communications Act 2000 and associated regulations.

Identifying animals on certificates

21.29 If an alleged identification mark is not legible at the time of inspection, no certificate should be issued until the animal has been re-marked or otherwise adequately identified.

21.30 When there is no identification mark, the use of the animal's name alone is inadequate. If possible, the identification should be made more certain by the owner inserting a declaration identifying the animal, so that the veterinarian can refer to it as 'as described'. Age, colour, sex, marking and breed may also be used.

21.31 The owner's name must always be inserted. (In the case, for example, of litters of unsold puppies this will be the name of the breeder or the seller.)

21.32 Where microchipping, tattooing or any other form of permanent identification has been applied it should be referred to in any certificate of identification.

21.34 When faced with a certificate that does not conform to the 10 Principles, veterinarians should take a professional, reasonable and pragmatic approach, bearing in mind the general advice above.

ANNEX 21.A Recognition of the role of Officially Authorised Persons in assisting official certification

21.A.1 In certain specific situations OVs may rely on third party attestations by Officially Authorised Persons (OAPs). Generally there will be express provision for this in legislation. OAPs must be authorised by the relevant Competent Authorities and must not make declarations or provide evidence to veterinarians which relies on veterinary clinical judgement or diagnosis. Changes (e.g. additions, amendments and/or withdrawals) to OAP categories shall be determined by mutual agreement between the Competent Authorities and RCVS. Currently recognised OAPs are:

a) A **Certification Support Officer (CSO)** or **Trade Certification Support Officer (TCSO)** working under the direction, authority and responsibility of the certifying OV – see paragraph 21.A.2

b) an **official auxiliary** working under the direction or supervision of the certifying OV and/or for whom the OV has responsibility (as defined in UK legislation) - see paragraph 21.A.3

c) a **portal assistant** working under the direction or supervision of the certifying Portal Official Veterinary Surgeons (P-OVS) and/or for whom the P-OVS has responsibility (as defined in UK legislation) – see paragraph 21.A.4

d) a **Food Competent Certifying Officer (FCCO)** designated by the UK Competent Authority to provide official Export Health Certification – see paragraph 21.A.5

The following paragraphs provide specific guidance relevant to the specific OAP categories listed above:

21.A.2 In order for an OV to rely on checks carried out by a **CSO/TCSO**, the following [minimum] conditions must be met:

a) CSO/TCSO can only be deployed for export certification which must relate to animal products excluding germinal products and not to the export of live animals (further guidance is available from APHA);

b) the Competent Authority Guidance for the relevant certificate (e.g. accompanying Notes for Guidance or guidance on Vet Gateway) must allow for OVs to certify matters on the basis of checks carried out by a CSO/TCSO;

c) the OV is satisfied that the CSO/TCSO is included on the register of authorised CSOs/TCSOs maintained by the relevant Competent Authority, and is suitably trained and competent to carry out the tasks allocated to them;

d) the OV has effective management control of the CSO as an employee of the same business or equivalent, and is acting under the OV's true and tangible direction;

e) the OV directs the CSO/TCSO on the basis of an agreed standard operating procedure (SOP) which details the way in which the CSO / TCSO will provide the necessary assurances to support the OV who must sign the final certification;

f) the OV regularly audits the input provided by the CSO/TCSO, for example, by reviewing documents and conducting physical inspections themselves; and

g) the OV must take reasonable steps to avoid any conflict of interest on the part of the CSO/TCSO, for example, by ensuring that the CSO/TCSO does not have a close family or commercial interest in the goods to be certified or to any business engaged in the export process.

h) the OV must satisfy themselves that the activities of the CSO/TCSO are covered by appropriate professional indemnity insurance.

21.A.3 Current UK legislation which specifies the official controls on products of animal origin intended for human consumption allows the use of trained **official auxiliaries** to carry out veterinary checks under the supervision of the OV in certain situations. An 'official auxiliary' means a representative of the Competent Authorities trained and authorised to act in such a capacity in accordance with UK Regulations by the Competent Authority and working under the direction, authority or responsibility of an OV. An OA, acting as an OAP, may be directed by an OV to carry out additional checks to support veterinary certification.

21.A.4 Current UK legislation permits non-veterinarians with specific training and authorisation by the relevant competent authority, known as **portal assistants**, to assist Portal Official Veterinary Surgeons (P-OVS) with certain types of checks at Border Control Posts.

21.A.5 Current UK legislation enables certain professionals who are not veterinary surgeons to be designated as "Certifying Officers". Like OVs, FCCOs are officially designated by the relevant UK Competent Authority (or equivalent Isle of Man Competent Authority) to provide official Export Health Certification. Where a veterinarian wishes to rely on attestations made by an FCCO the following general guidance applies:

a) Veterinarians can only use supporting attestations from FCCOs to support export certification of animal products (excluding germinal products).
b) FCCOs cannot provide supporting attestations to veterinarians relating to live animal [1] or germinal product exports and cannot make declarations or provide evidence to veterinarians that require specific veterinary clinical judgement or diagnosis.

c) For Export Health Certificates where the importing country permits official certification by both OVs and FCCOs, OVs may rely on any relevant supporting attestations from an FCCO.

d) For export health certificates that can only be certified by an OV, OVs may only place reliance on FCCOs to provide confirmation of product traceability information, compliance of products or establishments with public health official controls and/or information on the processing of products at local authority approved or registered establishments.

e) For further guidance, OVs should refer to the Competent Authority guidance for the relevant certificate and/or contact APHA/DAERA.[1] Except for exports of live seafood where exported as animal products.

21.A.6 Veterinarians should comply with relevant legislation in the jurisdiction(s) in which they practise and be familiar with any special rules or requirements of the particular industry in which they practise. Veterinarians should also comply with any guidance from the Competent Authority when certifying on the basis of checks carried out by Officially Authorised Persons.

Annex F

R&D Research Funders

Funder	Detail
Animal Welfare Foundation	The Animal Welfare Foundation supports research projects which make a practical difference to animal welfare in a relatively short time period. Grants ranging in value from £12,000 to £200,000 are available for research into the disease and welfare of horses, cattle and sheep. Applications are welcome from academic or practice-based researchers, but not usually from undergraduates or for projects based outside the UK.
Biotechnology and Biological Sciences Research Council	The BBSRC is a large funder of bioscience research, awarding around 2,000 PhD students each year, amounting to a total of £43.5 million funded per annum. Its strategic priorities are food security, bioenergy and industrial biotechnology, and bioscience underpinning health and ageing.
British Egg Marketing Board Research and Education Trust	A small number of grants, including a PhD scholarship offered every two years, are available towards scientific research into hen and duck production and marketing.
British Hen Welfare Trust	The British Hen Welfare Trust offers student bursaries and small grants for projects that will improve or benefit the quality of health, welfare or longevity of pet hens.
British Veterinary Nursing Association	BVNA works alongside numerous companies and institutions to award a number of bursaries each year with the aim of assisting students or qualified veterinary nurses.
The Department for Environment, Food & Rural Affairs	Defra funds around 1,000 evidence projects each year, covering research in natural and social sciences, as well as projects on economic analysis, monitoring, testing and surveillance activities.
The Digglers Charitable Trust	The Digglers Charitable Trust aims to improve animal welfare, and to assist veterinary undergraduates studying as a second degree. A bursary scheme is available, which allows the students to collect monies on behalf of the charity which then undertakes to pass it onto the veterinary faculty to help pay undergraduate fees. The charity also aims to pass on the Gift Aid associated with the donations. The charity, if accumulated funds allow, plans to make grants available for these students. For more information, please contact the Digglers: admin@thedigglers.co.uk
EBLEX (English beef and sheep industry)	EBLEX represents beef and sheep levy payers in England, and funds research and development to promote efficiency throughout the beef and sheep supply chain, including the areas of animal health, climate change and genetic selection. Some studentships are available as well as funding by tender or proposal.
European Research Council	ERC grants support individual researchers from anywhere in the world, who wish to carry out their research in the 28 EU Member States or associated countries. Starting Grants of up to €2 million for 5 years are offered to researchers with 2-7 years' experience after their PhD. Larger amounts are offered for Consolidation Grants (7-12 years' experience after a PhD) and Advanced Grants (for leaders in a field).

Funder	Detail
The Gen Foundation	The Gen Foundation awards grants to students and researchers in the biological, chemical, botanical and food sciences. Applicants must hold a bachelor's degree or equivalent. Grants range between £500 and £5,000.
Gilchrist Educational Trust	Educational grants are offered to individuals, organisations and expeditions. A £15,000 fieldwork award is offered every two years to scientists or academics in the UK.
Higher Education Academy Subject Centre for Veterinary Medicine	The Higher Education Academy supports the large network of learning and teaching practitioners involved in veterinary medicine and science throughout the UK. By providing funding, events and resources, the academy creates a large number of opportunities to network with learning and teaching practitioners from a variety of institutions and roles.
Horserace Betting Levy Board	The HBLB collects a statutory levy from the horseracing business of bookmakers. Some of these funds are awarded as grants and scholarships that contribute to the health and wellbeing of thoroughbreds. In 2014/2015, £1,743,000 was distributed to veterinary research and education.
The Kennel Club Charitable Trust	The Kennel Club Charitable Trust provides grants for organisations specifically involved in canine welfare, rescue and support. Grants are rarely made to individuals and not to political organisations.
The Leatherseller's Company	The Leatherseller's Company offers educational grants to individuals and charitable grants to organisations. Educational grants of up to £500 per year are given to exceptional students of full-time degrees at a UK university, who are in financial need. Priority is given to students in the Greater London area, students of subjects connected with the leather trade, or students with an intention to take Holy Orders. Charitable grants are awarded to UK registered charities or educational organisations, and priority is again given to Greater London and to relevance to the leather trade.
Marie Curie Actions	Marie Curie Fellowships are European research grants available to researchers regardless of their nationality or field of research. In addition to generous research funding, scientists have the possibility to gain experience abroad and in the private sector.
Medical Research Council	The MRC's mission is to improve human health through world-class medical research. Funding is available including fellowships and studentships. Funds are not provided to the student directly; the student is advised to contact the institution at which they wish to study. The MRC supports around 1,900 PhD students at any one time.
The Moredun Foundation Scholarship	The Moredun Foundation supports scholarships each year to provide an opportunity for individuals to pursue a short-term project to broaden their education and experience in areas relating to livestock health and welfare, and the agricultural industry.
PetSavers	PetSavers funds clinical research specifically designed to advance knowledge of conditions affecting small animals kept as pets, with the ultimate aim of advancing the understanding of the cause and / or management of a clinical disorder. Projects are selected in the hope that study results will have a rapid and positive impact on the way diseases are diagnosed, managed and treated in general practice, as well as at a specialist level.
RCVS Knowledge	Our grant programmes support projects that contribute to animal wellbeing through the development of resources, initiatives and research that build the evidence base of veterinary science. We support projects that are of immediate value to practising veterinary healthcare professionals and that

Funder	Detail
	directly contribute to evidence-based clinical decision-making. We do not provide funding for tuition fees, CPD or general charity appeals.
The Vegetarian Charity	Individuals who are vegetarian or vegan and under the age of 26 can apply for a grant of around £500 towards their education.
The Wellcome Trust	Wellcome invests around £600 million pounds a year, aiming to fund the brightest minds in biomedical research and the medical humanities, to improve human and animal health. Funding is directed towards research, application of research, and medicine in culture.

Annex G

DAERA Postgraduate Research Currently funded Studentships

August 2021

Research Projects – commencing October 2021
Life cycle environmental and economic impact assessment of pollution mitigation strategies for Northern Ireland dairy farming systems.
Use of bacteriophage to increase productivity by improving nutritional availability in broiler poultry.
Machine learning to optimise the microbiome for crop productivity, resilience and sustainability.
Innovation Capability Development within the DAIRY Industry through Knowledge Exchange.
An examination of the role of women farmers as entrepreneurs in farm diversification in Northern Ireland: developing networks with the agri-food sector and lesson learning from international best practice.
Targeted use of multi-species swards to manage parasites and promote livestock health and welfare.
Genome editing of *Galba truncatula* vectors for disruption of *Fasciola hepatica* transmission.
Surveillance, monitoring and biological control of insect vectors in Northern Ireland and epidemiology of diseases they harbour.
Acoustic presence of baleen whales in the North Atlantic; a case study using the humpback whale (*Megaptera novaeangliae*).
Exploring behaviour and behavioural changes in the light of climate change in Irish Sea cod.
Evaluation of the Northern Irish Environmental Farming Scheme: an exploration of the socio-cultural and environmental impacts of the EFS, as expressed by stakeholder values and environmental data.
Ecosystem services and biodiversity of Areas of Special Scientific Interest (ASSIs) and development of practices for their improvement
Developing models to aid lake recovery in Northern Ireland.
Research Projects - commenced 2020
Equine-assisted therapy as a tool for improving the physical and psychological health of children and young adults.
A Participatory Action Research approach to determining the potential of rural tourism for sustainable development in Northern Ireland.
Generation and characterisation of a novel vaccine against bovine parainfluenza virus type 3 (BPIV3).
Factors affecting the efficacy of water protection measures-critical source area controls on nutrient and sediment transfers in agricultural catchments.
Ecology in the earth system: Conserving a safe operating space for terrestrial ecosystem functioning.
Are Marine Protected Areas meeting their targets? An adaptive framework for monitoring fisheries related impacts on MPAs.
Assessing the role of wild and domestic ruminant species in the persistence of Pestivirus in livestock in Northern Ireland.
Fate and impacts of microplastics in Northern Ireland terrestrial systems.
A Ticking Time Bomb – Tracking Zoonotic Diseases.
An assessment of on-farm measures to reduce antimicrobial use in Northern Irish sheep production.
Optimisation of innovative housing and precision nutrition to produce novel vitamin D bio-enriched products to improve nutritional intake and vitamin D status of the population.
Research Projects - commenced 2019
Stock assessment and management plan for European Eels in the River Foyle catchment
Using parasite egg-derived data to guide on-farm treatment and counter drug resistance
Identification, characterisation and fate of bacterial pathogens in a range of organic manures applied to arable soils in Northern Ireland
Managing biosecurity risks from drug-resistant parasites and other diseases in deer
Microbial remediation of microplastics within peat, soils, and coastal and riverine sediments
Evaluation of local farm animal veterinary practitioners and dairy farmer's knowledge of and attitudes towards AMR and the challenges they may face in carrying out their role to control the spread of AMR in Northern Ireland
Identification of unique qualities of extensively-reared Northern Ireland red meat
The distribution, abundance and impacts of plastic pollution in Northern Ireland's freshwater ecosystems
Assessing the resilience of conservation objectives to climate change predictions for the critically endangered *D. intermedia*

Research Projects - commenced 2019
Understanding the effects of leaving pigs with intact tails on measures of animal health, welfare and productivity
Biochar and soil health: a combined laboratory and field experimental, ecosystem-based approach, to test impacts on the sustainability of grassland production
Can Parasitic Worm Infections be Exploited to Alleviate On-Farm Antimicrobial Resistance?
Research Projects - commenced 2018
Innovative housing and environment management to promote calf health, welfare and performance
A Platform For Precision Phenotyping of Farmed Animals
The impact of microplastics on commercially important fisheries species in Northern Ireland
Assessing the effectiveness of blue whiting protein on satiety and its use as a functional ingredient within the diet
Behavioural modification of Nephrops and whiting through artificially light adjusted capturing processes
Development and Trial of a Novel Bovine Respiratory Syncytial Virus Pre-Fusion Protein Recombinant Vaccine
Identification of parasite-derived antibacterial agents to tackle emerging antimicrobial resistance and reduce antibiotic use in livestock
Developing a multidisciplinary understanding of antimicrobial resistance on UK farms
Elucidating the role of badger movements and behaviour using remote sensing technologies on the potential routes of bovine tuberculosis infection
Quantifying and evaluating factors influencing the socialisation period of puppies reared in commercial breeding environments
A study of Chicken Astrovirus Pathobiology in the Emerging Disease "White Chicks"
Novel approaches to avoiding spoilage of stored grain and silage: Minimizing fungal and bacterial spoilage; mycotoxin-production; and pathogenic bacteria
Research Projects - commenced 2017
Biostimulant strategies to enhance grass growth
Isolation & ageing in family farm men across their life-course in Northern Ireland: Challenges for 'remaining in & leaving' family farming

Annex H

Examples of UU Veterinary-aligned research

- The university has secured research funding to develop feed additives for farm animals and has recently published on the implication of caring practices on the health and welfare of small animals (V. Naughton et al., Animal Welfare, 2021, 30(2), 131-144.)
- Identification, characterisation and fate of bacterial pathogens in a range of organic manures applied to arable soils in NI (2019, NICHE)
- Retention of micronutrients in NI processed plant-based products. Activities at AFBI contributing to PhD, part funded by DAERA (2018-2024)
- Iodine in cow's milk: contribution to dietary intakes nutritional status and implications for public health policy (2017, NICHE)
- Detection and characterisation by molecular methods of the protozoan parasite *Cryptosporidium parvum* (2005, NICHE)
- Epidemiological studies into the occurrence and presence of *Cryptosporidium* from environmental and human sources within Northern Ireland and the Republic of Ireland (2005, NICHE)
- Researchers at UU, in partnership with the University of Oxford and UCL were recently successful in securing a £6m grant from the EPSRC entitled “Beyond Antibiotics” to develop alternative strategies to combat AMR in humans and animals.

Research centres of relevance cited by UU are detailed as follows:

- The Nutrition Innovation Centre for Food and Health performs fundamental research to understand the links between diet and human development. It is one of the largest nutrition research groups in the UK and Ireland, with 100 members including academic, research, technical and business support staff, together with PhD researchers, postgraduate research students and interns. NICHE aims to solve the chronic diseases of ageing, obesity, cancer, heart disease, osteoporosis and cognitive decline by investigating the potential impact of diet and food quality on the underlying mechanisms leading not only to disease but also to maintaining health.
- The Agri-food Business Development Centre at UU aims to support the Food and Drink Industry with academic and commercial research for business development and growth. This, in turn will provide policy makers with the best evidence available to inform decisions relating to the Food and Drink Industry.

Annex I

List of Consultees & Contributors

Alastair Douglas, AFBI
Jason Rankin, AgriSearch
Gonzalo Sanchez-Cabezudo Perez, APHA
Calum McIntyre, Association of Veterinary Students UK & Ireland
Shane Murray, AVSPNI
James Russell, BVA
Mark Little, BVA / NIVA
Martin McKendry, CAFRE
David Torrens, DAERA
Alistair Carson, DAERA
Brian Dooher, DAERA
Michael Hatch, DAERA
Robert Huey, DAERA
David Torrens, DAERA
[redacted] DfE Careers Strategy Delivery and Performance
Stuart Elborn, QUB
Simon Doherty, QUB
Carol Curran, UU
John Callan, UU
[redacted] Undergraduate Vet Student Glasgow University
[redacted] VetNI