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The impacts and consequences of Brexit for the veterinary  
profession in the United Kingdom

A Brexit hatásai és következményei az állatorvosi hivatásra az  
Egyesült Királyságban

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# 1. Introduction

Brexit refers to the United Kingdom's decision to leave the European Union (EU) following a referendum on June the 23<sup>rd</sup> 2016, with 52% majority favouring leaving the EU and eventually leaving the EU officially on the 31<sup>st</sup> of January 2020 after triggering article 50 in 2017. The United Kingdom had been a member of the European Union since 1993, and prior to that, it was part of the European Community (EC) from 1973. Therefore, Brexit is considered one of the most significant geopolitical shifts of the 21<sup>st</sup> century with vast impacts on both EU and United Kingdom in a wide array of factors from political, economic and social implications which have disrupted trade, changes on immigration policies and regulatory divergence between the United Kingdom and the EU with the full impact yet to be fully realised [1].

The leave campaign focused its arguments upon sovereignty, immigration and economic independence. Arguing that EU membership limited the United Kingdom's ability to make its own laws and govern independently from EU institutions and return full legislative power to the UK Parliament. The Leave campaign was critical of the EU's free movement principle, which allows EU citizens to live and work in any member country, saying that this free movement of people caused strain upon public services, housing and job markets and an independent immigration policy would allow the UK to manage immigration better. Supporters of leave also believed that the United Kingdom's EU membership fees would be better spent domestically [1].

The remain campaign focused its arguments upon economic stability, security and cooperation. The campaign warned that leaving the EU would destabilise the economy, leading to reduced investment, trade barriers and job losses. Saying that access to the EU single market was vital for trade, investment and overall economic prosperity. Remain supporters emphasised the importance of EU cooperation of security issues such as law enforcement and cross border cooperation. The remain campaign argued that EU membership amplified the UK's influence on the world stage as working the EU would mean that the UK could shape European policies on trade, climate and European wide laws rather than losing influence by being independent of the EU [1-2].

The economic and social consequences of Brexit have been widespread, affecting trade, labour mobility and regulatory frameworks. One sector particularly impacted is the veterinary profession. Veterinarians play a crucial role in the management of human and

animal health, disease control, regulation of public health and food safety, providing essential services in disease prevention, livestock health, and regulatory compliance. Historically, the United Kingdom has relied heavily on veterinarians from EU member states, with many professionals trained abroad filling critical roles in the UK [2].

Brexit ended the United Kingdom's automatic access to the EU single market and customs union, requiring new trade deals, while the current UK- EU Trade and Cooperation Agreement (TCA) allows for tariff and quota free trade there are non-tariff barriers with customs checks and regulatory compliance cause increased costs and delays in the Pharmaceutical and agriculture industries especially [2-3].

Brexit has led to regulatory divergence, this affects sectors such as healthcare, financial services, and veterinary medicine. Veterinary professionals face new licensing requirements to work across borders, impacting animal health services. Additionally, UK firms in financial services must now comply with separate UK and EU standards, creating added compliance costs for both businesses and consumers within both the United Kingdom and the European Union [3].

The impact of Brexit on the veterinary profession raises important questions: How has Brexit affected the recruitment and retention of veterinarians in the UK? What are the implications for the recognition of professional qualifications? How might these changes influence the availability of veterinary services and public health outcomes? How will those veterinarians already within the United Kingdom be affected by the vote to leave the European union? This thesis aims to address these questions by exploring the effects of Brexit on the UK's veterinary workforce, analysing regulatory changes, and assessing the broader implications for the profession and public health.

## **2. Literature Review**

### **2.1. Workforce Shortages and Recruitment Challenges**

James Russel, Senior Vice President of the British Veterinary Association (BVA), expressed concerns over the veterinary profession's workforce challenges post-Brexit. "The nosedive in EU registrants since Brexit coupled with soaring demand for veterinary certification is creating a storm of shortages in the profession. It's absolutely critical that vets get as much support as possible to keep on top of workloads and navigate continued challenges ahead. We know that the Government is alive to the situation, and measures such as more vet school places and better digitisation of the certification process will help to relieve some pressures in the long term. Vets are working incredibly hard but it's an uphill struggle to comfortably cover all the work currently required. Moving some vets around to plug the gaps is just robbing Peter to pay Paul, as it can lead to issues with backfilling roles in other areas which desperately need to keep staffing levels up, such as large animal work." He further added: The potential consequences are worrying. If we can't find long-term solutions to veterinary workforce shortages we will see impacts on animal welfare, public health, and international trade. The United Kingdom had a reliance on foreign workers before the Brexit referendum which relies heavily on EU graduates. Each year around 50% of veterinary surgeons registering to practise in the UK are from overseas, with the vast majority coming from the EU. EU veterinary surgeons make a particularly strong contribution to public health critical roles such as working in the Government Veterinary Services. In the meat hygiene sector, some estimates suggest 95% of veterinary surgeons graduated overseas" [1].

The UK has long depended on EU-trained veterinarians due to a combination of factors, primarily facilitated by the EU's mutual recognition of professional qualifications. This system allowed veterinarians trained in EU countries to seamlessly practice in the UK, without needing additional examinations or licenses. This mutual recognition was essential because the UK has faced ongoing shortages of veterinarians, particularly in specialized areas such as large animal care and public health, where fewer UK-trained vets were available [1].

The UK's agricultural sector, which is heavily regulated and requires veterinary oversight for animal welfare, food safety, and biosecurity, greatly benefited from this workforce pool. Likewise, the pet care industry and food production sectors also relied on veterinarians from the EU, who filled gaps in a profession where demand frequently outpaced the supply of

domestic graduates. By employing vets from the EU, the UK was able to maintain high standards of animal welfare and public health, aligning with both domestic and EU regulations. While this mutual recognition between the Royal College of Veterinary Surgeons (RCVS) and European Association of Establishments for Veterinary Education (EAEVE) still can register and practice in the United Kingdom if the University was accredited when they graduated. This situation exacerbates existing workforce shortages and adds pressure on UK veterinary services, with the potential to impact public health and animal welfare. As a result, some veterinary practices, especially those in rural areas, have reported difficulties in staffing positions critical to livestock care, disease surveillance, and food safety [1].

The new post Brexit regulations have changed over time making it harder for Veterinary surgeons especially new graduates to enter the United Kingdom. As from the 1<sup>st</sup> of January 2021 EU citizens have been treated as equals having to use a points-based immigration system to attract high skilled workers who would contribute to the British economy. However, these regulations have since been tightened by Rishi Sunak's government from April 2024 by increasing the salary requirements a Skilled Worker visas raising from £26,200 to £38,700 However, at the same time, the going rate salary thresholds for individual occupations which could raise the minimum earnings for a Veterinary surgeon to £48,000 this means that new graduates are much less likely to be able to enter the United Kingdom unless wages for veterinary surgeons raises as a result.” Recent statistics published by the Royal College of Veterinary Surgeons (RCVS) found that 1132 EU registrants came to work in the UK in 2019 compared to only 364 in 2021” [2]. The reduction of the number of veterinary personnel would likely lead to an increase in wages due to the increased demand for veterinary surgeons. However, there is inelastic demand of employment this is the situation in the quantity demanded of labour is relatively insensitive to changes in wage rates. This means that even if wages increase, the demand for labour remains largely unchanged. This is typically associated with industries such as veterinary which are essential, with a high skill and expertise level, with high regulatory requirements and where there are limited substitutes. This is due to the inelastic supply of veterinary surgeons [2].

This increase in wages encourage more individuals to enter the profession from the United Kingdom or to encourage foreign workers to enter the country, as stated though there is inelastic supply of veterinary surgeons, so the effect is limited. With a RCVS surveys of non-UK European veterinary professionals, 2021, 2018 and 2017 “saying that reasons that

applied to them for coming to the UK. The most frequently selected reasons were: ‘to gain experience’ (57%, compared to 55% for the baseline survey and 56% for the second survey), ‘better career opportunities’ (55%, compared to 56% for both the baseline and second surveys), ‘better pay and conditions’ (53%, the same as the baseline survey and 51% for the second survey)” [3]. This effects different member nations of the and different parts of the United Kingdom differently as can be seen with **Table 1**.

**Table 1.** Location of European VSs working in England (%), 2021 compared to the second survey [3].

<b>Region</b>	<b>Number</b>	<b>2021 %</b>	<b>2018 %</b>
South East	368	18.2	19.9
South West	327	16.1	15.4
London	244	12.0	14.9
West Midlands	238	11.8	10.2
East of England	203	10.0	9.7
East Midlands	183	9.0	9.2
North West	183	9.0	8.2
Yorkshire and the Humber	173	8.5	7.6
North East	61	3.0	3.3
Don’t know	45	2.2	1.7

This was a survey of EU originating Veterinary surgeons in the United Kingdom with two surveys in 2021 and 2018 shows that the south of England has the highest number of EU citizens working as Veterinary Surgeons. According to the survey, the majority (86%) of European veterinary surgeons worked in England (88% in the second survey), with smaller percentages working in Scotland (6%), Wales (5%), and Northern Ireland (3%)” [3]. The reason for this disparity between nations could be down to numerous factors as it correlates to the areas of the United Kingdom with the highest GDP per capita and best transport connections, rail hubs, airports and the channel tunnel [3].

The veterinary profession is on the list of jobs on the shortage occupation list, meaning it is recognized by the British government as a sector struggling to recruit employees, this means that workers have a lower salary threshold to be able to enter the United Kingdom of 80% of the average salary as opposed to 100% of the average salary if not on the shortage occupation list. However, this is yet to see benefits due to tightening immigration laws in

the run up to the 2024 British general election and due to the long education period for Veterinarians meaning that there is an inelastic supply of veterinarians. The cost of these visas is bared by both the employer and the employee as Practices must first obtain a sponsorship license, which costs £536 for small businesses or charities and £1,476 for larger organizations. Visa fees for Skilled Worker Visas vary by length of stay and can range from £610 to over £1,400 per applicant. Then combined with an immigration Health Surcharge where employers or employees must also pay an annual surcharge of £624 per person to cover National Health Service (NHS) access during the visa's duration and finally a Certificate of Sponsorship (CoS), which costs £199 per hire. Navigating the immigration system requires not only money but also administrative effort. Practices must ensure compliance with stringent Home Office regulations, including maintaining records, conducting Right to Work checks, and being subject to audits this creates additional strain and could deter businesses from considering international hires altogether. Instead, practices could choose to operate understaffed, reducing services or placing additional workload on existing staff, contributing to burnout and further staff attrition [4].

This will potentially be mitigated by the increase in the number of Veterinary Universities in the United Kingdom. There are currently 11 Veterinary Universities in the United Kingdom with 5 opening since 2006, University of Nottingham; 2014, University of Surrey; 2019, Harper and Keele veterinary collage; 2021, The Aberystwyth Veterinary school of veterinary science and also in 2021 the University of central Lancashire started excepting students. In addition, Nottingham university doubled its intake to 300 students yearly. Meaning that in 2021 there were 2,660 students enrolled on to Veterinary science degree programs [4]. This is also set to increase with another new veterinary collage set to open in Aberdeen. This will reduce the reliance that the United Kingdom has had over previous years at the invocation of article 50 in 2017.

As seen in **Table 2** the total number of registrations from outside the United Kingdom increased between 2015/16 and 2019/20 and then had a sharp decrease in 2020/2021 with a peak of 1,324 in 2018/19, dropping drastically to just 329 in 2021/22. However, this is seen in both EU, EEA and Non-EU/EEA, at a peak of 201 dropping by more than half to 96. This reduction suggests that the removal of freedom of movement from the EU in Brexit is not the only factor but also can be contributed to the COVID-19 pandemic, which created barriers to international movement and employment beyond the EU.



These restrictions included border closures, mandatory quarantines, and travel bans, which significantly hindered the movement of people across countries. For international veterinarians, these measures meant that many were unable to travel to the UK for work and education. The pandemic-induced travel restrictions created a logistical nightmare for those seeking to relocate to the UK, exacerbating the existing challenges posed by Brexit. When combined with the strain on veterinary medicine produced by the pandemic itself as COVID-19 greatly increased the demand for veterinary services as pet ownership surged “a quarter of the UK's pets have been acquired in the past two years, equating to 5.4 million pets obtained since the start of the Covid-19 pandemic” [5]. All while demand increased the pandemic caused delays in veterinary exams, training and requirement programs for both UK and international veterinarians.

Together Brexit and the COVID-19 pandemic combined to reduce the pool of qualified veterinarians entering the United Kingdom from the EU, while the pandemic slowed recruitment from outside Europe as can be seen in the **Table 2** below. Brexit and COVID-19 also led to increased pressure on veterinary practices. Many practices reported a reduction in staff due to self-isolation, illness, or furloughs. According to a survey by the Royal College of Veterinary Surgeons (RCVS), around 30% of practices were impacted by veterinary surgeons and veterinary nurses self-isolating or having COVID-19, while almost 35% had other support staff self-isolating [6]. This reduction in staff availability further strained the remaining workforce, leading to longer working hours and increased stress.

The combined effects of Brexit and the COVID-19 pandemic have significantly impacted the veterinary profession in the United Kingdom. Brexit introduced new immigration policies, ending the free movement of EU nationals and creating additional barriers for international veterinarians seeking employment in the UK. The pandemic compounded these challenges by imposing travel restrictions, causing delays in visa applications, and disrupting the availability of necessary documentation and appointments [6].

**Table 2.** Number of new registrations 2017–2022 based on registrant’s country of graduation/qualification recognition [7].

<b>Names entered on</b>	<b>2017/18</b>	<b>2018/19</b>	<b>2019/20</b>	<b>2020/21</b>	<b>2021/22</b>
<b>AVMA</b>					
United States of America	21	28	17	14	11
Canada	5	7	6	3	4
<b>AVBC</b>					
Australia	102	112	95	26	23
New Zealand	25	26	23	3	6
<b>SAVC</b>					
South Africa	30	28	58	54	52
<b>EAEVE</b>					
Austria	4	7	6	8	3
Belgium	25	42	33	19	14
Bulgaria	24	27	14	8	1
Croatia	17	18	12	12	3
Czech Republic	12	21	28	9	4
Denmark	7	2	10	6	5
Estonia	2	7	0	4	3
Finland	2	1	2	0	1
France	20	21	21	13	4
Germany	10	20	19	5	7
Greece	55	73	52	32	23
Hungary	35	63	39	38	31
Ireland	56	55	34	37	29
Italy	139	150	126	63	22
Latvia	2	4	3	3	0
Lithuania	12	13	12	3	4
The Netherlands	8	10	5	2	5
Norway [EEA]	3	2	4	0	0
Poland	93	115	93	43	34
Portugal	83	126	76	55	30
Romania	133	209	121	75	25
Slovakia	38	33	42	32	16
Slovenia	9	1	8	0	2
Spain	198	292	227	203	46
Sweden	1	2	1	1	0
Switzerland	6	0	0	0	0
Turkey	0	0	0	0	13

EU-recognised qualification <sup>1</sup>	11	10	9	8	4
<b>Sub-Total</b>	<b>1188</b>	<b>1525</b>	<b>1196</b>	<b>779</b>	<b>425</b>
Total outside the UK	1201	1538	1208	785	432
UK graduates	868	884	987	1077	1049
<b>Total</b>	<b>2069</b>	<b>2422</b>	<b>2195</b>	<b>1862</b>	<b>1483</b>

The shortage of veterinarians in the UK has serious implications for animal health, food safety, and international trade, with the growing workload leading to bottlenecks in veterinary certification and other critical roles. Affecting the ability to handle the growing work load one key area is for the increase in demand for veterinary certification of Animal products “applications for food-related export health certificates (products of animal origin and livestock) spiralled by 1255 percent from 2020 (22,990 in total) to the end of 2021 (288,558)” [8]. this also does not include germplasm, shipments to Northern Ireland and multiple certificates within one request according to the BVA. The post-Brexit bureaucracy is impacting the UK's ability to maintain biosecurity, which in turn affects both human and animal health. To address this, the BVA has suggested solutions such as the implementation of digital certification and third-party certifications. Improved relations between the UK and the EU under the Trade and Cooperation Agreement may also reduce the need for extensive certifications, while the Australia-UK Free Trade Agreement (A-UKFTA) could open up new markets for British animal products.

## 2.2. Trade and supply chain disruptions

These shortages have also led to bottlenecks in the issuing of Export health certificates, resulting in disruptions in the supply chain, which are essential in for maintaining international trade as well as ensuring safety standards. As professor Matt Jones from Harper & Keele Veterinary School stated, “Historically, veterinary public health roles such as in meat hygiene work have been filled by vet graduates from non-UK EU countries where there is often greater emphasis on this type of work and fewer opportunities for those working in clinical practice. Brexit has made it difficult to hire EU vets, and language challenges and immigration difficulties limit the ability for those from non-EU countries” [9] , this quote suggests that this workforce crisis will not be solved by increasing the number of British

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<sup>1</sup> Under EU Directive 2005/36/EU, in 2021/22 we registered 4 EU nationals or Community Rights-entitled persons holding qualifications from third countries that are recognised by the regulatory authority in an EU member state.

graduates will not be able to cover this sector of veterinary medicine, as very few British graduates are willing to work within food production and supply. The total value of meat production increased for the 7<sup>th</sup> consecutive year with an 3.9% increase from 2021 to 2022 with total production dropping by 6000 tonnes to 4,182,000 tonnes of total production [10]. also with an increase in the value of milk and milk produce production increasing by 40% to £6.7bn suggesting that the increase in bureaucracy had not had an effect on the United Kingdom's production however this increase is not mirrored in the egg production for human consumption with a reduction in production by 7.2% to 0.9 billion dozens of eggs [10].

This does not include the increased administrative load of Equine and pet passports, one of the key administrative challenges is the requirement for equine passports to be over-stamped. If a horse is residing permanently in the UK, its foreign passport must be over-stamped with a UK passport within 30 days of arrival. This process ensures that the horse is registered under the UK's equine identification system, which is crucial for maintaining accurate records and ensuring traceability. The over-stamping process involves verifying the horse's identity, updating the passport with relevant information, and ensuring compliance with UK regulations. This additional step adds to the administrative burden on veterinarians and equine professionals, who must manage and process these passports [10].

Similarly, pet passports have also seen increased administrative requirements. Post-Brexit, pet owners traveling to and from the EU with their pets must comply with new regulations, including obtaining an Animal Health Certificate (AHC) instead of the previously used EU Pet Passport. The AHC must be issued by an official veterinarian and is valid for a single trip, requiring pet owners to obtain a new certificate for each journey. This change has increased the workload for veterinarians, who must issue and manage these certificates, ensuring that all necessary health checks and vaccinations are up to date [10].

In addition to equine and pet passports, the requirement for Export Health Certificates (EHCs) has added another layer of administrative complexity. EHCs are necessary for exporting animals and animal products from the UK to the EU and other countries. These certificates confirm that the animals or products meet the health and safety standards of the destination country. The process of obtaining an EHC involves thorough inspections, health checks, and documentation, all of which must be completed by a qualified veterinarian. The increased demand for EHCs has placed additional pressure on veterinary practices, requiring them to allocate more time and resources to manage these certifications [10].

The increased administrative load of equine and pet passports, along with the requirement for Export Health Certificates, has significantly impacted the veterinary profession in the UK. These additional requirements have added complexity and workload for veterinarians, who must manage and process these documents while ensuring compliance with new regulations. The combined effects of Brexit and the COVID-19 pandemic have exacerbated these challenges, highlighting the need for continued adaptation and resilience within the veterinary profession as a result of the Brexit referendum [10].

### **2.3. Animal welfare implications**

Brexit has significantly impacted animal welfare, trade and veterinary research in both the United Kingdom and the European Union. The UK has historically been a leader in animal welfare, passing its first legislation in 1822 and influencing EU policies over the years. However, Brexit has created both challenges and opportunities for the UK as it navigates new regulatory frameworks outside the EU. While the UK has maintained some EU-aligned standards, it has also implemented stricter regulations in certain areas.

The EU generally sets the minimum standards, and member states are able to make more progressive regulations based on these [11]. The UK has long established stricter animal welfare laws than many EU member states, such as banning veal crates and sow stalls. Since leaving the EU, it has continued this trend by implementing bans on the importation and sale of foie gras and the export of live animals for slaughter and fattening as of 2024 [12]. Brexit has also given the UK greater control over its borders, allowing for stricter regulations to combat pet smuggling [12].

Public pressure has played a significant role in shaping the UK's animal welfare policies. According to a poll by Humane Society International, over two-thirds (67%) of the British public believe that a political party planning to pass more laws to improve animal welfare and protect animals from cruelty would have "the right priorities," and 71% feel that such policies would reflect their values [13]. This strong public support for animal welfare has pushed policymakers to implement stricter bans and regulations to meet the expectations of their constituents.

Animal welfare advocacy groups have been very influential in the UK's post-Brexit animal welfare policies. Organizations such as the Royal Society for the Prevention of Cruelty to Animals (RSPCA), Compassion in World Farming (CIWF) and Humane Society International (HSI) have actively campaigned for higher welfare standards and stricter

regulations. These groups have provided valuable information, raised awareness, and lobbied policymakers to prioritize animal welfare. Their efforts have contributed to the implementation of bans on practices such as the importation of foie gras and the export of live animals for slaughter [13].

The European Union's legislation relating to the movement of pet animals Regulation NO 576/2013 is concerned with the movement of dogs, cats and ferrets for non-commercial purposes, known as the Pet Travel Scheme (PETS). Pets need to be microchipped, vaccinated against rabies and have a valid pet passport. The United Kingdom has stayed in accordance with this EU law [14].

A dog's trust investigation reports how vets from EU nation sign false documents to enable puppies to be transported to the United Kingdom illegally "We found that it was staggeringly easy to obtain Serbian puppies with EU passports. All large scale commercial breeders and all bar one of the small-scale breeders included in the investigation offered to obtain EU passports" [14] revealed that EU veterinarians were signing false documents to facilitate the illegal transport of puppies into the UK. To address issues related to illegal puppy imports, the UK introduced Lucy's Law in 2020. This legislation requires buyers to purchase puppies and kittens directly from licensed breeders, preventing third-party sales and ensuring that young animals are raised in appropriate conditions with their mothers [15].

Brexit has not only affected domestic animal welfare but also raised concerns about the UK's future trade agreements, particularly regarding animal welfare standards. Outside the EU, the UK faces pressure to secure trade deals with countries like the US, Brazil and Australia, which have lower welfare standards. For example, the import of chlorinated chicken and hormone-treated meat, common in the US, could undermine UK farmers who must comply with stricter standards. These imports could also lower food safety, as US cases of salmonella and *E. coli* remain higher compared to the UK. In order to get other trade deals completed as despite the united kingdom being a major economy it is still much smaller than the three major trading blocks of the US, EU and China. The import of these lower welfare foods such as chlorinated chicken which is used to reduce the bacterial count as a result of using poorer living conditions such as battery cages which have been banned in the United Kingdom, despite this US cases of *Salmonella* and *E.coli* food poisoning remains much higher in the united states, The US also uses hormone implants and growth promoters which is banned in both the EU and United Kingdom, if these were allowed to enter the British market would have a devastating effect on British farmers undercutting their prices operating

at larger economies of scale and fewer regulatory framework making reducing further improvement of animal welfare. George Eustice, the head of DEFRA when the agreements were signed, in a speech in November 2022 that the treaty with Australia is “not actually a very good deal”. And: “Overall the truth of the matter is that the UK gave away far too much for far too little in return” [16]. When combined with Farmers loss of the common agricultural policy, the policy framework used to regulate and support agriculture within its member states through its main policy objectives of income support for farmers, market intervention and regulation, rural development programs and environmental and climate objectives [17]. Which subsidise animal welfare giving farmers larger incomes for the better treatment of their animals. Instead, the United Kingdom had faltered and had a mixed response with policies such as the Environmental Land Management Scheme which is decreasing subsidies yearly till 2027.

As a result, it would be unlikely for the United Kingdom do differ too greatly from the European union standards on farm and food production but allows much greater regulatory protections such as the ban on the export on live animals for slaughter or fattening. Balancing the pressure to secure favourable trade deals with the need to uphold high animal welfare standards will remain a key challenge for UK policymakers.

## **2.4. Animal research post-Brexit**

Brexit has introduced considerable challenges for the United Kingdom’s participation in EU research funding. One significant change has been in the United Kingdom’s participation in the Horizon Europe which superseded Horizon 2020, an EU framework with a budget of €95.5 billion for research and innovation across member states and associated countries. As a result of Brexit, the United Kingdoms participations in these programs faced significant disruptions, increased barriers to collaboration, affecting numerous sectors, particularly veterinary research focused on animal health zoonotic diseases and food safety standards. Between 2015 and 2018, there was a 40% decline in UK applications to Horizon 2020, negatively impacting the veterinary and animal health research sectors in the UK. Brexit has created uncertainty with continuing divergence between EU and UK research regulations. The combination of these factors, uncertainty, reduced funding and increased logistical challenges is creating a more difficult landscape for research in the United Kingdom [18].

However, since 2024 the United Kingdom had become an associated country to Horizon Europe this association protocol is said to deepen the UK and EUs relationship with

innovation. This relationship will see the United Kingdom contribute €2.43 billion on average per year [18]. This allows British researchers and institutions to engage in Horizon funded projects on equal terms as EU member states., but also Norway, New Zealand and Israel, with Canada and South Korea [19]. This re-association could mitigate some of the setback's face over the Brexit transition period and allow the United Kingdom's veterinary research to continue while maintaining and enforcing its high standards in animal health and food safety research. Despite the positive step of re-association with Horizon Europe, ongoing concerns remain regarding regulatory alignment. The UK and EU have begun to develop separate guidelines for research execution and compliance, creating potential obstacles for collaborative projects. For example, differences in animal welfare regulations or data protection laws could lead to delays and increased administrative burdens, reducing the efficiency of joint research efforts [19].

## **2.5. Biosecurity post-Brexit**

Brexit's impact on biosecurity in the United Kingdom, Brexit has allowed for the implementation of tighter border controls against biosecurity threats. These controls are part of the Border Target Operation Model. As detailed in the British governments article [20] on New border controls to protect the UK against security and biosecurity threats and ensure smooth flow of goods. This new policy includes checks on imports from the EU for the first time, these measures are designed to defend against plant and animal diseases from abroad, this protects the agricultural industry this is reducing the risk for outbreaks, reducing the potential risk to the British public and Veterinarians. These new border controls have adopted a risk-based approach. The risk judge based upon a products perceived risk to the United Kingdom from all countries. The new risk-based approach classifies imports based on their perceived threat to the UK's biosecurity. High-risk products, such as live animals and certain plant materials, undergo strict checks, while low-risk products face fewer restrictions. This method aims to reduce the administrative burden on traders and minimize costs for consumers. However, this approach also carries risks, as it relies heavily on accurate risk assessments and timely updates to threat levels. However, there are also biosecurity risks posed by Brexit which disrupted established networks and institutional arrangements that facilitated information sharing and collaboration on biosecurity. As stated by Dr Andrew Moxey [21]. There are worries about the United kingdom's capacity to identify and manage biosecurity risks without the support of European wide networks.



The British government has also implemented digitised and simplified health certificates, this reduced the administrative burden upon veterinarians, this spans beyond the veterinary industry. However Northern Ireland continues to stand outside the UK framework according to the Equine Disease coalition and British Equine veterinary association “GB is a single epidemiological unit and NI/ROI is a single epidemiological unit with disease outbreak reflecting that.” This however leads to large amounts of administration and import-export documents, the Department of Agriculture, Environment and Rural Affairs (DAERA), or with an Authorised private veterinary practitioner. While the long-term implications of Brexit on the veterinary profession are yet to be fully realised, the success of the recently implicated measures will depend on the effective implementation and ongoing collaboration with the European Union and international partners. It remains with the United Kingdom’s Veterinary industry to continue to implement effective biosecurity strategies with decreased assistance from their colleges in the European Union and focus on strengthening domestic surveillance systems, improving digital certification processes and enhancing rapid response capabilities to emerging biosecurity threats [21].

### 3. Materials and Methods

The study used a structured cross sectional survey to collect both qualitative and quantitative data on the impact of Brexit on the veterinary profession in the United Kingdom. The structured questionnaire targeted specific areas of veterinary practice potentially affected by Brexit, including medication supply, equipment procurement, staffing, financial sustainability and professional training opportunities.

The questionnaire was developed after reviewing literature on Brexit's implications for professional sectors, along with relevant data on veterinary practice challenges post-Brexit. Key sources included government publications, industry reports, and peer-reviewed articles to ensure comprehensive coverage of topics. The data was collected anonymously to ensure honesty as well as confidentiality, collected through Google Forms for ease of access, anonymity and data management. The questionnaire received a total of 49 responses. The data collection period lasted from 5 September 2024 to 21 November 2024, during which participants were able to complete the survey.

The survey was distributed to vet practices and veterinarians practicing in the United Kingdom. Participants were invited using email invitations and social media outreach. Inclusion criteria required participants to be practicing veterinarians inside the United Kingdom, ensuring that responses were relevant to the thesis objectives. We received this has meant that we can receive robust, generalised insights into the professions Brexit related challenges.

The questionnaire consisted of 35 individual questions with 31 closed ended questions, with 21 multiple choice questions, 10 questions using the Likert scale. Providing structured quantitative data for analysis. The 4 open ended questions allowed for qualitative insights so that we could have a broader understanding and a more nuanced approach to our analysis.

The Questionnaire has several parts to help accurately assess the impact of Brexit upon the veterinary profession. Section 1 is to try and obtain demographic information of, Age, Gender, Nationality, to ensure that we have capture a representative sample of Veterinarians in the United Kingdom. We also tried to establish more information about the Veterinarians answering the questionnaire, asking them the type of practice they work in, the number of vets that work in the practice as well as their experience, the location of their practice and their average working week in hours, This is in order to provide context for the responses as

well as to see trends and see if certain sectors of the Veterinary industry have been effected to a greater extent than others.

Section 2 is to establish the impact of Brexit on their ability to travel and work abroad. To learn about this, we asked questions asking of their intentions to work in the European Union both before and after Brexit, As well as if Brexit has affected their ability to study or attend conferences abroad. As well as asking about whether they have noticed change in the number of veterinarians because of Brexit, this is to assess the impact of European veterinarians traveling into the United Kingdom for work and how the workforce composition may have changed post Brexit.

Section 3 is to ask the impact of Brexit on your practice and clients, in this section we asked the veterinarians to rate on a scale from 1-5 how Brexit has affected several areas, medication supply, equipment procurement, recruitment, number of clients, financial stability. We then go on to ask how Brexit has affected the costs of running a veterinary practice, how Brexit has affected the costs of, medication, medical equipment, the cost of laboratory tests, the cost of administrative fees. We also asked questions whether Brexit has affected the amount of billable and non-billable work this was to get a further picture of the change in workload as a result of Brexit, we expand upon this with asking about changes in the number of imported animals, as well as asking about the disruption in the importation of veterinary medicines and supplies.

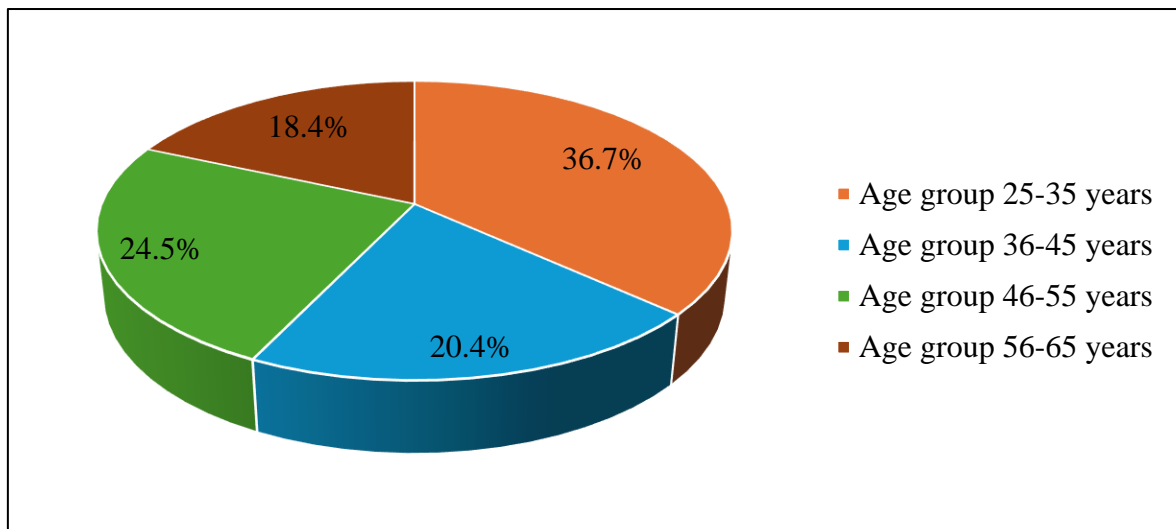
The 4<sup>th</sup> section is asking about whether Brexit or subsequent government policy has affected animal welfare, we are doing this through asking about whether the United Kingdom should follow the European Union on anti-biotic resistance, we are also asking in this section weather new trade deals between the United Kingdom and other non-EU nations could threaten food hygiene and welfare standards. We were also questioning the Veterinarians opinion on weather Brexit has affected their ability to participate in EU funded research project, relevant to ongoing collaborations on animal health issues.

The 5<sup>th</sup> and final section were plans and outlook, we asked about the long-term impacts of Brexit on the veterinary profession in their opinion, we were also asked about the plans for their practice as a result of Brexit. We have also asked for a roundup of their opinion on the potential long term implications post Brexit, in this we gave them options of which they could pick multiple. Finally, we had an option for the respondent to leave their own thoughts and comments.

## 4. Results

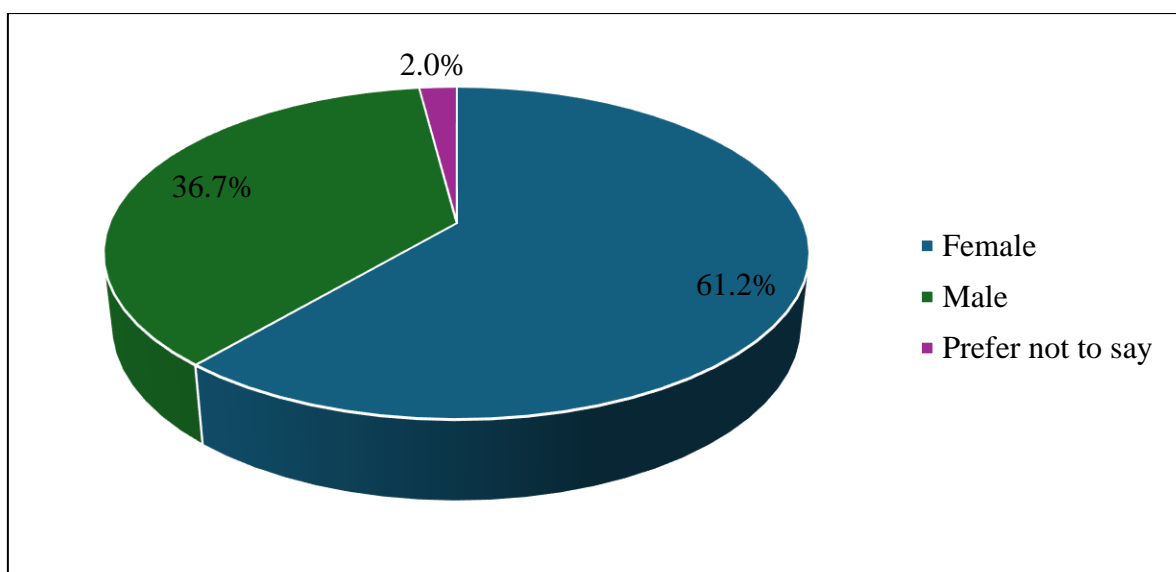
### 4.1. General and sociodemographic characterisation of respondents

Altogether 49 veterinarians participated in the online survey on Google Forms. The first question (**Chart 1.**) was about veterinarians' age. The most frequently occurring age ranges were 25-35 years at 36.7% (n=18), 46-55 years at 24.5% (n=12), 36-45 years at 20.4% (n=10) and 56-65 years at 18.4% (n=9) we had no responses over 65.



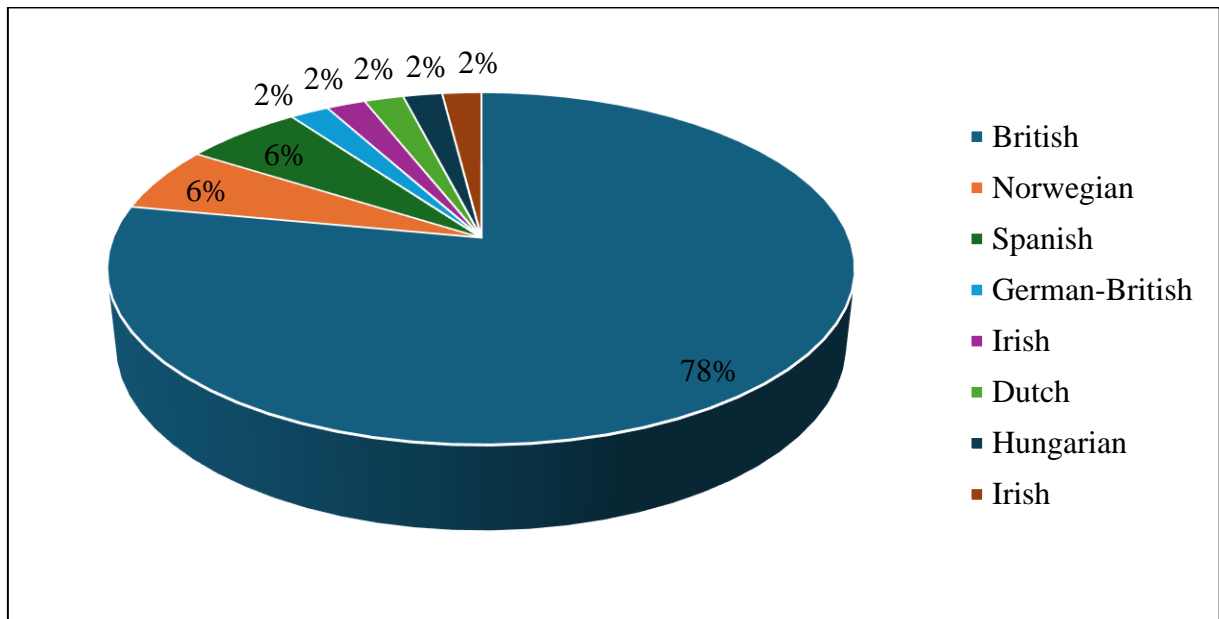
**Chart 1.** Age demographic of respondents (n=49).

The second question (**Chart 2.**) was about their gender, with the majority being female 61.2% (n=30) and 36.7% being male (n=18) with one individual preferring not to say.



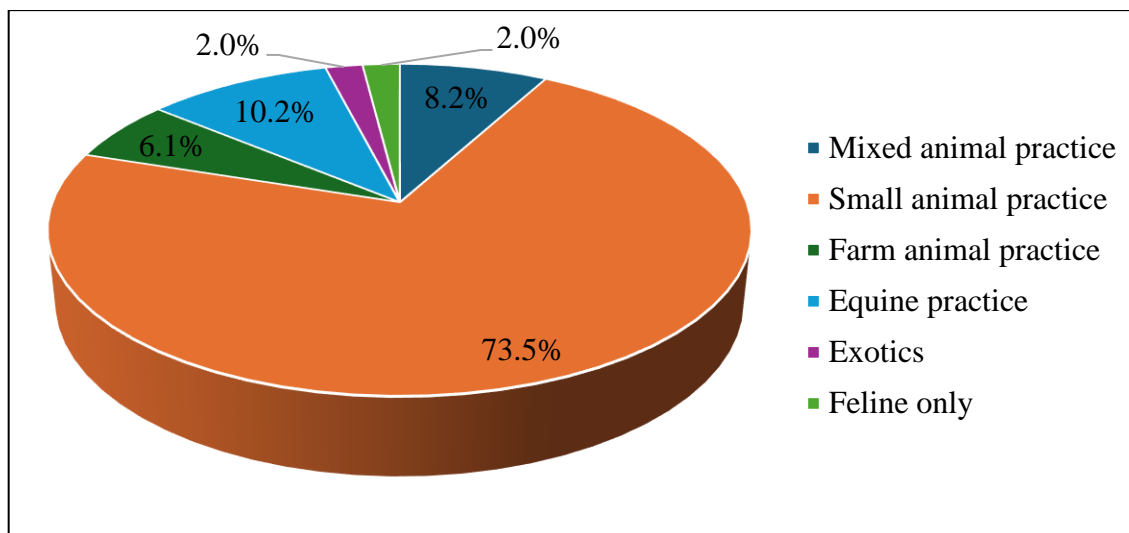
**Chart 2.** Gender of respondents (n=49).

The third question (**Chart 3.**) asked about their nationality. The majority of respondents 79.6% (n=39) were British with one dual British German nationality 81.6% (n=40), included within this is individuals who chose to respond as English, Welsh or Scottish no individuals responded as Northern Irish. We had 6.1% (n=3) Norwegian and Spanish respondents being the joint second most common nationality we then had 2% (n=1) from Dutch, German (Dual British nationality), Hungarian and Irish nationalities.



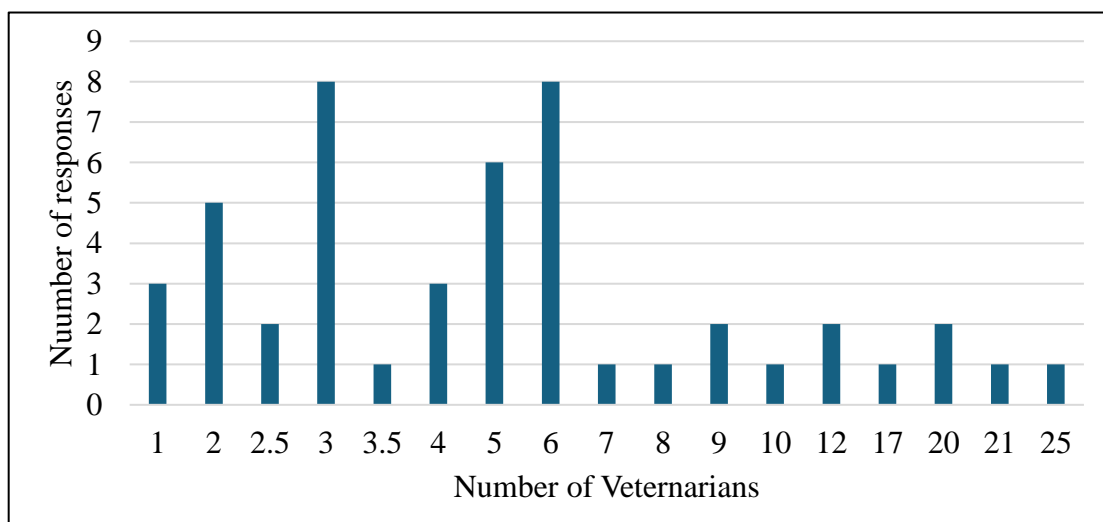
**Chart 3.** Gender of respondents (n=49).

The fourth question (**Chart 4.**) asked about type of their practice where they worked in. The majority of respondents worked in small animal clinics 73.5% (n=36) the second most common was in mixed practice 10.2% (n=5) with one respondent saying that they were in an equine and small animal clinic. 8.2% (n=4) of respondents said that they worked in an equine practice. farm animal practice was the 4<sup>th</sup> most common response 6.1% (n=3) we also had 2% (n=1) response each for exotic animal practice and feline only.



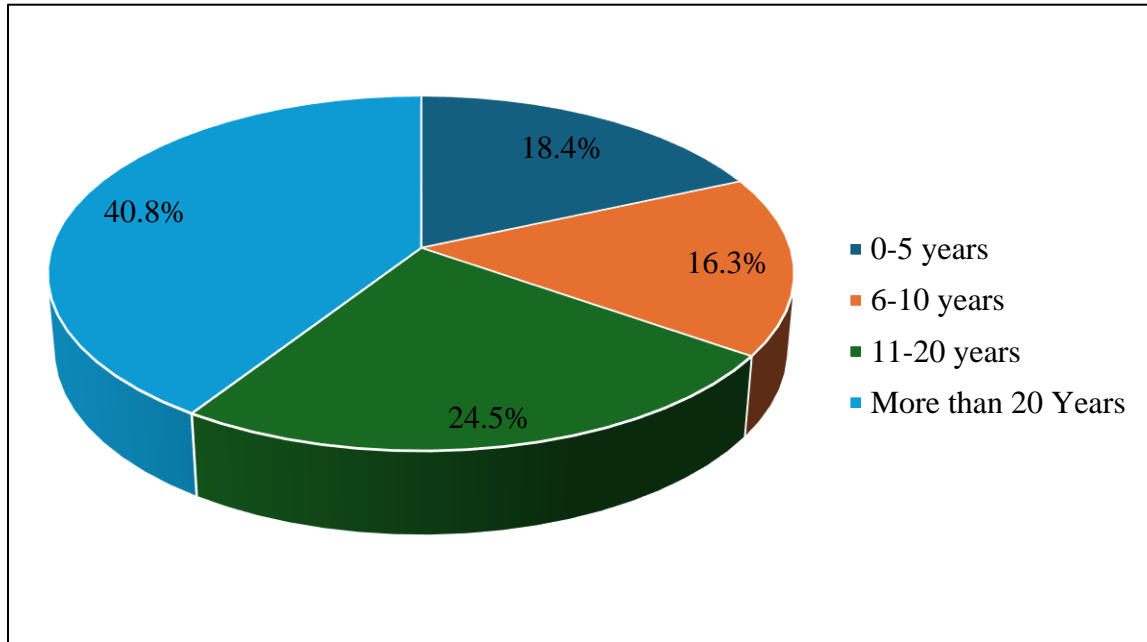
**Chart 4.** Practice type (n=49).

The fifth question (**Chart 5.**) asked about the number of vets worked in their practice. The most common response was 3 and 6 (16.3%, n=8) veterinarians working within the practice. The responses are concentrated below 6 veterinarians within the practice 73.5% of respondents worked in a practice with 6 or fewer veterinarians working within the practice. There are a few isolated responses 17 2% (n=1), 20 4% (n=2), 21 2% (n=1) and 25 2% (n=1). It stands to reason that larger practices of greater than 20 vets are rarer than smaller practices.



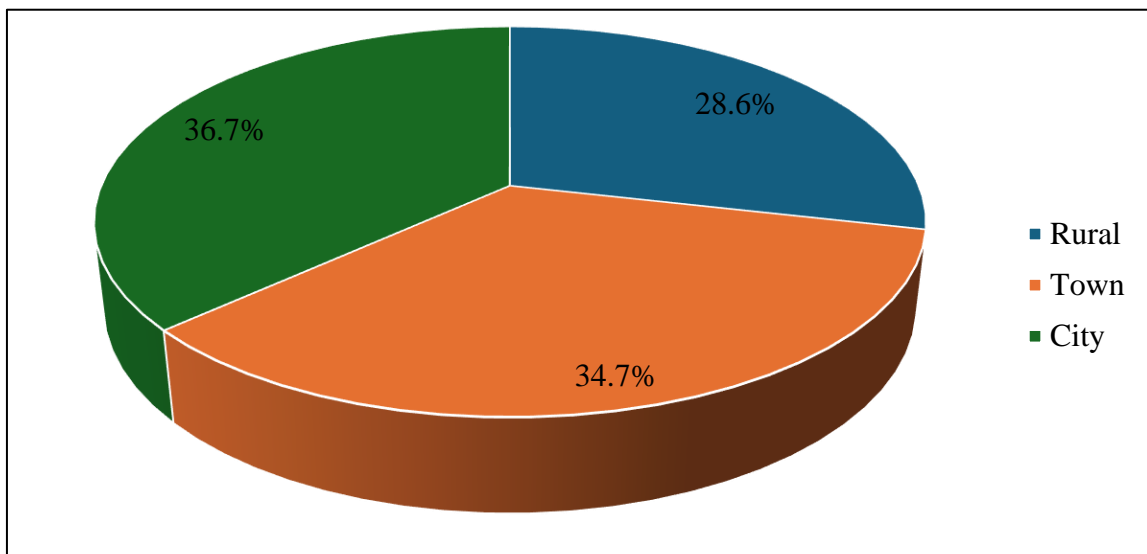
**Chart 5.** Practice size of respondents (n=49).

The sixth question (**Chart 6.**) asked about the length of time respondents have been practicing as veterinarians. The most common response was more than 20 years 40.8% (n=20), followed by 11-20 years 24.5% (n=12), the third most common response was 0-5 years 18.4% (n=9) and 6-10 years was the least common 16.3% (n=8).



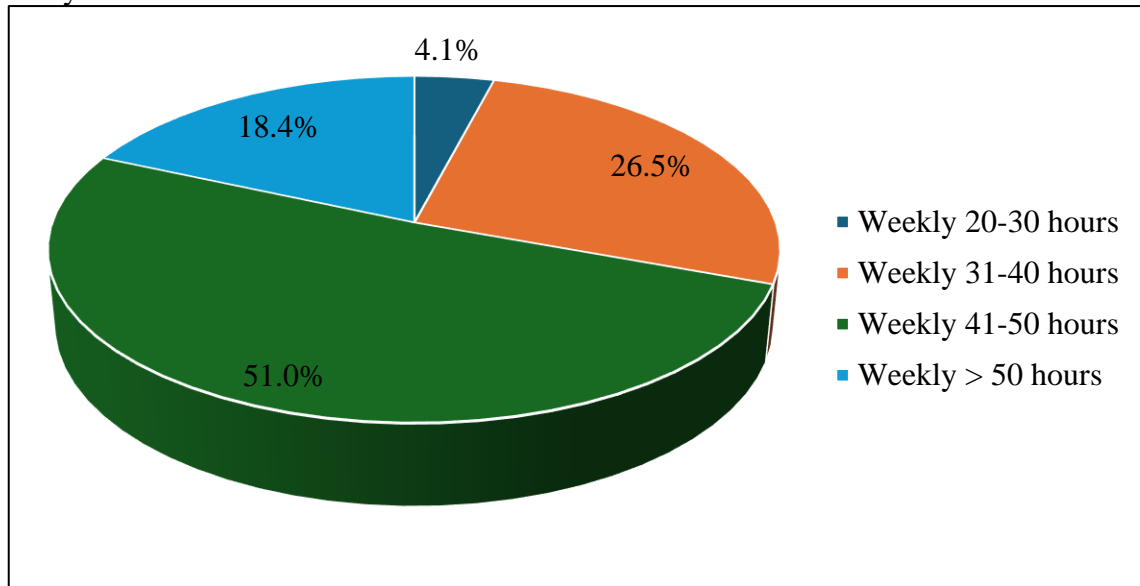
**Chart 6.** Career length of respondents (n=49).

The seventh question (**Chart 7.**) asked respondents to describe the area of their practice. Their practice was most likely to be within a city 36.7% (n=18), working within a town was the second most common response 34.7% (n=17) and the least common was that their practice was in a rural area 28.6% (n=14).



**Chart 7.** Location of respondent's practice (n=49).

The eighth question (**Chart 8.**) asked respondents which category most accurately describes their average weekly work hours. The most common response was weekly 41-50 hours 51% (n=25). The second most common response was weekly 31-40 hours 26.5% (n=13) the third most common was weekly greater than 50 hours 18.4% (n=9). The least likely response was weekly 20-30 hours 4.1% (n=2). There were no responses to less than 20 hours worked weekly.

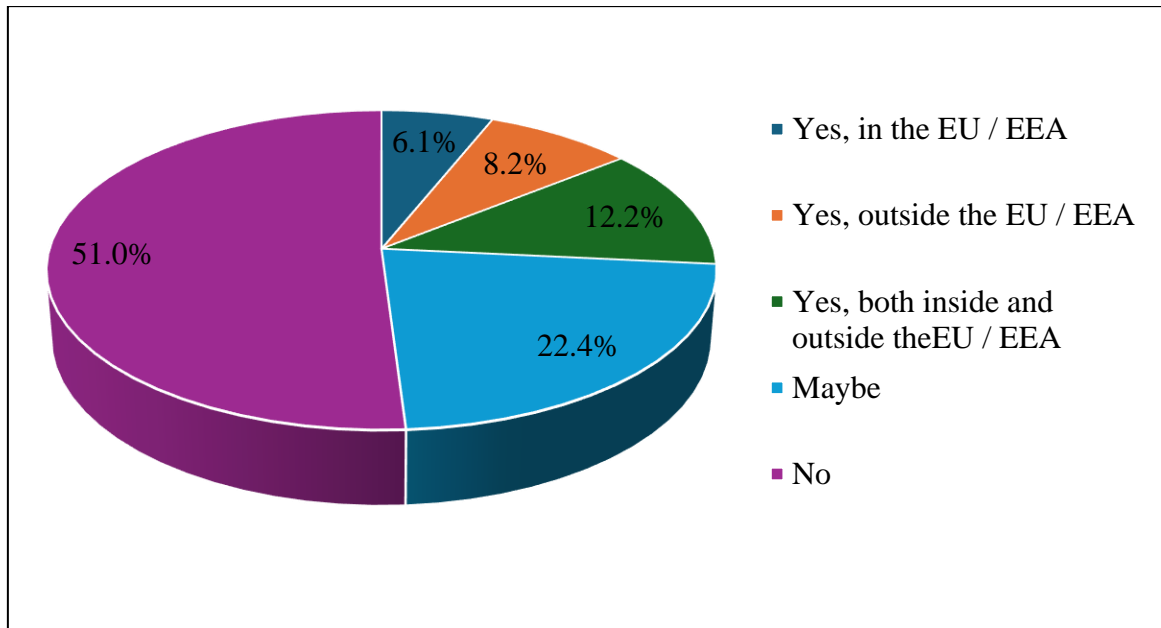


**Chart 8.** Weekly working hours of respondents (n=49).

## 4.2. Impact of Brexit on travel and working abroad

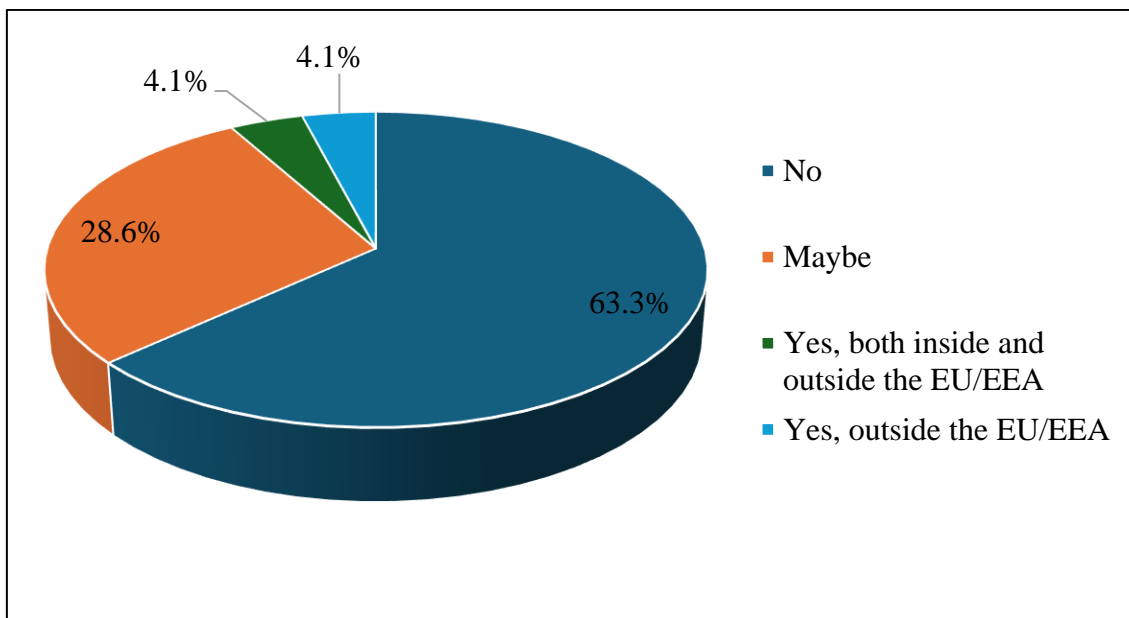
The ninth question (**Chart 9.**) asked respondents if they had considered working outside the United Kingdom before Brexit. The most common response was no 51% (n=25) with maybe 22.4% (n=11). Of the positive responses yes, both inside and outside the EU/EEA was the most common response 12.2% (n=6) the next most common response was. yes, outside the EU/EEA 8.3% (n=4) the least most common response was yes, in the EU/EEA 6.1% (n=3).





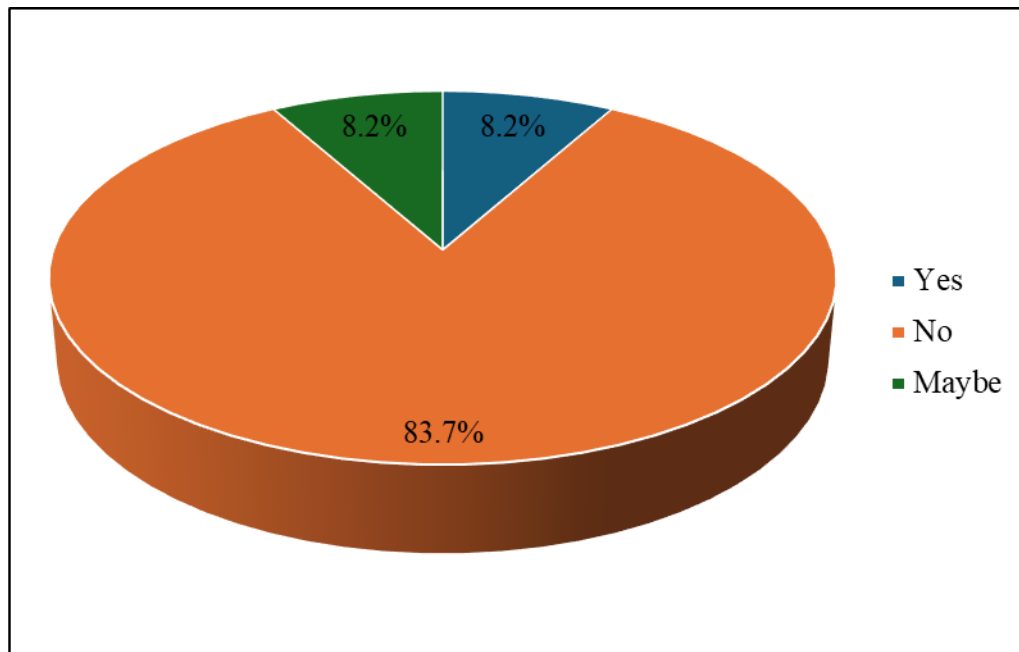
**Chart 9.** Consideration of working outside the United Kingdom before Brexit (n=49).

The tenth question (**Chart 10.**) asked respondents if, as a result of Brexit, they would now like to work outside the United Kingdom. The most common answer was no with 63.3% (n=31) the second most common answer was maybe 28.6% (n=14). The next most common answers were 4.1% (n=2) for both yes, outside the EU/EEA and yes, both inside and outside the EU/EEA. There were no responses to yes, in the EU/EEA.



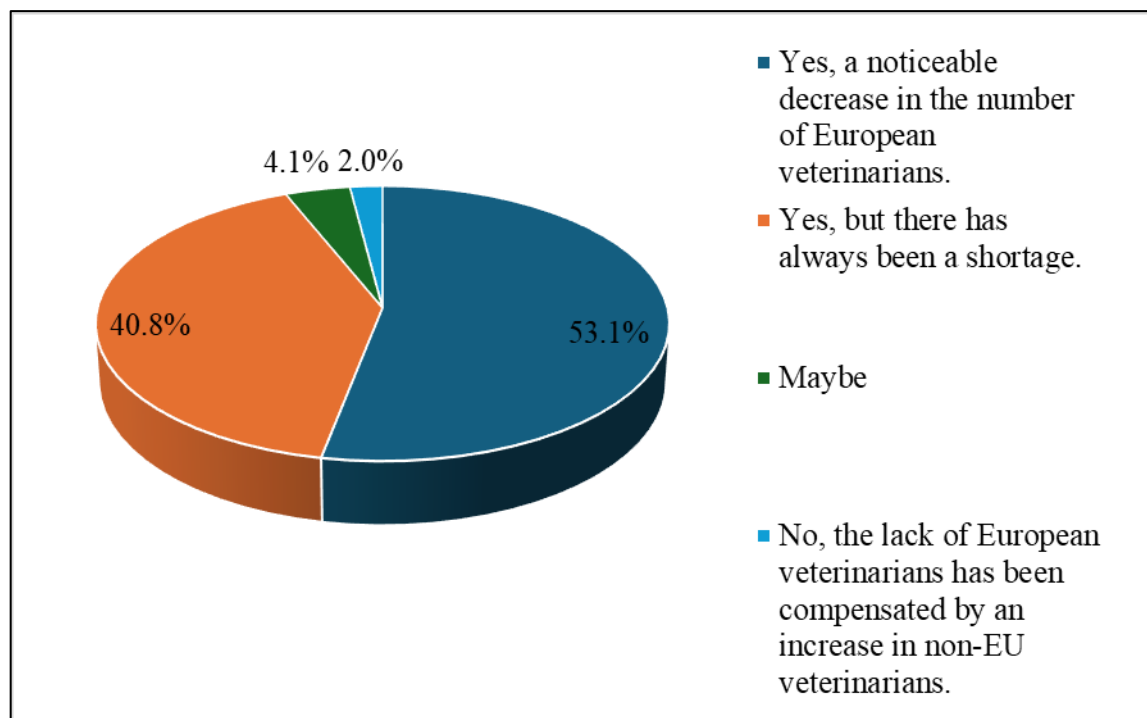
**Chart 10.** Interest in working outside the United Kingdom result of Brexit (n=49).

The eleventh question (**Chart 11.**) asked respondents whether Brexit has affected their ability to learn or study in Europe, attend conferences, participate in Erasmus programs, or engage in similar activities. The overwhelming majority of responses was no 83.7% (n=41). Both yes and maybe had 8.2% (n=4) responses.



**Chart 11.** Impact of Brexit on opportunities for learning, conferences, Erasmus programs, and similar activities in Europe (n=49).

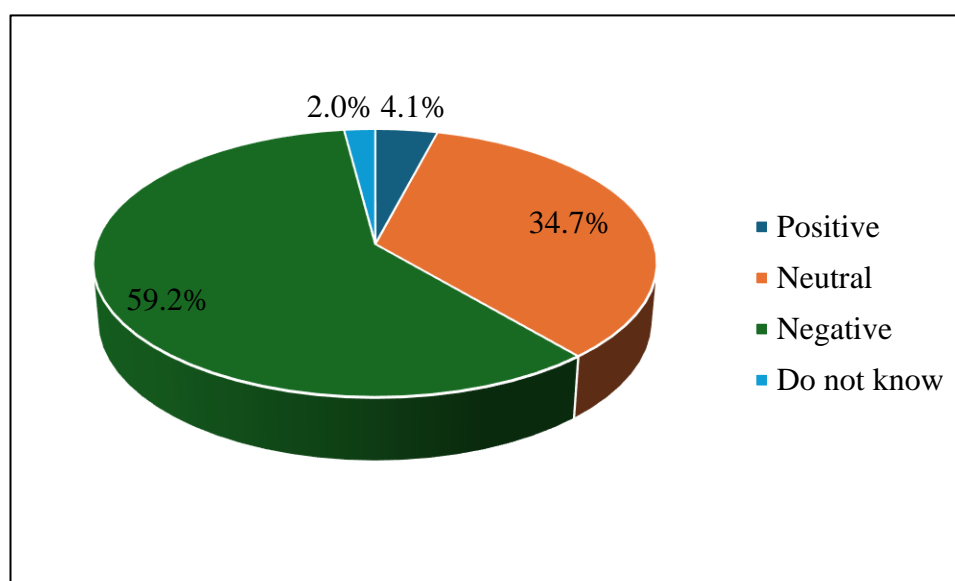
The twelfth question (**Chart 12.**) asked respondents if they had noticed a shortage in the number of veterinarians as a result of Brexit. The most common answer was yes, a noticeable decrease in the number of European veterinarians 53.1% (n=26). The second most common answer was yes, but there has always been a shortage 40.8% (n=20). Then there is a large decrease down to 4.1% (n=2) No, there is negligible change in the number of European veterinarians. The least common answer was maybe 2% (n=1). There were no responses to no, the lack of European veterinarians has been compensated by an increase in non-EU veterinarians.



**Chart 12.** Brexit's effect on the number of Veterinarians in the United Kingdom (n=49).

### 4.3. Impact of Brexit on your practice and clients

The thirteenth question (**Chart 13.**) asked respondents how they perceive the impact of Brexit on their practice. The majority of respondents said they had a negative perception 59.2% (n=29). The next most common answer was that the respondents had a neutral response to the impact of Brexit upon their practice 34.7% (n=17) there was a large decrease down to 4.1% (n=2) who though that Brexit has had a positive impact on their practice and the least common response was 2% (n=1) do not know.



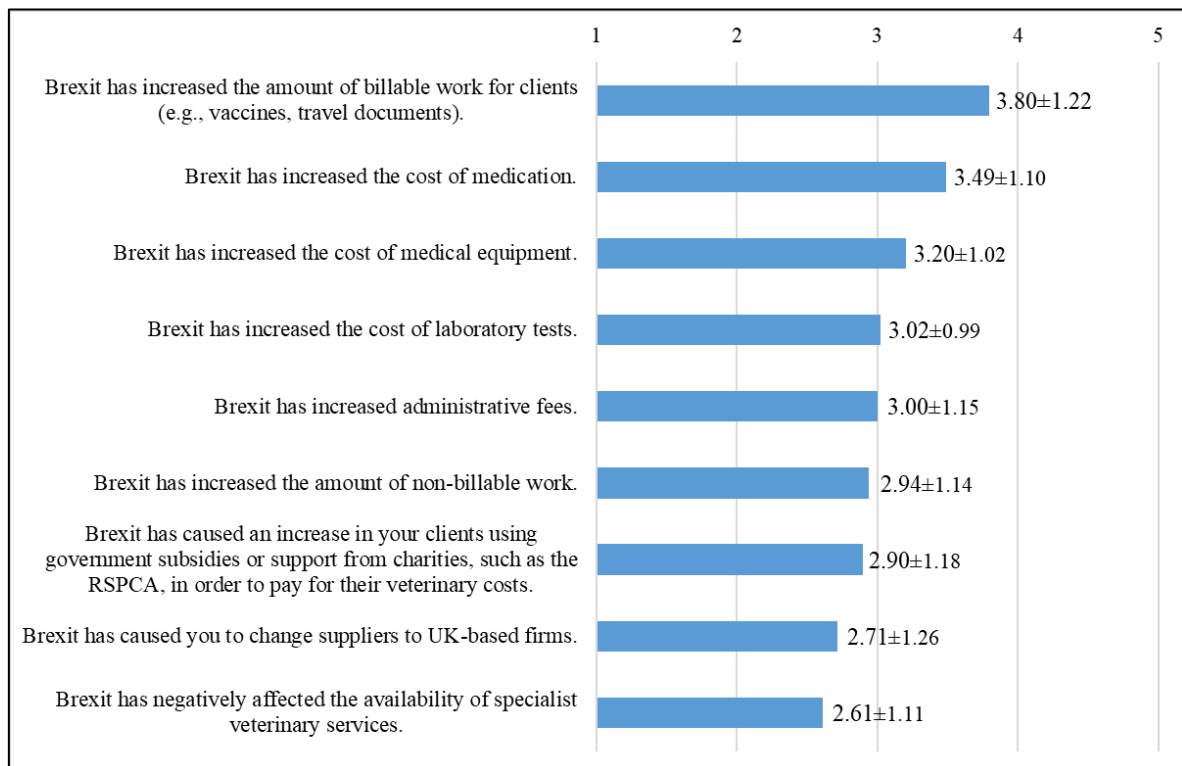
**Chart 13.** Perception of the impact of Brexit upon their practice (n=49).

The fourteenth question (**Chart 14.**) asked respondents to what extent Brexit has affected specific areas of their practice. Responses were given on a Likert scale from 1-5 where 1: not at all, 2: slightly, 3: moderately, 4: considerably, 5: significantly. This question had several elements the first was to what extent has Brexit affected recruitment. The mean answer was  $3.33 \pm 1.39$ . The least common answer was n=6 (12.2%) not at all, followed by the joint third most common response n=9 (18.4%), slightly and considerably. The second most common response was n=11 (22.4%) moderately, the most common response was n=14 (28.6%) significantly. The second part of this question was to what extent has Brexit affected medication supply. The mean answer was  $3.16 \pm 1.20$ . We had n=4 (8.2%) respondents saying not at all which was least most common answer, n=11 (22.4%) respondents answered slightly and considerably. The most common answer n=15 (30.6%) was moderately affected and n=8 (16.3%) of the respondents answered significantly. The third part of this question was to what extent has Brexit affected equipment procurement. The mean answer was  $2.31 \pm 1.16$ . The second most common response was n=14 (28.6%) not at all followed by the most common answer n=17 (34.7%) slightly. The responses then decreased in each category after this with n=9 (18.4%) moderately, n=7 (14.3%) considerably and finally the lowest response rate was n=2 (4.1%) significantly. The fourth part of the question was to what extent has Brexit affected the financial stability of their practice. The mean answer was  $1.84 \pm 1.03$ . The most common response was n=23 (46.9%) not at all with a gradual decrease to n=16 (32.7%) slightly and to n=7 (14.3%) moderately. The lowest response was n=1 (2.0%) financial stability was considerably affected followed by n=2 (4.1%) significantly affected. The last part of the question was to what extent has Brexit affected the number of clients. The mean answer was  $1.59 \pm 1.02$ . The vast majority of responses was n=33 (67.3%) not at all, the second most common response was n=7 (14.3%) slightly and moderately. None of the respondents answered considerably (0.0%, n=0) and n=2 (4.1%) respondents answered significantly.



**Chart 14.** Brexit's effect on areas in the practice. Responses were given on a 5-point Likert scale where 1: Not at all, 2: Slightly, 3: Moderately, 4: Considerably, 5: Significantly.

The fifteenth to twenty third questions (**Chart 15.**) were asked about the impact of Brexit on veterinarians' practices on a Likert scale of 1-5 where 1: strongly disagree, 2: disagree, 3: neither agree nor disagree, 4: agree, 5: strongly agree.



**Chart 15.** Impact of Brexit on their practice and clients. Responses were given on a 5-point Likert scale were 1: Strongly disagree, 2: Disagree, 3: Neither agree nor disagree, 4: Agree, 5: Strongly agree.

Respondents were asked to what extent they agree with the statement that Brexit has increased the amount of billable work for clients (e.g., vaccines, travel documents), giving an average rating of  $3.80 \pm 1.22$ . The most common response was to strongly agree with this statement 34.7% (n=17) the second most common response 32.7% (n=16) was to agree with the statement. The third most common response 18.4% (n=9) was to neither agree nor disagree (3) the second least common response 8.2% (n=4) was to strongly disagree with this statement. The least common response 6.1% (n=3) was to disagree with the statement. The least common response 6.1% (n=3) was to disagree with the statement. The least common response 6.1% (n=3) was to disagree with the statement. Respondents were asked to what extent they agree with the statement that Brexit has increased the cost of medication, with an average response of  $3.49 \pm 1.10$ . The most common answers were 30.6% (n=15) both neither agreeing nor disagreeing and agreeing with this statement. The second most common response was 20.4% (n=10) strongly agreeing with this statement. 14.3% (n=7) disagreed with this statement. The fewest number of people strongly disagreed with the statement 4.1% (n=2) Brexit has increased the cost of medication.

Veterinarians were asked to what extent they agree with the statement that Brexit has increased the cost of medical equipment, with an average response of  $3.20 \pm 1.02$ . The most common answer was neither agreeing nor disagreeing with this statement 49% (n=24) this was followed by 28.6% (n=14) agreeing with this statement. The third most common response strongly disagreed with this statement 10.2% (n=5). The second least common response was the respondents strongly agreeing with this statement with 8.2% (n=4). The least common response was 4.1% (n=2) disagreeing with this statement. Veterinarians were asked to what extent they agree with the statement that Brexit has increased the cost of laboratory tests, with an average response of  $3.02 \pm 0.99$ . The number of respondents which strongly disagreed with this statement was 8.2% (n=4) the number which disagreed with this statement was 16.3% (n=8) which was the third most common response. The most common response was those who neither agreed nor disagreed with this statement 46.9% (n=23). The second most common response was to agree with this statement 22.4% (n=11). The least common response 6.1% (n=3) was to strongly agree with the statement Brexit has increased the cost of laboratory tests.

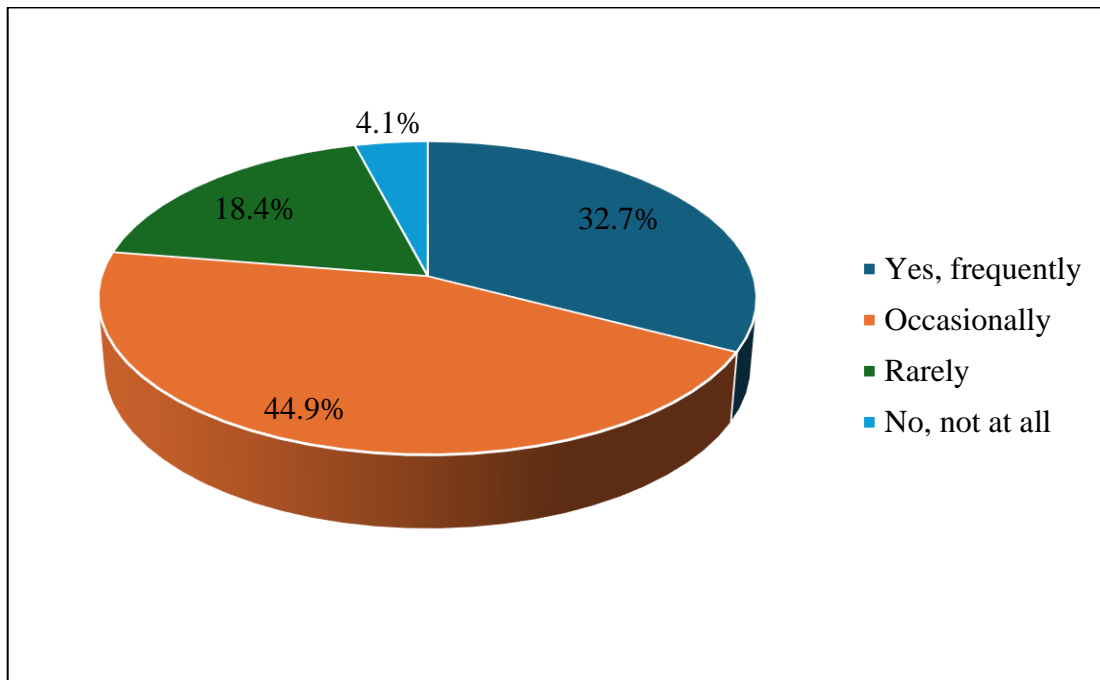
They were asked to what extent they agree with the statement that Brexit has increased administrative fees, with an average response of  $3.00 \pm 1.15$ . The most common response 36.7% (n=18) was to neither agree nor disagree with this statement. The second most common answer 22.4% (n=11) was to agree with this statement. The third most common

answer 18.4% (n=9) was to disagree with the statement. The second least common answer 12.2% (n=6) was to strongly disagree with this statement and the least common answer 10.2% (n=5) was to strongly agree with this statement. They were asked to what extent they agree with the statement that Brexit has increased the amount of non-billable work, with an average response of  $2.94 \pm 1.14$ . The most common response 38.8% (n=19) was to neither agree nor disagree with the statement. The second most common response 22.4% (n=11) was to agree with the statement. The third most common statement 16.3% (n=8) was to disagree with the statement, closely represented 14.3% (n=7) was to strongly disagree with the statement. The least common response 8.2% (n=4) was to strongly agree with the statement Brexit has increased the amount of non-billable work.

Veterinarians were asked to what extent they agree with the statement that Brexit has caused an increase in clients relying on government subsidies or charity support, such as the RSPCA, to pay for veterinary costs, with an average response of  $2.90 \pm 1.18$ . The most common response 42.9% (n=21) was to neither agree nor disagree, followed by disagree with the second most common response 18.4% (n=9). The third most common response 14.3% (n=7) was to strongly disagree. The joint least common responses were to agree and strongly disagree with 12.2% (n=6) to this statement. Veterinarians were asked to what extent they agree with the statement that Brexit has caused them to change suppliers to UK-based firms, with an average response of  $2.71 \pm 1.26$ . The most common response was the most common response 34.7% (n=17) was to neither agree nor disagree with the statement. The second most common statement 24.5% (n=12) was to strongly disagree with the statement. The third most common response 18.4% (n=9) was to agree with the statement. The second least common response 14.3% (n=7) was to disagree and the least common response was to strongly agree with the statement Brexit has caused you to change suppliers to UK-based firms 8.2% (n=4).

Finally, respondents were asked to what extent they agree with the statement that Brexit has negatively affected the availability of specialist veterinary services, with an average response of  $2.61 \pm 1.11$ . The most common response 30.6% (n=15) was to neither agree nor disagree (3) closely followed by disagreeing (2) with 28.6% (14) of respondents. The joint third most common responses 18.4% (n=9) were to strongly disagree and agree. The least most common response was to strongly agree with the statement that Brexit has negatively affected the availability of specialist veterinary services.

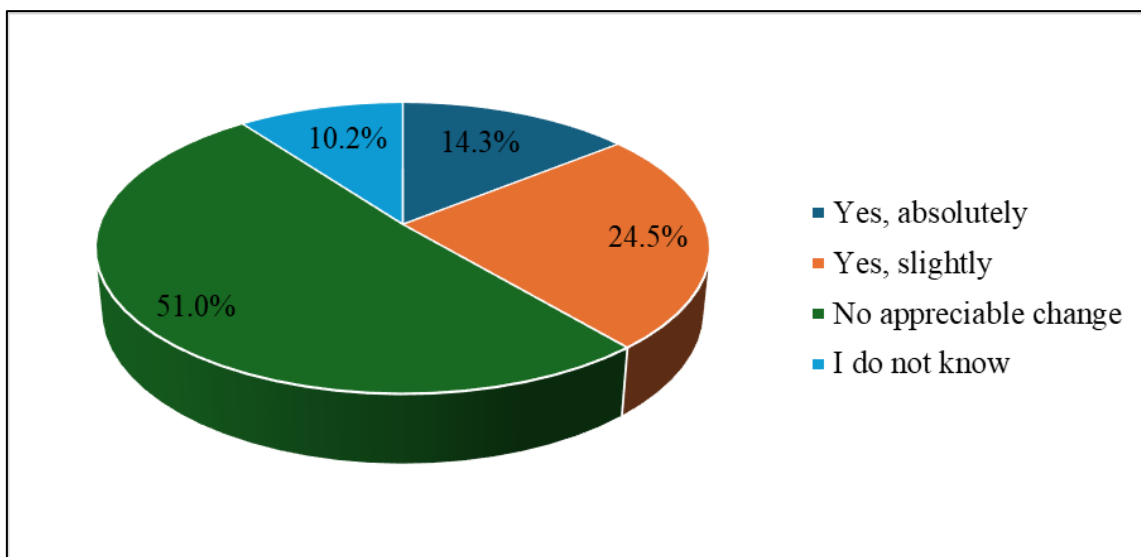
The twenty forth question (**Chart 16.**) asked respondents whether they have experienced delays or disruptions in the importation of veterinary medicines or supplies since Brexit. The majority of respondents 44.9% (n=22) answered occasionally. With the second most common response 32.7% (n=16) being yes, frequently this was 77.6% combined between these two. The third most common response was rarely with 18.4% (n=9). The least most common response was no, not at all by a large margin with 4.1% (n=2).



**Chart 16.** Delays and disruption of medical supplies (n=49).

The twenty fifth question (**Chart 17.**) asked respondents whether Brexit has had a noticeable effect on the number of their clients' importing animals from the European Union. The most popular answer was no appreciable change with 51% (n=25) this was followed by yes, slightly with 25% (n=12). The third most common response was yes, absolutely with 14.3% (n=7). The least common was I do not know with 10.2% (n=5).

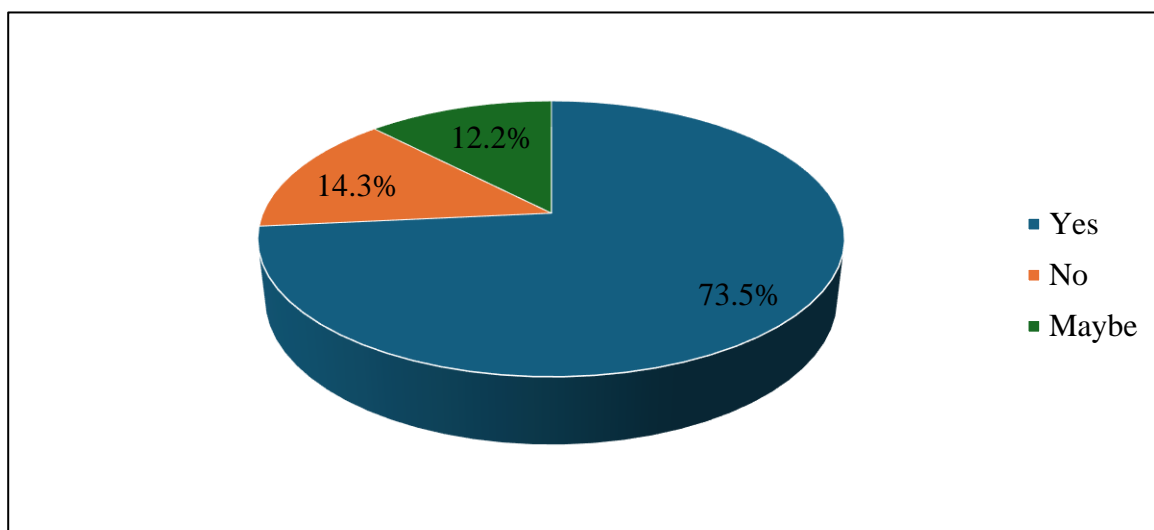




**Chart 17.** Impact of Brexit on importing animals from the EU into the United Kingdom (n=49).

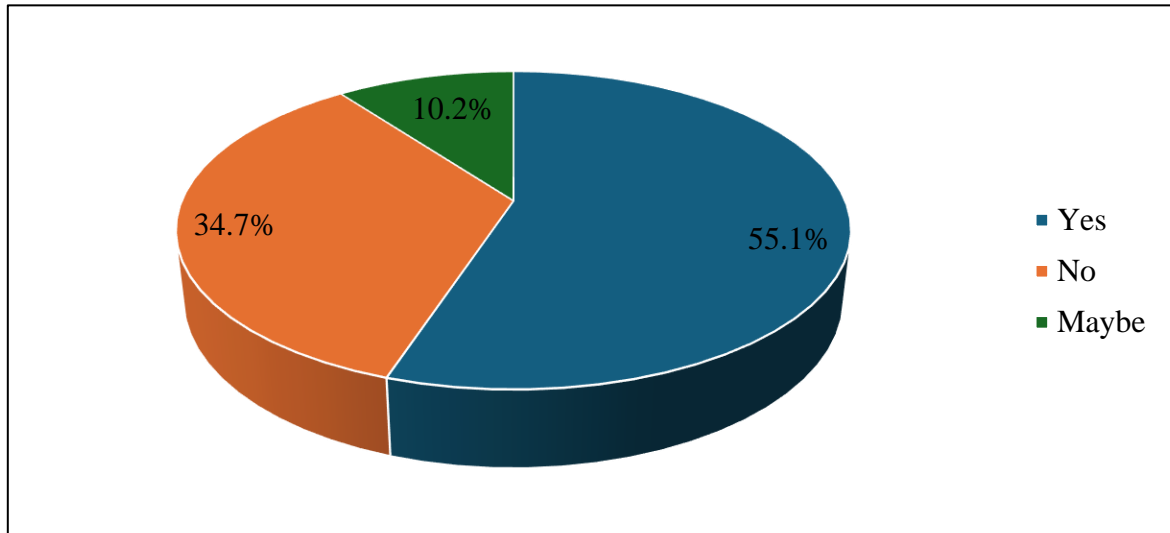
#### **4.4. Government policy effects on the veterinary profession on animal welfare**

The twenty sixth question (**Chart 18.**) asked respondents whether they think the United Kingdom should follow the EU's tightened regulations on antibiotic use. The most popular answer was yes at 73.5% (n=36) of responses the second most popular answer was, no at 14.3% (n=7). The least popular answer was maybe 12.2% (n=6).



**Chart 18.** Support for the United Kingdom following the EU's tightened regulations on antibiotic use (n=49).

The twenty seventh question (**Chart 19.**) asked they whether they are concerned that Brexit is causing a decrease in the United Kingdom's standards on animal welfare. The most popular answer was no at 55.1% (n=27) of responses the second most popular answer was, yes at 34.7% (n=17). The least popular answer was maybe 10.2% (n=5).



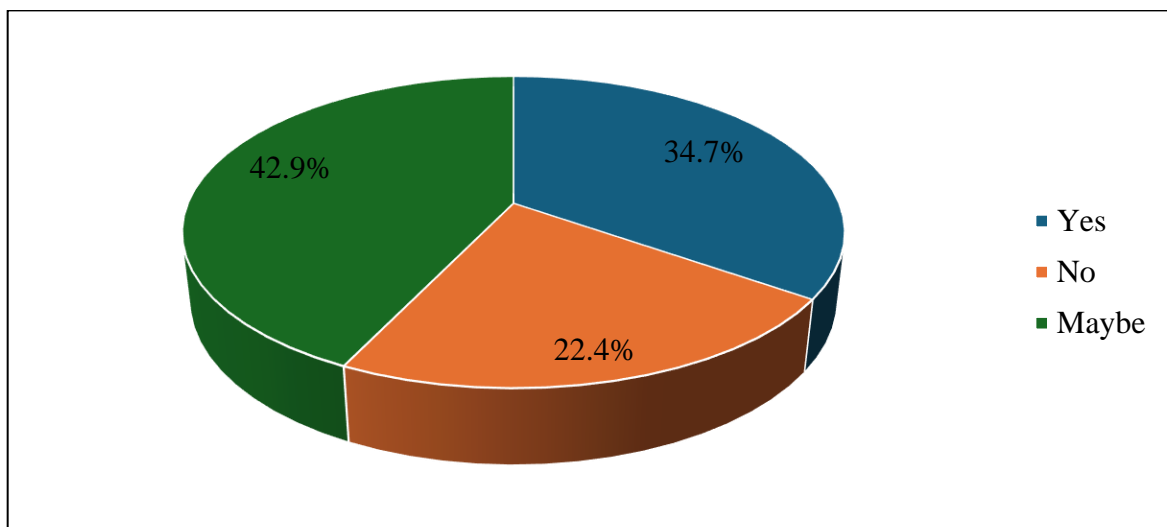
**Chart 19.** Impact of Brexit on the United Kingdom's animal welfare standards (n=49).

The twenty eighth question asked respondents who were concerned about a decrease in the United Kingdom's animal welfare standards to explain why, with 15 responses highlighting concerns primarily focused on government actions. "Previous government was very keen to sign any trade deal so it can grab positive headlines that UK can deal without the assistance of EU." And that "UK government does not take advice from experts and listens to popular opinion instead which is not well informed. Also listens to business who will look at higher welfare as expensive to do and reduce profits. Government always takes the easy route not what is right.". While others think that animal welfare is "Not priority for UK government", or that animal welfare is a concern "Depending on who is in Government, I don't trust all parties to have animal welfare as a main priority".

Other Veterinarians responded that they are concerned about the United Kingdom's animal welfare because there is "less oversight and binding laws" or that "Lack of compliance with EU health standards may lead to a decline in UK animal welfare." One of our respondents believed that "Thus far any divergence from EU standards manifested in a lowering of standards" and that "Potential for a gradual decrease in standards over time" as well as "Because we are depending on only United Kingdom as opposed to a wider global animal welfare standard in the EU".

Meanwhile some thought that “Farming sector means more meat and animal product imports from non-EU countries with lower welfare standards” and that some thought that animal welfare would be affected because “less vets to offer consults” and that animal welfare would be effected because “The clients have smaller disposable income to treat their pets.” on the other hand some of our respondents thought that “We (The United Kingdom) want to keep our high standards of animal welfare” and that “UK already has world leading animal welfare standards.” And one of our respondents was concerned “Because poor animal welfare is very bad.”.

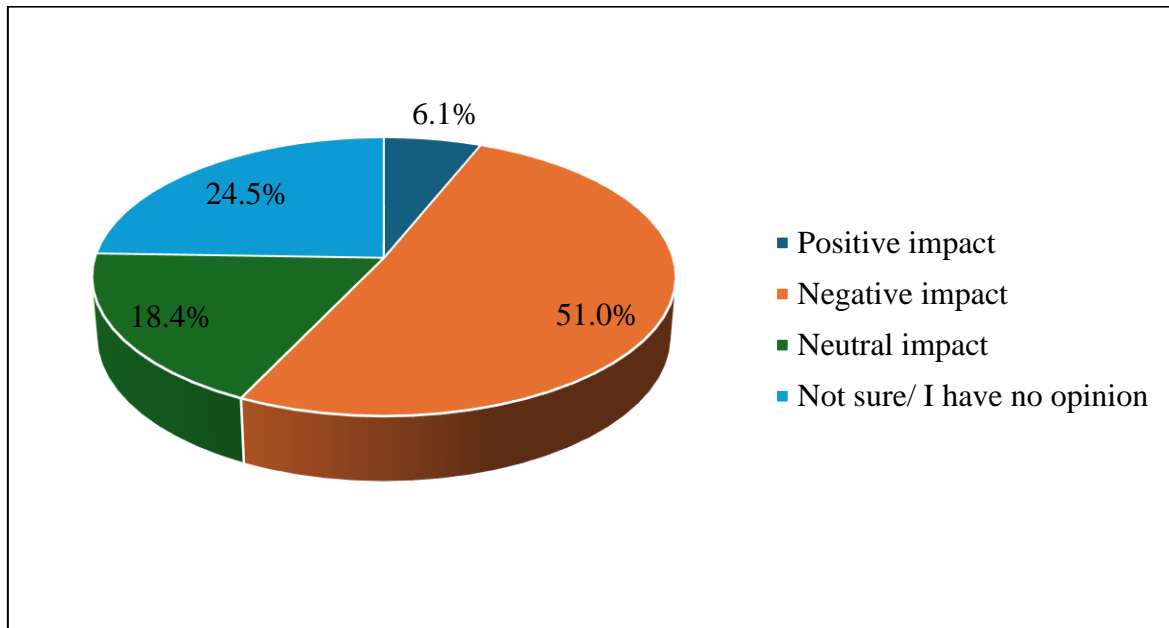
The twenty ninth question (**Chart 20.**) asked respondents whether they are concerned that post-Brexit trade deals, such as the recent agreements with New Zealand and Australia, may lead to a decrease in food hygiene standards within the UK. The most popular response was maybe at 42.9% (n=21) of responses the second most popular answer was yes, they are concerned about trade deals post Brexit causing a decrease in the food hygiene standards within the United Kingdom at 34.7% (n=17). The least popular answer was no they are not concerned 22.4% (n=11).



**Chart 20.** Concern of trade deals post Brexit effecting animal welfare in the United Kingdom (n=49).

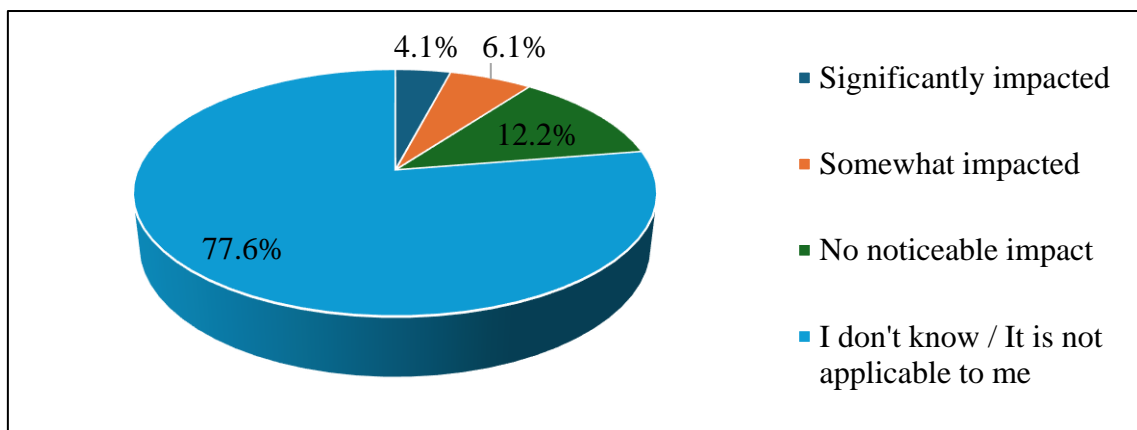
The thirtieth question (**Chart 21.**) asked respondents whether they foresee Brexit impacting the long-term quality and competitiveness of the UK veterinary field on the international stage. The most common response was that they saw Brexit having a negative impact on the long-term quality and competitiveness of the UK veterinary field on the international stage at 51% (n=25). The second most common response was, not sure / I have no opinion 24.5% (n=12). The second least popular response was that Brexit would have a neutral impact

18.4% (n=9). Only 6.1% (n=3) believe that Brexit would have a positive impact on the long-term quality and competitiveness of the UK veterinary field on the international stage.



**Chart 21.** Long-term quality and competitiveness of the UK veterinary field on the international stage (n=49).

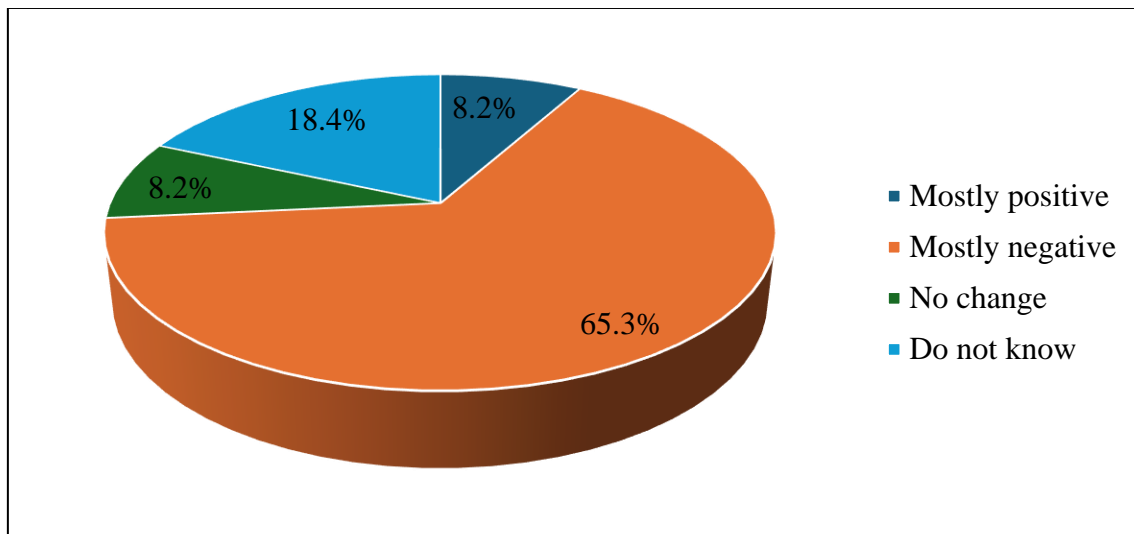
The thirty first question (**Chart 22.**) asked respondents whether Brexit has affected their ability to participate in EU-funded research projects. The greatest response was that the respondents didn't know, it is not applicable to them 77.6% (n=38). The next most common response was that Brexit would have no noticeable impact their ability to participate in EU-funded research projects with 12.2% (n=6) of respondents having this response. 6.1% (n=3) believed that they would be somewhat impacted in their ability to participate in EU-funded research projects. The least common response was that they would be significantly impacted in their ability to participate in EU-funded research projects 4.1% (n=2).



**Chart 22.** Impact of Brexit on participation in EU-funded research projects (n=49).

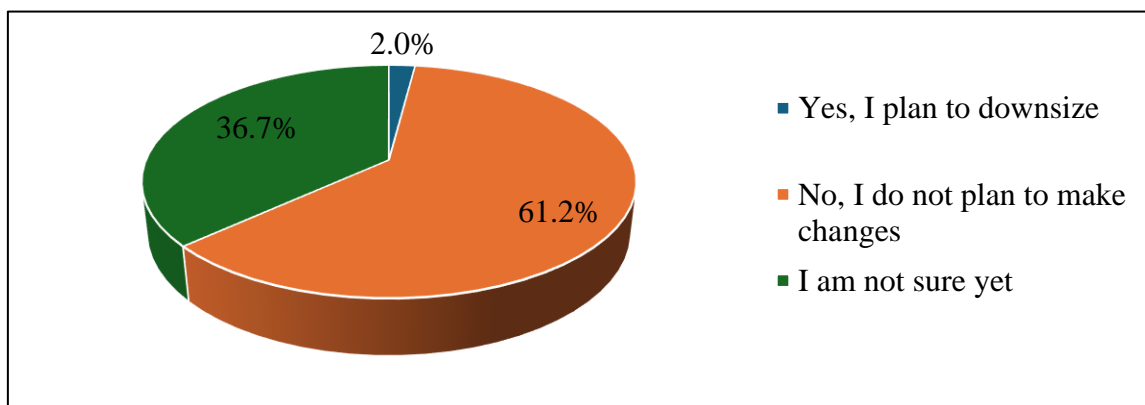
## 4.5. Plans and outlook

The thirty second question (**Chart 23.**) asked respondents what long-term effects they anticipate Brexit will have on the veterinary profession. The most common response was that Brexit would have a mostly negative long-term effects on the veterinary profession with 65.3% (n=32) of respondents. The second most common response of those questioned was that they didn't know with 18.4% (n=9) of respondents. The same number of respondents 8.2% (n=4) believed that there would be no long-term effects as a result of Brexit, that believed that Brexit would have positive effects on the veterinary profession.



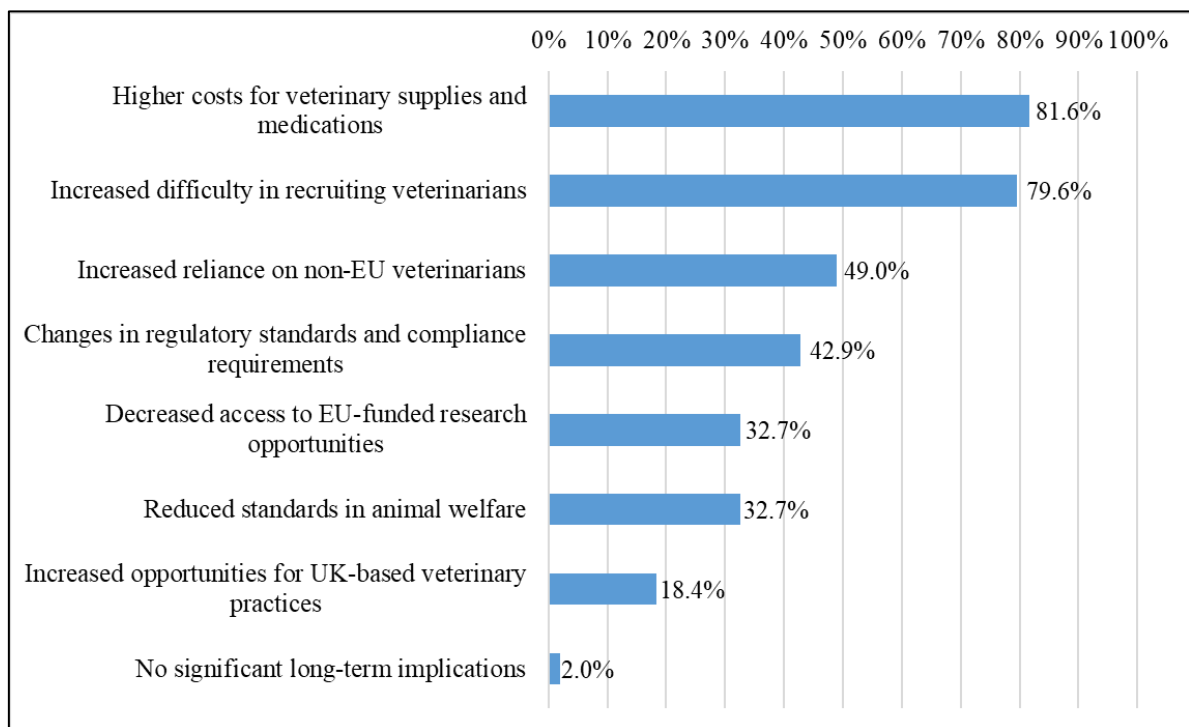
**Chart 23.** Respondents' perception of the long-term effects on the veterinary profession (n=49).

The thirty third question (**Chart 24.**) asked they whether they are considering making changes to their practice as a result of Brexit. The most common answer was “No, I do not plan to make any changes with 61.2% (n=30) of respondents. The other common response was, “I am not sure yet” with 36.7% (n=18) of those questioned. Only 2% (n=1) said “Yes, I plan to downsize”. None of those questioned responded with “Yes, I plan to expand”.



**Chart 24.** Respondents plans to make changes to their practice as a result of Brexit (n=49).

The thirty fourth question (**Chart 25.**) asked veterinarians for their opinions on the potential long-term implications of Brexit on the veterinary profession in the UK. The most agreed with statement was, higher costs for veterinary supplies and medications with 81.6% (n=40). The second most agreed statement was, increased difficulty in recruiting veterinarians 79.6% (n=39) and 49% of respondents agreed with the statement of potential long-term impact of Brexit on the veterinary profession, increased reliance on non-EU veterinarians. A total of 42.9% (n=21) thought that Brexit would cause changes in regulatory standards and compliance requirements and 32.7% (n=16) thought that there would be both decreased access to EU-funded research opportunities and reduced standards in animal welfare. A total of 18.4% (n=9) believed that there would be increased opportunities for UK based veterinary practices. Only 2% (n=1) thought that there would be no significant long-term implications. When asked for their own responses, one of the respondents thought that there would “be better control of our borders and less interference from the EU”. Another one thought that an impact of Brexit would be “Export paperwork revenue” and one of them thought that there would be “only positive implications to all above (the statements given)”.



**Chart 25.** Long term implications of Brexit on the Veterinary profession (n=49).

## 5. Discussion

The age demographic of our respondents were mostly below 45, our respondents therefore are more likely to be cynical of Brexit as age played a significant role in Brexit voting, with younger voters tending to favour remaining in the European Union, while older voters were more likely to support leaving, “a 50 year old is 10 percentage points more likely to support Brexit compared to a 33 year old vote” [22]. This distribution highlights the dominance of British nationals among participants, which reflects the study's geographic context. The reduced diversity in nationalities may indicate a declining presence of EU professionals in the UK, potentially influenced by post-Brexit immigration challenges and uncertainties [23]. This could imply a diminished presence of European veterinarians in the, who have historically contributed significantly veterinary medicine in the United Kingdom.

The responses to provide insight into how Brexit has influenced veterinary professionals' attitudes toward working outside the United Kingdom. Before Brexit, 51% of respondents had not considered working abroad, while 22.4% were uncertain. Notably, only a minority (26.6%) expressed interest in working internationally, with the EU/EEA being the least popular destination (6.1%). However, post-Brexit, the majority (63.3%) still preferred staying in the UK, although a larger proportion (28.6%) expressed uncertainty about moving abroad. This trend may reflect the professional barriers imposed by Brexit, including changes in mutual recognition of veterinary qualifications and reduced workforce mobility due to stricter immigration rules [24]. The limited desire to relocate to the EU/EEA post-Brexit (0% response) likely correlates with the increasing regulatory complexity and economic uncertainty associated with cross-border practice within Europe [25]. Conversely, the interest in working outside the EU/EEA (4.1%) might signal a growing inclination toward non-European markets offering more stable career opportunities. However this could be due to the Foreign language proficiency in the United Kingdom has historically been low compared to other European countries [26]. In this study, the majority's response of "no" might reflect either resilience in overcoming these barriers or a lack of prior reliance on EU-based opportunities.

Our results highlight a significant concern about veterinary workforce shortages post-Brexit, with a majority of respondents (53.1%) noting a noticeable decrease in European veterinarians. This aligns with broader industry observations that Brexit has disrupted the

flow of EU-trained veterinarians into the UK, a workforce historically relied upon due to mutual recognition of qualifications and simplified mobility within the EU.

The most common response to the extent Brexit has affected medication supply was "moderately," with a mean score of 3.16. This indicates a significant but varied impact, as respondents reported challenges ranging from slight to significant. The standard deviation of 1.20 reflects the diverse experiences of practices, possibly influenced by location, size, and supply chain reliance. Brexit's disruption of EU-UK trade agreements has introduced complexities in importing veterinary medications, including delays and increased costs due to customs checks and regulatory divergences. Reports by organizations such as the BVA confirm these challenges [27].

Brexit's impact on equipment procurement appears less pronounced, with "slightly" being the most common response and a mean score of 2.31. The relatively low standard deviation (1.16) suggests a narrower range of experiences in this area. While equipment procurement is affected by similar trade and regulatory changes as medication supply, the lower reported impact may stem from differences in the supply chain for veterinary equipment, which may not rely as heavily on EU imports [28]. The recruitment of veterinarians and other staff has been significantly affected, as indicated by a mean score of 3.33 and "significantly" being the most common response. With a high standard deviation (1.39), this area demonstrates considerable variability in experiences. The end of freedom of movement has been particularly detrimental, as EU nationals previously constituted a substantial portion of the UK veterinary workforce. The RCVS has reported a decline in new EU registrations, contributing to a workforce shortage exacerbated by Brexit [29]. The impact of Brexit on client numbers was minimal, with a vast majority reporting "not at all" and a mean score of 1.59. The low standard deviation (1.02) further confirms the limited variability in this area. This result suggests that, despite Brexit-related challenges in other domains, client demand for veterinary services has remained stable. This may be due to the essential nature of veterinary care. The responses highlight the complex and varied impact of Brexit on veterinary practices. While medication supply and recruitment have faced notable challenges, areas like client numbers and financial stability appear more resilient. These results emphasize the importance of tailored strategies to mitigate Brexit-related disruptions, particularly in critical areas such as workforce recruitment and supply chain management.

Our findings revealed that many respondents agreed (30.6%) or strongly agreed (20.4%) that Brexit has increased medication costs, with a mean of 3.49. The disruption of EU-UK trade



agreements, customs checks, and regulatory divergence have driven up costs [30]. Brexit-related administrative burdens and the reclassification of veterinary medicines have resulted in price increases and delays [31]. Our results suggest a less pronounced but still notable effect on equipment costs, with 28.6% agreeing and a mean score of 3.20. The relatively low standard deviation (1.02) indicates consistency among responses. Trade barriers, such as increased customs paperwork, may contribute to higher costs for some practices [32]. Responses suggest moderate agreement on increased laboratory test costs (mean = 3.02). Customs regulations and changes in EU-UK collaboration on veterinary diagnostics have caused these changes [33].

Our study found agreement that Brexit has increased administrative fees (22.4%, mean = 3.00). Veterinary practices have faced additional compliance requirements under Brexit, including pet travel documentation and medicine importation. This is supported by the responses that there has been an increase in billable work (mean = 3.80), with 34.7% strongly agreeing. New requirements for pet travel documents and Brexit-related regulations have provided practices with new revenue opportunities, when in relation to our responses, which showed moderate disagreement (mean = 2.94). Practices face additional revenue generating tasks, such as regulatory compliance. Our results suggest minimal supplier changes due to Brexit (mean = 2.71). While some practices may have shifted to UK suppliers to mitigate delays, many retained their EU suppliers despite increased costs, reflecting resilience in their existing supply chain relationships. We revealed minimal perceived impact on specialist veterinary services, with a mean score of 2.61. The lack of a marked change may reflect the continuity of specialist services within the UK despite challenges in EU cooperation and workforce recruitment.

The findings indicate that Brexit has introduced challenges in importing veterinary medicines and supplies. With a combined 77.6% of respondents indicating occasional (44.9%) or frequent (32.7%) delays or disruptions, this therefore is a significant issue for many practices [34]. This is in line with broader logistical challenges associated with Brexit, such as customs delays, new regulatory checks, and changes in trade agreements between the UK and the EU. The minority of respondents reporting "no disruptions" (4.1%) suggests that these challenges are not universal. Sources corroborate these findings. Brexit caused a divergence in regulatory frameworks between the United Kingdom and the EU, leading to increased costs and complexity in the supply chain. The majority of veterinary medicines in the UK are imported, often via the EU, amplifying the effects of these disruptions. Even with

measures like stockpiling, new border requirements created, higher costs for drugs and delays in availability. The UK has also faced challenges in maintaining mutual recognition agreements for batch testing and certifications, further complicating imports [35].

Responses indicate that Brexit has had a noticeable yet limited effect on veterinary clients importing animals from the European Union. A majority, at 51%, reported no significant changes. The 25% of respondents who noted a slight impact suggest that clients may be facing minor hurdles, including extra paperwork or increased costs related to the new UK-EU trade regulations. Meanwhile, the 14.3% who indicated significant effects highlight that for some clients, Brexit-related changes—like the introduction of veterinary health certificates, customs delays, and higher transportation costs—have greatly hindered their ability to import animals [36].

The findings show that a substantial 73.5% of respondents favour the UK adopting the European Union's stricter regulations on antibiotic usage. This demonstrates the veterinary profession's urgent requirement to address antimicrobial resistance, a significant global health issue. The EU's regulatory adjustments, which limit antibiotic application in livestock to only critical situations while promoting preventive strategies such as vaccination and better husbandry practices, are regarded as a benchmark for mitigating these issues AMR [37,38].

In our study, a slight majority of respondents (55.1%) expressed no concern about a decline in animal welfare, with 34.7% indicating concern and 10.2% remaining undecided. These responses highlight a divide in how veterinarians perceive the government's commitment to maintaining or improving welfare standards in a post-Brexit. Comments about the government's focus on signing trade deals "to grab positive headlines" suggest the belief that welfare standards might be compromised in favour of economics, the pressures of trade negotiations leading to reduced oversight or alignment with lower welfare standards in non-EU trading partners. Some respondents voiced scepticism about the government's lack of reliance on expert advice, and that business interests might influence decisions. This aligns with reports that regulatory divergence from the EU could weaken compliance mechanisms for animal welfare [39]. Conversely, respondents who did not foresee a decline emphasised the UK's historically strong animal welfare laws, describing them as "world-leading." Regarding the potential impact of post-Brexit trade deals on UK food hygiene standards. The most popular response, "maybe" (42.9%), reflects the uncertainty of possible risks. Meanwhile, 34.7% of respondents expressed concern about a decline in standards,

underscoring apprehension linked to free trade agreements, such as those recently established with New Zealand and Australia. These agreements have been criticized for potentially allowing imports produced under less stringent hygiene and safety standards compared to EU requirements. Conversely, 22.4% of respondents were unconcerned, perhaps trusting in the UK's ability to maintain high food safety standards despite new trade conditions [40].

The results concern within the UK veterinary field about Brexit's long-term effects on international competitiveness and quality. A majority (51%) of respondents predicted a negative impact, reflecting apprehension about reduced access to skilled labour, challenges in research collaboration, and the potential for divergence from EU standards. The 24.5% who expressed uncertainty reflect the unpredictable nature of Brexit's full effects. The small percentage (6.1%) anticipating a positive impact may correlate with opportunities seen in regulatory independence and the ability to tailor policies to national needs.

In this study, the majority of respondents (77.6%) indicating that the question did not apply to them or that they were unsure of the impact. This likely reflects the nature of their roles, where many veterinary professionals may not engage directly in research activities or collaborate with EU-funded projects. Among those definitive answers, a small percentage foresaw some level of impact, with 6.1% predicting a moderate effect and 4.1% expecting significant barriers to participation. These concerns align with broader academic discussions about the challenges UK researchers face in maintaining access to EU research frameworks such as Horizon Europe. The 12.2% of respondents who noted no noticeable impact might reflect optimism about alternative funding mechanisms or the ability to maintain bilateral research collaborations outside the EU framework [41]. However, studies indicate that these alternatives may not fully replace the scale and scope of EU funding. For example, the UK Research and Innovation (UKRI) fund, is designed to mitigate Brexit's impact [42].

The veterinarians have a predominantly negative outlook on the long-term effects of Brexit on the veterinary profession, potentially driven by uncertainty of workforce shortages, regulatory divergence, and trade disruptions. A smaller proportion of neutral or positive expectations reflects opportunities for regulatory independence. Meanwhile, 18.2% expressed uncertainty, underscoring the unpredictable nature of Brexit's full ramifications and that its full consequences may only be seen in time.

The majority of veterinary professionals (61.2%) did not plan to make changes to their practices as a result of Brexit. This suggests resilience or confidence in the continuity of their operations despite the potential challenges posed by Brexit-related changes. A considerable proportion (36.7%) indicated uncertainty about making changes, reflecting the ongoing ambiguity around the long-term impacts of Brexit on the veterinary profession as indicated in the previous questions.

This distribution may indicate that, while some professionals are unsure about the long-term effects, most do not currently perceive the need for restructuring. This suggests minimal disruption in their practices or a perception that Brexit-related issues, such as supply chain disruptions or workforce shortages, have not yet reached critical levels for many practices.

A significant majority (81.6%) of respondents anticipated increased costs for veterinary supplies and medications due to Brexit. This aligns with broader industry concerns about supply chain disruptions and tariff implications affecting the import of essential goods [43].

Nearly 79.6% of participants highlighted difficulties in recruiting veterinarians, BVA has consistently pointed to the UK's dependence on EU-trained vets, particularly in roles related to public health and official certifications. Brexit-related visa restrictions have compounded this issue, reducing the pool of qualified professionals available for recruitment. Approximately 49% of respondents indicated a potential increase in reliance on non-EU veterinarians. The shift away from EU professionals could require adjustments in training and qualifications [44].

A total of 42.9% of respondents believed Brexit would lead to changes in regulatory standards and compliance requirements. This sentiment reflects broader apprehension within the industry about divergence from EU regulatory frameworks. Regulatory shifts could potentially create confusion and additional administrative burdens for veterinary professionals operating across borders.

## 6. Summary

Brexit was a key geopolitical event that ended the United Kingdom's membership of the European Union and led to major political, economic and social changes. For the veterinary profession, Brexit marked the end of free movement and mutual recognition of professional qualifications, which had historically allowed EU-trained veterinarians to practice in the UK without additional licensing requirements. This shift has significantly disrupted the workforce, which was heavily reliant on EU nationals.

An online questionnaire was created containing 35 questions (Google Forms), which was completed by respondents between September 5, 2024, and November 21, 2024. A total of 49 veterinarians participated in the survey. Survey results show a noticeable decline in the number of European veterinarians practising in the UK, exacerbating pre-existing shortages across the profession but especially in key areas such as large animal care and public health roles. Another critical aspect is the impact on trade and supply chains. Brexit introduced new customs requirements, non-tariff barriers, and regulatory divergence, leading to delays and increased costs in the procurement of veterinary medicines, equipment, and other supplies. Practices have reported frequent disruptions, adding to the financial and administrative burdens of maintaining veterinary services.

Based on animal welfare, the UK's efforts to enforce stricter animal welfare rules, such as banning the export of live animals for slaughter and tightening measures against pet smuggling, should be highlighted. However, trade agreements with countries like Australia and New Zealand, where animal welfare standards are perceived to be lower, have raised fears of a potential erosion in UK standards. Respondents expressed concerns that economic pressures and new trade deals might prioritize cost savings over welfare.

Survey findings reveal a consensus among practitioners about Brexit's largely negative impact on the profession. Common themes include heightened difficulties in recruiting skilled workers, increased costs for supplies and medications, and administrative burdens related to new import-export regulations. Participants also cited concerns about reduced access to specialist services and a decline in the profession's international competitiveness.

This research concludes by outlining the potential long-term implications of Brexit. It warns of ongoing workforce challenges, particularly as stricter immigration rules and rising salary thresholds make it harder for foreign veterinarians to enter the UK. Simultaneously, increasing the domestic veterinary workforce is constrained by the long educational pipeline

and limited capacity of UK veterinary schools. Brexit has also led to uncertainties regarding biosecurity, with the UK implementing its own risk-based approach to managing animal and plant health threats.

Despite these challenges, Brexit presents opportunities for the UK to chart its path in animal welfare and regulatory frameworks. However, the findings emphasize that these gains must be balanced against the risks of diminished workforce capacity, reduced research collaboration, and increased operational costs for veterinary practices. It underscores the need for strategic investments in workforce development, supply chain resilience, and international collaborations to safeguard the profession's future while maintaining high standards of public health, food safety and animal welfare.

## 7. Összefoglalás

A Brexit egy kulcsfontosságú geopolitikai esemény volt, amely véget vetett az Egyesült Királyság európai uniós tagságának, és jelentős politikai, gazdasági és társadalmi változásokhoz vezetett. Az állatorvosi szakma számára a Brexit a szabad mozgás és a szakmai képesítések kölcsönös elismerésének végét jelentette, ami történelmileg lehetővé tette, hogy az EU-ban képzett állatorvosok további engedélyezési követelmények nélkül praktizálhassanak az Egyesült Királyságban. Ez a változás jelentős mértékben megzavarta a munkaerőt, amely nagymértékben támaszkodott az uniós állampolgárokra.

Egy 35 kérdést tartalmazó online kérdőívet (Google Forms) állítottunk össze, amelyet 2024. szeptember 5. és 2024. november 21. között töltöttek ki a válaszadók. A felmérésre összesen 49 állatorvos válaszolt. A felmérés eredményei azt mutatják, hogy az Egyesült Királyságban praktizáló európai állatorvosok száma érezhetően csökkent, ami súlyosbítja a szakmában már korábban is meglévő hiányt, de különösen az olyan kulcsfontosságú területeken, mint a nagytestű állatok ellátása és a közegészségügyi feladatok. A másik kritikus szempont a kereskedelemre és az ellátási láncokra gyakorolt hatás. A Brexit új vámkövetelményeket, nem vámjellegű akadályokat és szabályozási eltéréseket vezetett be, ami késedelmekhez és megnövekedett költségekhez vezetett az állatgyógyászati termékek, felszerelések és egyéb ellátmányok beszerzésében. A praxisok gyakori fennakadásokról számoltak be, ami növeli az állat-egészségügyi szolgáltatások fenntartásának pénzügyi és adminisztratív terheit.

Az állatjólétet tekintve, kiemelendő az Egyesült Királyság erőfeszítései a szigorúbb állatjóléti szabályok végrehajtására, például a vágásra szánt élő állatok kivitelének betiltására és a kedvtelésből tartott állatok csempésze elleni intézkedések szigorítására. Ugyanakkor az olyan országokkal kötött kereskedelmi megállapodások, mint Ausztrália és Új-Zéland, ahol az állatjóléti normákat alacsonyabbnak tartják, felvetették az Egyesült Királyság normáinak esetleges romlásától való félelmet. A válaszadók aggodalmukat fejezték ki, hogy a gazdasági nyomás és az új kereskedelmi megállapodások a költségmegtakarítást a jóléttel szemben előtérbe helyezhetik.

A felmérés eredményei konszenzust mutatnak a szakemberek körében a Brexit szakmára gyakorolt nagyrészt negatív hatásáról. A közös témák közé tartoznak a szakképzett munkaerő toborzásának megnövekedett nehézségei, az ellátmányok és gyógyszerek megnövekedett költségei, valamint az új import-export szabályozásokkal kapcsolatos adminisztratív terhek. A résztvevők a szakállatorvosi szolgáltatásokhoz való hozzáférés

csökkenésével és a szakma nemzetközi versenyképességének csökkenésével kapcsolatos aggodalmakra is hivatkoztak.

A kutatás a Brexit lehetséges hosszú távú következményeinek felvázolásával zárul. Figyelmeztet a munkaerővel kapcsolatos folyamatos kihívásokra, különösen mivel a szigorúbb bevándorlási szabályok és az emelkedő bérkűszöbök megnehezítik a külföldi állatorvosok számára az Egyesült Királyságba való belépést. Ezzel párhuzamosan a hazai állatorvosi munkaerő növelését korlátozza a hosszú oktatási folyamat és az Egyesült Királyság állatorvosi iskoláinak korlátozott kapacitása. A Brexit a járványvédelemmel kapcsolatos bizonytalanságokhoz is vezetett, mivel az Egyesült Királyság saját kockázatalapú megközelítést alkalmaz az állat- és növény-egészségügyi veszélyek kezelésére.

E kihívások ellenére a Brexit lehetőséget kínál az Egyesült Királyság számára, hogy az állatjólét és a szabályozási keretek terén is kijelölje saját útját. Az eredmények azonban hangsúlyozzák, hogy ezeket a nyereségeket egyensúlyba kell hozni a csökkent munkaerő-kapacitás, a kutatási együttműködés csökkenésének és az állatorvosi praxisok működési költségeinek növekedésével járó kockázatokkal. A jelentés kiemeli, hogy stratégiai befektetésekre van szükség a munkaerő-fejlesztés, az ellátási lánc rugalmassága és a nemzetközi együttműködések terén a szakma jövőjének biztosítása érdekében, a közegészségügy, az élelmiszerbiztonság és az állatjólét magas színvonalának fenntartása mellett.



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