

Joint BVA, AGV, GVS, PVS, SVS VPHA response to National Food Strategy: Call for evidence

25 October 2019

Who we are

1. The British Veterinary Association (BVA) is the national representative body for the veterinary profession in the United Kingdom. With over 18,000 members, our primary aim is to represent, support and champion the interests of the United Kingdom's veterinary profession. We therefore take a keen interest in all issues affecting the profession, including animal health and welfare, food production, public health, regulatory issues and employment matters.
2. We have developed this response jointly with the following sector and species-specific veterinary associations:
 - The **Association of Government Veterinarians (AGV)** is a specialist division of BVA representing the views of veterinarians working in UK Government Departments and Executive.
 - The **Goat Veterinary Society (GVS)** is a division of BVA and has approximately 300 members, including veterinary surgeons with a specific interest in goat health and welfare, but also has a significant "non-veterinary" membership including owners and farm personnel from across the entire spectrum of goat keeping in the UK.
 - The **Pig Veterinary Society (PVS)** is a specialist division of the British Veterinary Association. The membership of PVS includes veterinary surgeons and scientists who work in the pig sector, and the Society aims to assist its members in their professional lives by ensuring they have access to the latest information with regards pig health and production. PVS also represents the membership at a national level, making sure that pig welfare is a priority considering the latest research with regards health and management on farm.
 - The **Sheep Veterinary Society (SVS)** promotes sheep health and welfare as a specialist division of the BVA. While most of its 700 members are vets, many are drawn from all sectors of the sheep industry.
 - The **Veterinary Public Health Association (VPHA)** is a division of BVA and is committed to the protection of the consumer and the environment as well as to the promotion of animal welfare. VPHA currently has over 300 members many of whom work as Official Veterinarians in slaughterhouses dealing with both public health and animal welfare issues.
3. The veterinary profession is an integral part of the agricultural and food sector from farm to fork, and we welcome the opportunity to contribute to the National Food Strategy call for evidence. Our submission focuses on the following areas:
 - The role of the veterinary profession
 - Promoting high animal health and welfare standards
 - Making food production more sustainable
 - Supporting citizens to make informed choices about the food they eat
 - Increasing access and affordability of high-quality food
 - Supporting producers and rural communities to thrive
 - Technology and innovation
4. As an evidence-led organisation, we keep all of our policy positions under review. We are currently consulting with our membership to update our positions on welfare at slaughter, food labelling and how

best to ensure citizens are empowered to make informed choices about the food that they purchase. We expect to agree our updated positions in April 2020. At the time of writing (October 2019) this submission reflects current BVA policies. We will continue to engage with the National Food Strategy to ensure that any updates to these policy positions are effectively communicated and captured.

The role of the veterinary profession

5. The veterinary profession is an integral part of the agricultural and food sector, working collaboratively with others to protect animals, people and the environment they share. Veterinary surgeons provide preventive healthcare and treatment for livestock, as well as carry out health monitoring and disease surveillance, promote good biosecurity, promote high animal health and welfare, undertake research and development, and optimise food productivity and sustainability.¹
6. Further, veterinary surgeons uphold necessary legislation and international standards pertaining to animal welfare, food safety, accurate certification and traceability. By carrying out surveillance and enforcement from farm to-fork, Official Veterinarians (OVs) certify the trade in animals and animal products thus contributing to economic prosperity, the protection of public health (including from zoonotic disease incursion and antimicrobial resistance) and the sustainability of food production.
7. As an evidence-based, scientific profession, the veterinary voice is also valued by both producers and consumers as an 'honest-broker' of information about animal-derived food.
8. Vets are therefore well-placed to advise and influence discussions informing the future of how we produce, consume and market our food; from safeguarding animal health and welfare, to ensuring consumers are able to make informed choices about their food purchases, whilst at the same time facilitating production efficiency and environmental protection.
9. Consequently, the involvement of the veterinary profession within the development of the National Food Strategy should be an integral part of any policy development, review and implementation.

Promoting high animal health and welfare standards

Prioritising animal health and welfare in trade negotiations

10. As the UK leaves the EU and looks to forge new and ambitious trade relationships, we welcome the Government commitment to "ensuring the maintenance of high standards of consumer, worker and environmental protection in trade agreements."² In our response to the Department for International Trade White Paper, Preparing for our future UK trade policy, BVA called for this commitment to be expanded to explicitly include public goods: animal health; animal welfare; public health (including food safety); and responsible use of antimicrobials.³
11. We welcomed the early pronouncements from the UK Government that it would seek to establish the UK's "unique selling point" as one of high animal welfare and high food safety standards.⁴ The former Secretary of State for Environment, Food and Rural Affairs, Michael Gove MP, stated that trade deals should not water down the standards that support the reputation of UK produce:
12. "[People] know that high animal welfare standards and high environmental standards reinforce the marketability of our produce. It would, therefore, be a mistake if in any free trade deal we watered down

¹ British Veterinary Association, [Position on veterinary scanning surveillance \(animal health and disease monitoring\)](#), 2018

² Department for International Trade, Preparing for our future UK trade, 2017

³ British Veterinary Association, Preparing for our future UK trade policy: British Veterinary Association Submission, 2017

⁴ Former Environment Secretary, Andrea Leadsom MP, speaking at NFU conference 2017, reported Farming UK

those standards. We want free trade deals, but we should not tarnish the good name of free trade by associating it with any diminution in those standards.”⁵

13. A new trade agreement could allow imports that fail to meet these current high standards onto the UK market. Within the UK these goods would become indistinguishable from UK produce, jeopardising the ability of exporters to trade using the good reputation of the UK as a high animal health and welfare producer. This would increase the risk posed by goods leaving the UK failing to meet EU SPS standards. Consequently, the need for risk-based checks on UK goods entering the EU Single Market would rise. This would place additional delays on UK producers selling into the EU.
14. Similarly, the UK Government should seek to apply a single standard to the production of animal products destined either for UK consumers or foreign markets. A single standard that includes veterinary controls and certifications will avoid the confusion and the opportunity for fraud that is associated with multiple parallel standards, avoid compromised animal health and welfare, and ensure consumer confidence at home and abroad.
15. Animal welfare
UK citizens place value in the welfare of farmed animals. In a survey of 600 people in Great Britain, 96% agreed that we have a moral obligation to safeguard the welfare of animals.⁶
16. Through the Agriculture Bill, the UK will provide financial support to farmers to protect and improve animal welfare, as a public good. However future trade deals may undermine this investment. The House of Lords European Union Committee noted the *“greatest threat to farm animal welfare standards post-Brexit would come from UK farmers competing against cheap, imported food from countries that produce to lower standards than the UK.”*⁷
17. To ensure domestic animal welfare standards and to support animal welfare globally, the Government must therefore secure the inclusion of high farm animal welfare standards in all trade agreements it negotiates. To do otherwise will invite increased imports of cheaper food from overseas, produced to lower welfare standards.⁸ This will result in significant damage to UK agricultural sustainability, farming businesses across the country and further increase our reliance on imports rather than domestic production. Where opportunities are available to improve the welfare of farmed animals, these must be a primary concern in all future trade deals.
18. Animal health
Protecting animal health through standards and surveillance must be an objective of any further trade policy, to effectively detect, respond to, and prevent outbreaks of disease in animal populations. Outbreaks can have immense social and economic consequences. The Foot and Mouth outbreak in 2001 is estimated to have cost £5 billion to the private sector and £3 billion to the public sector, damaged the lives of farmers and rural communities and caused a general election to be postponed.⁹

⁵ Michael Gove MP, Secretary of State for Environment, Food and Rural Affairs noted this giving evidence to the House of Lords Select Committee on the European Union Energy and Environment Sub-Committee

⁶ Kehlbacher, A. 2010. Willingness to pay for animal welfare in livestock production. PhD Thesis. University of Reading, UK

⁷ House of Lords European Union Committee, Brexit: farm animal welfare 5th Report of Session 2017-19 - published 25 July 2017

⁸ We note the [2009 Efra Committee report on the English Pig Industry](#), which stated: “A level playing field between English pig farmers and their EU counterparts is unlikely to develop in 2013 when the EU ban on stalls and tethers is brought into force as several EU countries are assisting their pig farmers financially to make the necessary changes. The Government must ensure that never again are UK farmers at such a disadvantage compared to their EU counterparts as a result of unilateral national action.” (Paragraph 128)

⁹ National Audit Office, The 2001 Outbreak of Foot and Mouth Disease, 2002

19. The UK Government should ensure that trade deals, in respect of animals and animal products, take account of already agreed protocols such as those applied by the EU or the OIE and are backed by appropriate veterinary certification.
20. Most pathogens, particularly in animal products, cannot be practically detected during border checks. This is because checks at the border are insufficiently sensitive to detect risk. Future trade deals should emphasise checks at the point of production, where they are more effective.
21. Public health including food safety
Animal health is inextricably linked to human health. Zoonoses are infections or diseases that can be transmitted directly or indirectly between animals and humans, for instance by consuming contaminated foodstuffs or through contact with infected animals. The severity of these diseases in humans varies from mild symptoms to life-threatening conditions. Among emerging infectious diseases, 75% are zoonotic.¹⁰ To protect public health and sanitary standards, animal products must be prioritised in trade deals. It is imperative that standards are maintained from farm to fork.
22. The role of vets in trade and meeting demand for certification
The import and export of animals and products of animal origin to third countries is dependent on veterinary certification. Veterinary certification is dependent on having available a sufficient number of adequately trained veterinary surgeons. International Veterinary Certificates are defined by the World Organisation for Animal Health (OIE), the reference organisation of the World Trade Organization (WTO) as: "A certificate, issued in accordance with Chapter 5.2 [of the Terrestrial Animal Health Code]¹¹ describing the animal health and public health requirements that are fulfilled by the exported commodities."
23. Veterinary certification is applied to live animals, as well as products of animal origin. These are defined as any products derived from animals or products that have a close relationship with animals. They include¹²:
- fresh red meat, white meat, game and offal
 - meat products (e.g. cured meats, cooked meats)
 - fish, shellfish and fish products
 - processed animal protein for human consumption
 - processed pet food or raw material for pet food production
 - lard and rendered fats
 - animal casings
 - milk and milk products
 - eggs and egg products
 - honey
 - semen, embryos, ova
 - manure, blood and blood products
 - bones, bone products and gelatine
 - hides and skins
 - bristles, wool, hair and leathers
 - hay and straw
 - hunting trophies, i.e. animal heads and skins
 - insect pupae

¹⁰ Blancou J et al. Emerging or re-emerging bacterial zoonoses: factors of emergence, surveillance and control. *Veterinary Research*. 2005;36:507–522

¹¹ World Organisation for Animal Health, Terrestrial Animal Health Code, 2017

¹² Department for Environment, Food & Rural Affairs and HM Revenue & Customs, Animals and animal products: international trade regulations <https://www.gov.uk/guidance/animal-products-importand-export>

24. Additionally, any items which contain products of animal origin, may be subject to certification. Animal products are found in confectionary that uses gelatine and wine and beer where isinglass (derived from the swim bladders of fish) is used. Consideration should be given to the supply chains behind non-food products that depend on animal products.
25. As trade deals between the UK and non-EU countries are under discussion, the potential increase in volume of trade in products of animal origin must be considered in terms of the increased demand this would put on veterinary certification. This is in addition to any increased demand for veterinary certification and supervision for exports destined for the EU. Ensuring the veterinary profession has the capacity to meet this demand will be essential to allowing continued trade and to exploit new trade deals outside of the EU.

Safeguarding welfare at slaughter

All animals should be stunned before slaughter

26. As part of a food system that promotes high animal health and welfare standards, all animals should be stunned before slaughter. Scientific evidence^{13,14, 15, 16} shows that slaughter without pre-stunning (known as non-stun slaughter) causes animals to:
- feel the pain of the neck cut;
 - experience a delay in loss of consciousness (lasting up to 2 minutes in cattle); and
 - are highly likely to suffer pain, suffering, and distress during the cut and bleeding.
27. However, EU and UK legislation allows an exemption for animals slaughtered in accordance with religious rites which provides for non-stun slaughter where food is intended for the consumption of Jews and Muslims.
28. If slaughter without stunning is still to be permitted, we're calling for:
- any meat or fish that has not been stunned to be clearly labelled as 'non-stun' to make sure customers are fully informed about the meat products they're buying;
 - immediate post-cut stunning to make sure the animal is unconscious after the throat cut to reduce suffering;
 - the removal of the requirement for sheep and goats to remain stationary for a minimum of 20 seconds after an immediate post-cut stun;
 - the supply of non-stun products to be matched with the demand of local religious communities¹⁷;
 - a ban on the export of meat from non-stunned animals; and

¹³ Farm Animal Welfare Council. (2003). Report on the Welfare of Farmed Animals at Slaughter or Killing, Part 1: Red Meat Animals.

¹⁴ European Food Safety Authority. (2014). Opinion of the Scientific Panel on Animal Health and Welfare on a request from the Commission related to welfare aspects of the main systems of stunning and killing the main commercial species of animals.

¹⁵ DIAREL Project, K.vol Holleben et al. (2010). Report on good and adverse practices – Animal welfare concerns in relation to slaughter practices from the viewpoint of veterinary sciences.

¹⁶ Mellor DJ, Gibson TJ, Johnson CB., 2009, [A re-evaluation of the need to stun calves prior to slaughter by ventral-neck incision: an introductory review](#), N Z Vet J. 2009 Apr;57(2):74-6. doi: 10.1080/00480169.2009.36881.

¹⁷ The FSA 2018 survey of slaughter houses in England and Wales that 25% of sheep, 9.7% of poultry and 1.1% of cattle were not stunned before slaughter.¹⁷ These figures therefore indicate that in 2018 over 94 million cattle, sheep and poultry were slaughtered without being stunned first. With the Muslim and Jewish communities comprising just 4-5% of the British population, it is clear that the supply of meat that has not been stunned is significantly exceeding demand and is entering the mainstream market unlabelled.

- robust and regular reporting on: the numbers of animals that aren't stunned; the numbers that don't receive an effective stun; and the amount of non-stun meat that is exported.
29. Our concerns have nothing to do with the expression of religious beliefs but with the animal welfare impact of the practice of killing by throat cutting without pre-stunning.
30. **Ending the export of non-stun meat**
To uphold our reputation as a world-leader in animal welfare the UK Government must end the export of meat from animals that have not been stunned before slaughter. BVA remains concerned that the growth in production of non-stun meat is being fuelled by demand from exports. [The 2018 Defra and Welsh Government survey into slaughter methods in England and Wales carried out by the FSA](#) revealed that nearly a quarter (24%) of sheep meat that was not stunned before slaughter, was exported from the UK.¹⁸ We are concerned that this is not in the spirit of the current derogation in the law that allows non-stun slaughter for consumption by religious communities in the UK.
31. BVA is also seriously concerned about the lack of information on UK exports of meat from animals that have not been stunned before slaughter. Despite latest figures from the FSA survey into slaughter methods providing more clarity on the destination of non-stunned meat, we note that the survey also revealed a lack of transparency with regards to some exports. For example, 19% of sheep meat was recorded as destined for 'unknown' locations. This lack of information was referenced within the survey as being due to non-mandatory questions being left incomplete by abattoirs.¹⁹
32. These figures have been brought into sharp relief by the recent government announcement on a trade deal with Saudi Arabia that could greatly increase the exports of British lamb and other meat, some of which may be from non-stun slaughter.
33. Information on the lamb market indicates that exports in general (especially to non-EU countries) are already on the increase with total export volumes up 14 per cent in 2017 and non-EU volumes growing to 5,400 tonnes – up two-thirds on the previous year.²⁰
34. If non-stun slaughter is permitted, non-stun meat should only be provided to match domestic demand and not exported for consumption. BVA is calling for the timely provision of information on non-stun exports, firstly to ascertain the extent to which the UK is exporting meat from these sources and secondly to inform potential measures to ensure supply matches rather than exceeds domestic demand.
35. Other EU countries that allow non-stun slaughter have measures in place to limit the export of non-stun meat to help ensure that meat killed by this method is for the domestic market. For example, Germany requires that abattoirs apply for a licence by defining the number of animals to undergo non-stun slaughter to meet local demand only.²¹
- The role of the Official Veterinarian in abattoirs**
36. It is important to emphasise that the role of the Official Veterinarian in food production is critical in terms upholding current legislation for the welfare of animals at slaughter, safeguarding animal welfare, animal and public health, as well as providing the trade certification that so many of the UK's global customers demand.

¹⁸ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/778588/slaughter-method-survey-2018.pdf

¹⁹ Ibid.

²⁰ <http://beefandlamb.ahdb.org.uk/strong-year-uk-meat-exports/>

²¹ <https://www.loc.gov/law/help/religious-slaughter/europe.php>

37. Regulation (EC) 854/2004 sets out a requirement for all abattoirs to have an Official Veterinarian (OV). In the UK OVs are appointed to conduct work on behalf of the FSA and the Animal & Plant Health Agency (APHA). Responsibilities include:

- Ante- and post-mortem inspections of animals and carcasses.
- Animal welfare – conducting clinical examinations and ensuring that animals are slaughtered humanely.
- Animal and public health – undertaking surveillance to detect signs of disease that may affect human and/or animal health.
- Auditing good hygiene practices.

38. The World Organisation for Animal Health (OIE) has emphasised the importance of the role of veterinary surgeons in abattoirs (World Organisation for Animal Health, 2017):

“[The] OIE has identified animal production food safety as one of its high priority initiatives. The Veterinary Services of our Member Countries are central to this mission. They have an essential role to play in the prevention and control of food-borne zoonoses, even when animals are not clinically affected... The OIE will continue to publicise and promote the fundamental role of the Veterinary Services in the area of food safety, both on-farm and at the abattoir level.”

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

“[The] OIE still considers abattoirs to be key points in epidemiological surveillance for zoonoses as well as other animal diseases. The fact that the first case detected during the foot and mouth disease epizootic in the United Kingdom in 2001 was in a pig abattoir clearly illustrates the relevance of this approach and the danger should it be called into question.”

40. We therefore reiterate our support for the crucial and continued presence of Official Veterinarians in abattoirs of all sizes to safeguard the UK's high health and welfare standards, public health and food hygiene in any review of how our food is produced.

41. To attract vets into this crucial role, vets should be paid a professional salary and contracts for OV work should be awarded at rates that recognise this.

Maintaining the veterinary workforce

42. As advocates and guardians of animal health and welfare, public health and food safety within UK animal agriculture, veterinary surgeons are a crucial component of a food system that promotes high animal health and welfare standards.

43. However, the veterinary profession is facing a recruitment and retention crisis. With mounting efforts from a range of stakeholders to address workforce shortages, there is much debate about the role that education and increasing the number of vet students could play in tackling these concerns.²²

44. Increasing the number of veterinary students alone won't provide a holistic, long-term approach to making sure we have enough vets in the workforce to manage and treat the UK's food producing animals. We need to address both recruitment and retention.

45. BVA therefore supports well-structured and adequately resourced veterinary education programmes that produce a well-respected and adaptable veterinary workforce to support the UK food system. Alongside efforts from other stakeholders, the UK Government can contribute to achieving this by:

²² <https://www.vetfutures.org.uk/>

Increasing government funding for veterinary education

46. The economic reality of veterinary education is that student tuition fees and government funding do not meet the costs of producing qualified veterinary surgeons. See more detail on current funding landscape for veterinary education at **Annex A**.
47. We therefore support additional government funding for veterinary education by increasing the unit of resource per student to safeguard the quality of graduates and ensure a consistent supply of qualified veterinary surgeons.
48. A possible approach to address veterinary workforce shortages could be to increase the number of UK graduates that are being produced. However, it is important to outline that as the number of veterinary places is not capped and Government funding for education is not calculated per capita, Government funding for veterinary education does not automatically increase if a new vet school is created or if the intake of vet students at existing UK schools increases.
49. When creating additional places for veterinary students, at new or existing veterinary schools, we must therefore seriously consider how this could impact on teaching standards and quality of education, as well as the potential unintended consequences on the number of students that other veterinary schools are able to admit.
50. Any increase in the number of vet students to address workforce shortages must be supported by additional government funding in order to safeguard existing quality and standards in veterinary education.

Introduce post-study work visas to maximise the potential of overseas graduates in the veterinary workforce

51. According to the RCVS, across UK veterinary schools there were 5,295 veterinary undergraduate students in 2017 (over a five-year course). Of these, 129 were from the EU and 1,016 were from third countries.²³ Retention of these graduates in the UK workforce would help to address the current shortage of veterinary surgeons.
52. We're calling for the introduction of a post-study work visa to allow overseas nationals graduating from UK vet schools to live and work in the UK.

Making food production more sustainable

53. With increasing recognition that animal agriculture can be a contributor to environmental degradation, climate change, habitat loss and waste, changes in UK animal production and farming practices are necessary to increase efficiency of agriculture and mitigate environmental impact.

Animal health and welfare as a key sustainability objective

54. It is important to recognise that the future of UK animal agricultural has several sustainability objectives (eg. mitigating climate change; water usage efficiency; preventing antimicrobial resistance; ensuring high animal health and welfare; preventing biodiversity loss and restoring habitats; food safety, nutrient quality and affordability). As part of efforts to make UK agriculture more sustainable, animal health and welfare should not be unnecessarily compromised to address human and environmental need. In order to be considered sustainable, agricultural systems must work towards the positive health and welfare of

²³ Royal College of Veterinary Surgeons, 2017. RCVS Facts 2016. Available at: <https://www.rcvs.org.uk/news-andviews/publications/rcvs-facts-2016/>

all farmed animals raised within them. BVA supports the Farm Animal Welfare Committee (FAWC)'s principles for sustainable agriculture and animal welfare²⁴:

Animal welfare is integral to sustainable agriculture:

- i. Agriculture cannot be considered sustainable if it is achieved at an unacceptable cost to animal welfare.*
- ii. Sustainable agriculture must take account of the fact that farmed animals are sentient individuals.*
- iii. Sustainable agriculture must include a duty of care for the physical and mental needs and natures of farmed animals, and should not depend on prolonged or routine use of pharmaceuticals, or on mutilations.*

55. Approaches to, and policies on, land use and sustainable animal agriculture must therefore ensure that farm animals have a good life and a humane death. To be considered sustainable, production systems should work towards positive health outcomes, the five animal welfare needs²⁵ and adhere to [OIE standards for animal health and welfare](#), offering stimulating living environments to allow for the performance of highly motivated behaviours; opportunities for positive welfare outcomes, such as comfort, pleasure, interest and confidence; and excellent health outcomes.²⁶ These five animal welfare needs are set out in the UK Animal Welfare Acts as:

- The need for a suitable environment
- The need for a suitable diet
- The need to be able to exhibit normal behaviour patterns
- The need to be housed with, or apart from, other animals
- The need to be protected from pain, suffering, injury and disease

Sustainable resource management to protect and conserve species, habitats and biodiversity

56. As a health-centred profession and key stakeholder in the One Health agenda, we support the development of policies that address the use of natural resources, protection and conservation of wild species, habitats and biodiversity in order to better protect the environment which both humans and animals share and reduce the ecological footprint of animal agriculture as a whole. As highlighted by the Food and Agriculture Organization of the United Nations:

*"If managed sustainably, agricultural sectors can contribute to important ecosystem functions. These include maintenance of water quality, nutrient cycling, soil formation and rehabilitation, erosion control, carbon sequestration, resilience, habitat provision for wild species, biological pest control and pollination."*²⁷

Innovative whole farm management systems

57. The use of innovative whole farm management systems that integrate the delivery of environmentally beneficial outcomes as well as high quality animal health and welfare food products is paramount to ensure environmentally sustainable agriculture. In terms of soil health, in 2010 the annual external cost to farmers from soil erosion and compaction from agriculture in England and Wales was estimated to be

²⁴ Farm Animal Welfare committee (FAWC), 2016. *Sustainable agriculture and animal welfare*. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/593479/Advice_about_sustainable_agriculture_and_farm_animal_welfare_-_final_2016.pdf

²⁵ Animal Welfare Act 2006, Animal Health and Welfare (Scotland) Act 2006, Welfare of Animals Act (Northern Ireland) 2011

²⁶ Farm Animal Welfare Committee (FAWC), 2009. "Farm Animal Welfare in Great Britain: Past, Present and Future". Available at: <https://www.gov.uk/government/publications/fawc-report-on-farm-animal-welfare-in-great-britain-past-present-and-future>

²⁷ FAO, 2017. Sustainable agriculture for biodiversity: Biodiversity for sustainable agriculture. Available at: <http://www.fao.org/3/a-i6602e.pdf>

£305 million.²⁸ With this in mind, it is important to recognise the role livestock can play in optimising soil quality and productivity with whole farm management models that minimise environmental degradation and use resources and energy more efficiently.

58. Under certain circumstances and with the right conditions, inputs and attention to animal health and welfare, management options such as rotational grazing, incorporated within the context of whole farm management, can assist with restoration or improvement of soils and biodiversity.
59. Mob grazing or managed intensive rotational grazing (MIRG) for example is a form of rotational grazing whereby a high stock density is grazed in a paddock with short grazing periods and long rest periods.²⁹ This approach ensures that:
- Forage is harvested
 - Soil erosion is minimised through rest periods to prevent livestock from continuously treading and compacting the same area
 - Manure is dispersed through hoof action, reducing fertilizer maintenance costs and mitigating against the environmental impact of some fertilizers
60. Veterinary input in the design of managed intensive rotational grazing systems is vital to ensure that provisions are in place across rotations to adequately meet ruminant and non-ruminant nutrient, water, shade and shelter requirements and maintain animal health.

‘Future-fit’ animal feed

61. In addition, consideration should be given to enabling the sustainable production of animal feed that will be needed to support animal agriculture. With this in mind, there is a need to progress towards ‘future-fit’ animal feed³⁰ that minimises competition for land with restorative and biodiversity practices, as well as minimising water use, pollution and overfishing. These aims should be achieved whilst maintaining the current high nutritional value of animal feed in order to continue to support animal health and welfare standards, as well as measures to protect food safety.

Vets supporting farming clients

62. The veterinary profession has a clear role to play in supporting their farming clients by advising on, developing and conducting further research into management systems and husbandry practices that work towards sustainable models of production. This is both in terms of positive animal health and welfare, public health and food safety, as well as the local environment and economic sustainability for producers.
63. This role includes taking an evidence-based approach to advising on the practical steps needed to improve existing systems such as building design, husbandry practices, biosecurity, the responsible use of medicines and disease prevention and control mechanisms. In addition, some members of the profession have the skills and capabilities required to fulfil an expert role in these areas on a national, as well as international, platform.
64. BVA is encouraging its members to provide leadership in this area and we have developed a BVA sustainability and the veterinary profession action plan (**Annex B**). Through this resource we are encouraging all veterinary surgeons to have a good knowledge of the contributions that the profession can make to the sustainable agriculture agenda; for example, at the levels of individuals (communicating

²⁸ Defra, 2018. The Future Farming and Environment Evidence Compendium [pdf] Available at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/683972/future-farming-environment-evidence.pdf

²⁹ Undersander, D., 2015. Pastures for Profit: A guide to rotational grazing. [pdf] Available at:

https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1097378.pdf

³⁰ Forum for the future, 2018. Feed compass: the feed behind our food. Available at:

[https://www.forumforthefuture.org/sites/default/files/files/feed%20behind%20our%20food_artwork_lr_compressed\(2\).pdf](https://www.forumforthefuture.org/sites/default/files/files/feed%20behind%20our%20food_artwork_lr_compressed(2).pdf)

directly to animal keepers and owners), communities (eg. veterinary practices serving as credible and informed animal welfare hubs) and nationally (eg. veterinary associations developing and advocating policy).

An evidence-based approach to considering net zero emissions

65. When considering how to achieve net zero admissions in UK agriculture, it is important to accurately assess the global warming potential of different greenhouse gases produced by animal agriculture and develop policies to mitigate these emissions accordingly. Research by International Panel on Climate Change (IPCC) scientists from Oxford Martin School, Oxford University has demonstrated that rather than treating all greenhouse gases with a 'one-size fits all approach', there are two distinct types of emissions and they should be treated differently by using an adapted Global Warming Potential metric, GWP*. ³¹
66. For example, carbon dioxide (from farm vehicles, buildings, equipment, imported feed) and nitrous oxide (primarily from artificial fertilisers) are long-living pollutants that persist in the atmosphere. Whereas methane (produced from livestock) is a short-living pollutant that reduces over time (over an approximate 10-year cycle), meaning that methane emissions will replace old emissions and have a neutral warming impact (as long as the number of UK livestock remains at the same level).
67. Climate change and agricultural policies should therefore be designed to reflect this difference. To affect the largest change, efforts should initially be focussed on reducing the long-living emissions that are produced by animal agriculture eg. carbon dioxide and nitrous oxide. However, the UK's agricultural community must not lose sight of the fact that for methane to continue having a neutral impact, emissions must still fall, but only by 0.3% each year. ³²

Breeding, technology and innovation

68. Further consideration should be given to how breeding and genetic modification³³ can be used in an ethically responsible way to improve animal health and welfare within sustainable agriculture. For example, choosing breeds that are suitable for the local environment (eg. the Herdwick sheep³⁴, which has adapted to live and rear young on the high fells of the Lake District³⁵); selecting animals with certain anatomical and conformational traits that eliminate the need for mutilations (eg. polled animals); or animals that have been bred for increased disease resistance to achieve optimal animal health, welfare and environmental outcomes. (See **Annex B** for examples across livestock species)
69. We also recognise the role of new technologies and innovative methods in monitoring animal health and welfare outcomes, addressing animal health and welfare conditions and optimising the contribution of each animal to agriculture systems eg. Precision Livestock Farming.³⁶ We would welcome the innovative use of existing technologies eg. camera and sensory technologies to generate automated health and

³¹ Allen, MR, Shine, KP, Fuglestedt, JS, Millar, RJ, Cain, M, Frame, DJ, & Macey, AH: A solution to the misrepresentations of CO₂-equivalent emissions of shortlived climate pollutants under ambitious mitigation. *npj Climate and Atmospheric Science*, 1(1), 16. <https://doi.org/10.1038/s41612-018-0026-8> (2018).

³² Cain, M., Lynch, J., Allen, Myles R., Fuglestedt, Jan S., Frame, David J., Macey, Adrian H. Improved calculation of warming-equivalent emissions for short-lived climate pollutants *Climate and Atmospheric Science. npj Climate and Atmospheric Science* volume 2, Article number: 29. Available at: <https://www.nature.com/articles/s41612-019-0086-4#article-info>

³³ <https://www.ed.ac.uk/edinburgh-infectious-diseases/news-events/news-archive/gene-edited-pigs-produced-at-the-roslin-institute>

³⁴ Dianna Bowles, Amanda Carson, Peter Isaac, 2014. Genetic Distinctiveness of the Herdwick Sheep Breed and Two Other Locally Adapted Hill Breeds of the UK. Available at: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0087823>

³⁵ Bowles, D., Carson, A. and Isaac, P, 2014. Genetic distinctiveness of the Herdwick sheep breed and two other locally adapted hill breeds of the UK. *PLoS One* 9, e87823

³⁶ Precision Livestock Farming is the creation of 'a management system based on continuous automatic real-time monitoring and control of production/reproduction, animal health and welfare, and the environmental impact of livestock production'. Berkman, D., 2014 Precision livestock farming technologies for welfare management in intensive livestock systems. *Rev. sci. tech. Off. int. Epiz.*, 2014, 33 (1), 189-196. Available at: <https://www.oie.int/doc/ged/D13666.PDF>

welfare outcome measures and monitor and reduce environmental impacts. (See Annex B for examples across livestock species)

70. We would support incentivising uptake and development of innovative technologies to reduce the environmental impact of agriculture and improve animal health and welfare outcomes through UK government funding eg. grants for farms to obtain existing technology or research funding to develop new technologies.
71. However, whilst technologies have the potential to assist in the assessment of health and welfare outcomes and reduce environmental impacts, automatic systems should not replace the regular physical assessment of welfare and behavioural needs and appropriate human interventions for animals by skilled veterinary professionals and keepers.³⁷ Further, new technologies used to improve the contribution of animals in any given system must not compromise the welfare needs of the animals in question.

Supporting citizens to make informed choices about the food they eat

72. We would strongly support measures to empower citizens to make informed choices about the food that they purchase and consume. As part of this, we would welcome improved communications to the wider public about the UK's high animal health and welfare produce, and about the role of UK farm assurance schemes in achieving this. Effective communications surrounding these areas is crucial so that the links between investment, good health and welfare outcomes (for animals and farmers) and economic returns are properly understood, and consumers can direct their spend based on their own ethical and budgetary priorities.
73. The veterinary profession has a key role to play in informing and educating the public about the value and provenance of animal derived food. In the [BVA position on UK farm assurance schemes](#), we recognise the integral role farm assurance schemes play in supporting the implementation of the UK's high animal health and welfare practices and standards.³⁸
74. Further, we also set out seven guiding principles for individuals considering their own approach to the selection of UK animal derived products. As part of these principles, we recognise that there will be individual priorities that will be important to different individuals; as such BVA and the veterinary profession's role is to highlight important considerations relating to animal health, welfare and environmental stewardship to assist with purchasing decisions.
75. Whilst these priorities are considered within the context of UK farm assurance schemes, as principles they can also be held up against farm assurance schemes in the international arena. These principles are:
 - **Lifetime assurance** – BVA believes that all farm assurance schemes should cover the health and welfare of the animal from birth to slaughter, known as 'farm to fork'. Whilst all farm assurance schemes play an integral role in promoting higher standards of animal health and welfare, we believe that all animals should have a good life from point of birth, as well as a humane death.
 - **Welfare at slaughter** – BVA believes that all animals should be stunned before slaughter, and as close to the point of production as possible. If slaughter without stunning is still to be permitted, then any meat or fish from this source must be clearly labelled so that consumers can fully understand the choice they are making when purchasing such products. Consumers should consider whether the scheme requires pre-stunning, and what requirements, if any, there are in relation to transport to slaughter.

³⁷ Farm Animal Welfare Committee (FAWC), 2007. Stockmanship and farm animal welfare., Available at: <https://www.gov.uk/government/publications/fawc-report-on-stockmanship-and-farm-animal-welfare>

³⁸ British Veterinary Association, Farm assurance schemes, 2017 https://www.bva.co.uk/uploadedFiles/Content/News,_campaigns_and_policies/Policies/Farm_animals/BVA-policy-position-farm-assurance-schemes-dec-2017.pdf

- **Veterinary involvement** – Expert input and advice from the veterinary profession in the development, implementation, and continuous review and improvement of farm assurance schemes is crucial to the value of those schemes in terms of animal health and welfare, public confidence, and producer/farmer buy-in. Consumers may wish to consider whether the scheme is independently certified, underpinned by veterinary expertise, and committed to continuous improvement.
 - **Behavioural opportunity** – The ability to perform certain behaviours can be important for achieving good animal welfare, and frustrating highly motivated behaviour can result in compromised welfare. In production systems where behavioural opportunities are reduced, there are often trade-offs with other welfare and production outcomes. On-farm welfare outcome assessment is important in assuring that systems are balancing the ability to perform important behaviours with good health outcomes. Behavioural restriction is an important concern for many consumers.
 - **Responsible use of antimicrobials and other medicines** – BVA strives for responsible prescribing and responsible use of veterinary medicines across the profession, industry, and in the wider context of One Health. A reduction in the use of antimicrobials in animals can be achieved through improvements to animal health and welfare via disease prevention strategies, including improved animal husbandry and management. Consumers are encouraged to consider whether the scheme supports responsible use of antimicrobials, and what requirements are incorporated to help prevent the need for prescribing.
 - **Animal health and biosecurity** – biosecurity and measures taken to prevent the spread of disease amongst animals, humans and their surroundings are a crucial contributor to the high animal health and welfare of farm animals, as well the UK's biosecurity and food safety as a whole. Consumers are encouraged to consider how the scheme promotes effective biosecurity measures and the reduction of disease risks, in collaboration with a veterinary surgeon.
 - **Approach to sustainability and the environment** – consumers are encouraged to explore how the scheme incorporates elements of environmental stewardship, such as carbon footprint and conservation of biodiversity.
76. We have also produced a [BVA #ChooseAssured: UK Farm Assurance Schemes Infographic](#) to aid the public in their purchasing choices of high health and welfare products.
77. With these outputs in mind, we would welcome a government-led education campaign, supported by agricultural, animal health and welfare, and food stakeholders, to encourage UK consumers to buy farm assured British produce, and understand the positive environmental and animal health and welfare impacts of doing so.
- Consumer education**
78. From a long-term perspective, consideration should also be given to educating consumers, as citizens, from a young age as to the value and provenance of animal-derived food, and how to make sustainable, ethically informed choices about the high animal health and welfare products produced in the UK.
79. We note and support the recent International Panel on Climate Change (IPCC) conclusion that:
- “Balanced diets, featuring plant-based foods, such as those based on coarse grains, legumes, fruits and vegetables, nuts and seeds, and animal-sourced food produced in resilient, sustainable and low-GHG emission systems, present major opportunities for adaptation and mitigation while generating significant co-benefits in terms of human health.”³⁹*
80. However, we would strongly caution against conflating this conclusion with a recommendation for citizens to eliminate animal-derived products from their diet completely. Such an approach drastically oversimplifies the role of animal agriculture in delivering positive environmental outcomes such as

³⁹IPCC, 2019. Climate Change and Land <https://www.ipcc.ch/report/srcl/>

improved soil health and water management, protection and conservation of wild species, as well as the cultivation of habitats and biodiversity. The report also recognises this on several instances:

"[...]animal-sourced food produced in resilient, sustainable and low-GHG emission systems present major opportunities for adaptation & mitigation while generating significant co-benefits in terms of human health."

"Different farming and pastoral systems can achieve reductions in the emissions of livestock products. Depending on the farming and pastoral systems and level of development, reductions in the emissions intensity of livestock products may lead to absolute reductions in GHG emissions."

81. Read the following BVA guest blogs for more information on this issue:

- [Sustainable animal agriculture: Five minutes with Welsh sheep farmer, Huw Llandre](#)
- [Ruminant agriculture can help us deliver net zero emissions, by Ffinlo Costain](#)

Sustainable consumption

82. In [the BVA position on sustainable animal agriculture](#), we also note and support the Farm Animal Welfare Committee (FAWC)'s observations in regard to sustainable consumption of animal-derived products:

Rather than entailing ever-increasing production to satisfy consumer demand, consideration of sustainability should call into question demand-led developmental models. The per capita consumption and production of meat and animal products would need to fall, or at the very least, the rate of increase in their consumption and production would need to reduce, if these are to be sustainable, especially in the context of a growing global population.⁴⁰

83. It is important to recognise that fewer healthier and happier animals⁴¹ with better productivity have less of an impact at all levels compared to numerous animals with poorer health and welfare outcomes. Considering sustainable consumption and production together can therefore have a positive impact on animal welfare and provide an opportunity to drive consumer demand for high animal welfare products, with high environmental standards. As part of this, it is important to avoid oversimplification when considering how different production systems address animal health and welfare needs and recognise that welfare outcomes are not solely dependent on the type or size of different production systems.
84. We are encouraging the veterinary profession to promote the benefits of sustainable consumption, coupled with properly valuing quality animal-derived products, where quality encompasses good animal health and welfare, food safety, environmental protection and fair returns for producers.
85. In this way, we are promoting the concept of eating "less and better". This concept sees some citizens reducing consumption while maintaining proportional spend and directing this spend towards higher health and welfare products. Retention of proportional spend is key to ensuring that producers are rewarded for the food they are producing, and incentivises high animal health and welfare, as well as environmental standards within production systems.
86. As outlined above, BVA has produced a [position on farm assurance schemes](#) with seven guiding principles to assist its members and the wider public to understand how farm assurance schemes promote higher animal health and welfare, as well as the [BVA #ChooseAssured: UK Farm Assurance Schemes Infographic](#) to aid the public in their purchasing choices of high health and welfare products.

Improved clarity of food labelling

⁴⁰ Farm Animal Welfare committee (FAWC), 2016. *Sustainable agriculture and animal welfare*. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/593479/Advice_about_sustainable_agriculture_and_farm_animal_welfare_-_final_2016.pdf

⁴¹ Where 'happier' denotes animals with positive health and welfare outcomes

87. Ensuring that UK consumers understand the provenance of UK food products through improved clarity of labelling will enable consumers to make more informed, transparent choices as to how their meat or dairy products were produced. At present, we are concerned that the voluntary food labelling system is confusing for consumers and consumers may struggle to understand how this labelling links to the outcomes from specific farm systems. We believe that improved transparency of labelling would therefore incentivise UK consumers to 'buy British'.

Mandatory method of slaughter labelling: 'stun' or 'non-stun'

88. BVA is clear in its position that all animals should be stunned before slaughter. If slaughter without stunning is still to be permitted, as set out under the current derogation in Welfare of Animals at the Time of Killing regulations for non-stun slaughter, then any meat or fish from this source must be clearly labelled. BVA therefore supports a mandatory method of slaughter labelling system which clearly outlines if products are 'stun' or 'non-stun' to enable consumers to fully understand the choice they are making when purchasing such products.

Mandatory method of production food labelling

89. In addition, we would support a mandatory method of production food labelling system, which should include requirements relating to animal welfare outcome safeguards. Such a system would have the potential to enhance marketplace opportunities for farmers by avoiding oversimplification when UK consumers consider how different production systems address animal health and welfare needs. Ultimately, this would help further public understanding that that welfare outcomes are not solely dependent on the type or size of different production systems and help consumers to better identify UK food products produced in systems that are associated with better animal welfare outcomes.

Public service contracts

90. We also note that there is an opportunity for the UK Government to show leadership in their own food choices by ensuring that public service contracts only procure animal-derived products that are assured by UK farm assurance schemes, and have been stunned before slaughter. This could be achieved through updating the government buying standards for food and catering services (GBSF).

Increasing access and affordability of high-quality food

91. In principle, we support increasing access and affordability of high-quality food, however this should not be achieved at the expense of our current high standards of animal health and welfare, or negatively impact on fair returns for producers.
92. As outlined above, we would strongly support increased education for consumers, as citizens, to empower them to properly value quality animal-derived products, where quality encompasses good animal health and welfare, food safety, environmental protection and fair returns for producers. In this way, consumers would be able to direct their spend towards high quality produce in confidence and according to their own ethical and budgetary priorities.

Supporting producers and rural communities to thrive

Support animal health and welfare as public goods

93. To ensure fair returns for producers and a thriving rural community, agricultural policy should support positive animal health and welfare outcomes, good biosecurity and environmental stewardship, which underpin the reputation of UK agricultural produce. Michael Gove MP, former Secretary of State for Environment stated that "high animal welfare standards and high environmental standards reinforce the marketability of our produce."⁴²

42 Michael Gove MP, former Secretary of State for Environment, Food and Rural Affairs noted this giving evidence to the House of Lords Select Committee on the European Union Energy and Environment Sub-Committee

94. In terms of animal health and welfare as public goods, in the [BVA Veterinary Vision for Post-Brexit Agriculture Policy](#) we set out that:

The Government should utilise public money to incentivise and support animal health and welfare outcomes as public goods. Public goods by their very nature, are not market goods in the same way as livestock products such as meat or milk. Public goods have no explicit value in terms of market prices and so the market cannot efficiently allocate resources to them.

Other means therefore must be used – such as the intervention of Government in the form of regulation or financial support.⁴³ The wider economic and societal impacts of animal health and welfare are substantial. The Foot and Mouth outbreak in 2001 is estimated to have cost £5 billion to the private sector and £3 billion to the public sector, damaged the lives of farmers and rural communities and caused a general election to be postponed.⁴⁴

Incorporating animal health and welfare outcomes must be done in a meaningful way. An outcomes approach should be utilised as a tool to drive continuous improvement of animal management and husbandry practices, thereby promoting high animal health and welfare. The standardised assessment of health and welfare outcomes provides a practical and scientifically informed method of assessment that aims to provide a more objective, accurate and direct examination.

Delivering these public goods should be at the heart of a new post Brexit agricultural policy benefiting producers, consumers and wider society. One means to achieve this would be a new animal welfare stewardship programme as proposed in the [BVA report, Brexit and the Veterinary Profession](#).

Another way to support animal health and welfare would be to use agricultural policy to encourage uptake of farm assurance schemes to incentive animal health and welfare outcomes. Farm assurance schemes enable citizens to make sustainable and ethically informed choices about the food products they buy and the impact of these products on animal health and welfare.

95. In addition, as mentioned above, to safeguard UK producers and rural communities, in any future trade negotiations and deals, high UK animal welfare, animal health and public health (including food safety) standards should not be undermined by cheaper imports produced to lower standards.

Supporting abattoir provision and access to different markets

96. We note the current [APGAW abattoir provision inquiry](#) and are supportive of the UK Government's ongoing commitment to maintain and where possible enhance animal welfare standards, including health and welfare standards within slaughterhouses. Any improvements to the provision of abattoirs, or the health and welfare standards achieved within them, should be evidence-based and informed by a welfare outcomes approach.
97. As part of this, we recognise the value of both large and small abattoirs and support the provision of slaughter facilities across the UK. We would support the consideration of providing more opportunities for farm animal slaughter as close to the point of production was possible, in turn reducing the need for animals to be transported over longer distances.
98. However, any considerations must ensure compliance with current legislative requirements for animal health and welfare at slaughter, CCTV, biosecurity, food safety and hygiene checks, including ante- and post-mortem inspections performed by Official Veterinarians. Consequently, any considerations of providing more opportunities for farm animal slaughter, whatever the size of the establishment, should not represent a downgrading of animal health and welfare or public health standards.
99. While the majority of consumers buy their meat from supermarkets and large retailers there will be a consistent demand for large abattoirs. However, it is important to emphasise that both large and small abattoirs have their own role and function within the supply chain – they serve two separate markets and can co-exist.

⁴³ Farm Animal Welfare Committee (FAWC), Economics and Farm Animal Welfare, 2011

⁴⁴ National Audit Office, The 2001 Outbreak of Foot and Mouth Disease, 2002

100. There is an opportunity to cultivate positive engagement between food business operators and Official Veterinarians by emphasising the value that food business operators of any size can derive from the expertise of OV's. If harnessed positively, this expertise can help small – medium sized businesses to thrive, not just survive in their respective markets. In New Zealand, we note that there has been an industry-led move towards the professionalisation of official veterinarians, to ensure that they are paid a professional salary and have progressive career structures. As part of this, veterinary public health services have been recognised by industry for the value they add to New Zealand's agricultural produce both in the domestic and international trading arena.

101. We would welcome the same industry-led positive engagement with competent authorities in the UK.

Supporting good mental health and wellbeing in rural communities

102. The producers, vets and communities at the heart of our food production often reside in rural, and in turn, isolated areas. It is therefore paramount that there are support networks and initiatives in place to support good mental health and wellbeing, and that these support services are effectively communicated to rural communities so that there is awareness of how to access them.

103. For the veterinary community, we signpost to [Vetlife](#), an independent, confidential and free help for everyone in the veterinary community including veterinary nurses and students. Vetlife provides a 24/7 phone and email helpline; professional mental health support; financial assistance; information and resources. In addition, we support [the Mind Matters Initiative \(MMI\)](#), which aims to improve the mental health and wellbeing of those in the veterinary team, including students, veterinary nurses, veterinary surgeons and practice manager.

104. We are also members of the [National Rural Mental Health Forum](#) in Scotland, which is a network of rural people and stakeholders driving change to:

- enable rural people to be open about their mental health
- create solid evidence base for what works to improve people's lives
- develop a programme to influence policy-makers to channel resources in ways that bring positive change through a network of rural organisations across Scotland.

105. We would welcome the establishment of similar initiatives to support rural communities across the UK administrations.

106. Further, it is important to recognise that rural communities that farm in an environmentally sustainable manner can provide an inviting landscape for visitors from urban areas to engage in rural pastimes (walking, fishing, mountain biking running etc), thus having a positive impact on urban occupants' as well as rural occupants' mental health.

Putting our food system at the forefront of innovation

107. To 'future-proof' our food system consideration should be given to the use of public funds to incentivise innovation, technology and new processes which can support animal health and welfare whilst optimising productivity and competitiveness. See **Annex B** for examples of technology and innovation we're currently aware of to improve animal health and welfare outcomes.

Innovation in animal disease surveillance

108. The role of veterinary surgeons in protecting animal health, welfare and public health underpins all trade, as well as providing assurances for domestic consumers of UK food. Official statistics put the value of UK livestock outputs at £12.7 billion⁴⁵ and the value of UK aquaculture outputs at £0.59 billion.⁴⁶ The input of

⁴⁵ Defra, DAERA, Welsh Government, Scottish Government, Agriculture in the United Kingdom 2016, 2017

⁴⁶ Centre for Environment, Fisheries and Aquaculture Science, 2012. Aquaculture statistics for the UK, with a focus on

a thriving, sustainable veterinary workforce and a robust disease surveillance system is integral to the realisation of these high value outputs.

- 109.** The UK has a well-established network of scanning surveillance which can be enhanced through the exploration of new data sources and data collection and feedback practices. BVA supports the use of syndromic surveillance or 'health informatics'⁴⁷ to increase the coverage of the current scanning surveillance network across species sectors. Syndromic surveillance - that is to say the real-time collection, analysis, interpretation and dissemination of health-related data - enables the early identification of the impact (or absence of impact) of potential human or veterinary public-health threats across species areas.⁴⁸ It is important to recognise the synergistic benefits of increasing the sensitivity of surveillance data currently collected across the UK through the collection of health information and clinical disease events from additional sources eg. health records, market monitoring, abattoir reports⁴⁹, farm assurance schemes and fallen stock reports. This data is not at present systematically collected in the UK, with only data from diagnostics submissions being routinely collected through the Veterinary Investigation Diagnosis Analysis database systems (VIDA).
- 110.** We're calling on the UK Governments to increase the coverage of the scanning surveillance network through the use of syndromic surveillance and the repurposing of existing health data or data on clinical disease events eg. health records from private practice, private laboratories, abattoir reports, market monitoring, farm assurance schemes or fallen stock reports. Submission and sharing of data should be incentivised by enabling veterinary professionals, veterinary practices, animal keepers and laboratories to derive professional, economic, logistic and public relations value from inputting data, on top of the value derived for animal health and welfare. A respected, independent body should be identified as the trusted 'honest-broker' of data and information. See **Annex D** for more detail.
- 111.** Additionally, consideration should be given to fostering greater diversification of funding for scanning surveillance, which recognises multiple beneficiaries of disease surveillance and breaks down barriers between publicly funded animal disease surveillance and academic research. For example, Government, industry organisations, academic institutions, charities working in partnership and exploring opportunities to work collaboratively with human health through the 'One Health' agenda, such as joint-working on the important issue of antimicrobial resistance. See **Annex D** for more detail.

Developing methods of pre-stunning to improve animal welfare and respect religious freedoms

- 112.** As previously mentioned, all animals should be stunned before slaughter. We are conscious that some slaughter practices in accordance with religious rites do not allow pre-stunning, while others do. For example, some halal certification bodies consider that pre-stunning is permissible provided that the stun does not kill the animal and the animal can demonstrate indicators of consciousness (ie. indicators that the animal has not been killed by the stun), this is known as a 'recoverable' or 'reversible' stun. However, there is no common agreement between among Muslims on the suitability of stunning for Halal production.⁵⁰

England and Wales. Available at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/405469/Aquaculture_Statistics_UK_2012.pdf

⁴⁷ Health informatics is the reuse or repurposing of existing health data for research or surveillance

⁴⁸ Pig Health and Welfare Council (PHWC), 2017. 'Report of Roundtable on Syndromic Surveillance in Pigs' [pdf] Available at: <https://pork.ahdb.org.uk/media/273228/phwc-ss-roundtable-report-2016.pdf>

⁴⁹ van Klink, E, Prestmo, P & Grist, A, 2015, 'Animal Health and Disease Monitoring in the Abattoir'. *Livestock*, vol 20., pp. 330-335

⁵⁰ Awal Fuseini, Steve B. Wotton, Phil J. Hadley, Toby G. Knowles, 2017. The perception and acceptability of pre-slaughter and post-slaughter stunning for Halal production: The views of UK Islamic scholars and Halal consumers, *Meat Science*, Volume 123, pp. 143-150, <https://doi.org/10.1016/j.meatsci.2016.09.013>.

113. We would therefore welcome collaborative working with halal certifying bodies, the meat industry, researchers and the UK government to develop methods of stunning that are effective, protect animal welfare and are compliant with religious requirements from the outset.⁵¹ If successful, this approach would enable the provision of meat slaughter in accordance with religious rites for the UK's religious communities, whilst simultaneously safeguarding animal health and welfare.

⁵¹ Ibid.

Annex A: Current funding landscape for veterinary education

At present, the UK's eight veterinary schools are situated in England (Royal Veterinary College and Universities of Cambridge, Bristol, Nottingham, Liverpool, Surrey⁵²) and Scotland (University of Glasgow and University of Edinburgh). Government funding for the delivery of teaching in these institutions is a devolved issue.

In England, veterinary schools currently receive a finite sum of government funding from Price Group A of the [Office for Students](#) funding allocation, and in Scotland veterinary schools receive funding from Group 1 of the [Scottish Funding Council gross price funding](#) for higher education subjects. Both of these government allocations fund high-cost, high-resource clinical courses, including medicine and dentistry. Based on 2019/2020 prices, this equates to around £10,250 per student FTE in England (supplemented to varying degrees by student tuition fees as shown in Figure 1)⁵³ and £16,875 per student FTE in Scotland. Fees for those taking second degrees vary between UK veterinary schools, and non-EU students are required to pay the full course fee stipulated by the individual university.

Figure 1 breaks down funding received per UK and EU students for veterinary education as per 2019/2020 prices:

Figure 1: Breakdown of funding received per UK and EU students for veterinary education as of 2019/2020 prices

	Total funding received	Government funding	Student tuition fees	
Veterinary schools in England	£19,500	The Office for Students ringfences a finite amount of funding for veterinary education from Price Group A of the Office for Students funding allocation, which funds for high-cost, high-resource clinical courses, including medicine and dentistry. For the year 2019-2020, funding was £10,250 per student FTE . This funding can be spent however the vet school deems fit to achieve its desired curricula outcomes.	£9,250 per year (UK and EU students)	
Veterinary schools in Scotland	£16,875	The Scottish Funding Council allocates six teaching subject gross prices ⁵⁴ . Alongside Clinical Medicine and Clinical	Scotland nationals and EU students £1,820 per student per year (fee paid direct to the university by Student Awards Agency Scotland (SAAS))	Rest of the UK £9,250 per year

⁵² [Harper and Keele Veterinary School due to take its first intake of veterinary students in September 2020](#)

⁵³ The University of Cambridge offers a 6-year course in veterinary medicine, with the university receiving £1537.50 per FTE (from Price Group B) in year one of the degree programme, and £10,250 per FTE (from Price Group A) from years 2-6 (as per 2019/2020 funding prices).

⁵⁴ Scottish Funding Council (2019) SFC Announcement [Online] Available:

		<p>Dentistry, Veterinary is Price Group 1.⁵⁵ For the 2019-2020-year, funding was £16,875 per student FTE (for Scotland nationals and EU students this total includes the tuition fee paid directly to the university). This funding can be spent however the vet school deems fit to achieve its desired curricula outcomes.</p>		
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At present, however, it is estimated that the full of cost of delivering veterinary education is well in excess of £20,000 per student, per year of study.⁵⁶ Despite existing funding mechanisms, the cost of providing undergraduate veterinary education exceeds current direct income streams.⁵⁷ Figure 2 demonstrates the difference between student fee income and overall cost to deliver the veterinary undergraduate programme in England, alongside other high-cost subjects. This figure does not include the additional costs of Extra-mural Studies (EMS), clinical inputs from vet school owned businesses or various indirect costs.

http://www.sfc.ac.uk/web/FILES/announcements_sfc092019/SFCAN092019_final_allocations_for_2019-20.pdf

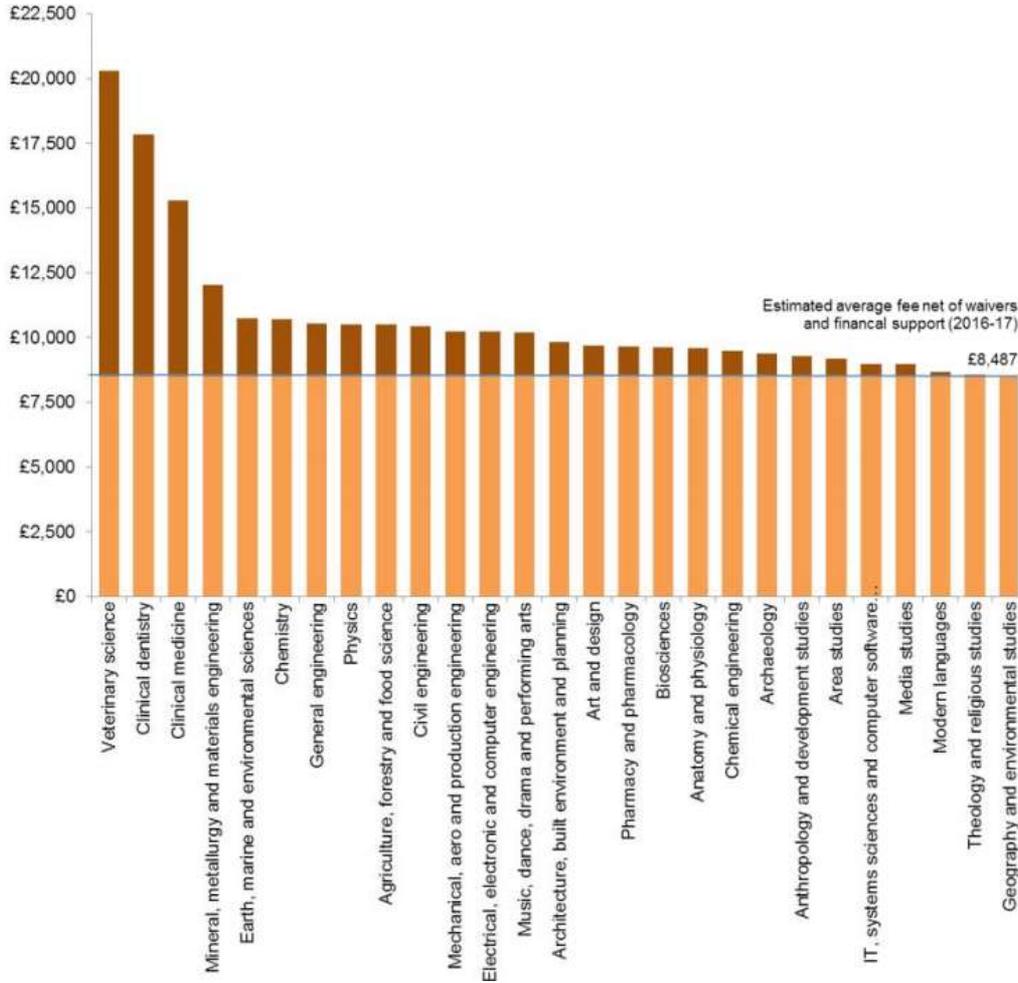
⁵⁵ University of Glasgow (2018) SFC Price Groups [Online] Available from:

<https://www.gla.ac.uk/myglasgow/planning/sfc/sfcpg/> (Accessed: 18/09/2018)

⁵⁶ Veterinary Schools Council, 2017. [Maintaining excellence and sustainability in UK veterinary education and research post-Brexit](#)

⁵⁷ Ibid.

Figure 2: Identifying high-cost subjects: Difference between fee income and costs Source: Adapted from Universities UK analysis of Higher Education Funding Council for England TRACT(T) and Office for Fair Access data



Annex B: Sustainability and the veterinary profession: Action Plan



Sustainability and the veterinary profession: Action plan

As an evidence-based, scientific profession there are a multitude of ways that vets can actively contribute to the sustainable animal agriculture agenda. Below BVA sets out a range of activities that vets can undertake at an individual, practice and association level to make a difference through their day-to-day activity.

INDIVIDUALS	PRACTICES	ASSOCIATIONS
<ul style="list-style-type: none"> ● Creating farm health and welfare plans to prevent and control disease, increasing efficiency and welfare ● Using benchmarking tools to monitor and reduce, for example, lameness and antibiotic use ● Advising on and promoting higher welfare systems at times of farm investment, such as building redesign ● Always taking a "3Rs" (Replacement, Reduction and Refinement) approach when advising on mutilations – aiming to prevent the need for procedures and using modern analgesia protocols when the procedures are absolutely necessary ● Considering eating "less and better" by reducing consumption of meat while maintaining proportional spend so that this spend is directed towards higher health and welfare products ● Promoting the value of farm assurance schemes. The BVA position on farm assurance schemes and the BVA #ChooseAssured: UK Farm Assurance Schemes Infographic can be used as reference tools when talking to clients or other members of the public about the value of farm assurance schemes and how they can choose ethical and sustainable animal food products ● Upholding existing legislation with regard to protecting public health (the prevention of zoonotic disease), food safety and food hygiene and reporting and monitoring food chain information ● Safeguarding and promoting animal welfare at slaughter and welfare during transport in line with existing legislation 	<ul style="list-style-type: none"> ● Creating practice policies on mutilations based on the "3Rs" (Replacement, Reduction, Refinement) and modern analgesia protocols ● Distributing educational materials (eg The BVA position on farm assurance schemes and the BVA #ChooseAssured: UK Farm Assurance Schemes Infographic to help clients make informed and ethical food choices (NB this can be undertaken by all practices, eg companion and equine, as well as farm practices) ● Creating and communicating a practice food procurement policy, to be used, for example, when providing animal-derived food to hospitalised patients, or when selecting venues for staff meetings and gatherings. The BVA food procurement policy, incorporating sustainability of harvest, animal health and welfare, fair conditions for producers and food miles, could be adopted for this purpose ● Offering visits to local politicians and key opinion leaders, to discuss the challenges of future animal agriculture and to advocate the best interests of animals when considering solutions 	<ul style="list-style-type: none"> ● Raising awareness of the challenges facing the global food system, providing thought leadership, opportunities for informed debate, and consistently advocating the importance of animal health and welfare as a sustainable development goal ● Considering the interests of all stakeholders when developing policy related to animal agriculture and ensuring that primary consideration and weight is given to the welfare interests of animals ● Promoting the practical experience, scientific expertise and ethical reasoning abilities of veterinary surgeons to policy makers involved with the future of animal farming ● Collaboratively developing policy on welfare problems affecting farmed animals, as mandated by the BVA animal welfare strategy: vets speaking up for animal welfare ● Developing and signposting evidence-based information to citizens on farm assurance schemes, to enable them to make informed, sustainable and more ethical purchases

Annex C: Breeding, technology and innovation

Existing breeding examples across species sectors currently include:

Cattle - With regards breeding a more robust and sustainable cow there are several initiatives in this area for dairy and beef cattle. The Agriculture and Horticulture Development Board (AHDB) fund the collection of data on bulls used in the dairy industry and produce estimated breed values. This includes many factors regarding animal health and welfare and efficiency, these range from ease of calving, confirmation, fertility, somatic cell count as well as yield and milk constituents.

Goats - Goat dairy producers are working with research institutions such as [Scotland's Rural College \(SRUC\)](#) to develop goat genomics to increase outputs from reduced inputs, whilst improving the health, welfare and longevity of the herd. These genomic breeding programmes deliver breeding values for yield, fat and protein, conformation, mastitis resistance, longevity and feed efficiency.

Poultry – Due to the highly centralised and integrated nature of the poultry sector, along with a relatively short generation interval, any changes in genetics can be rapidly and widely disseminated across both the poultry egg and meat sectors. Examples of such selection changes are; improved leg health and cardiovascular health in broiler chickens leading to lower mortality rates on broiler farms along with lower levels of ascites.

Pigs – The usefulness of routine collection of on-farm data to model and predict selection of pigs for disease resistance and disease tolerance has been emphasised as sustainable, economically feasible and desirable.^{58, 59}

Sheep – Electronic Identification (EID) can support data collection for performance recording and estimated breeding values in sheep, allowing for the identification and sorting of sheep into different mating groups based on health and welfare outcomes and efficiency.⁶⁰

Recommendation 8: Further consideration should be given to how breeding and genetic modification can be used in an ethically responsible way to improve animal health and welfare within sustainable agriculture

Existing examples of technology across species sectors currently include:

Cattle - Dairy automation or automated milk harvesting systems are becoming more prevalent in the dairy industry to improve health and welfare outcomes alongside milk quality. There are also many examples of technologies that are used to monitor health and welfare parameters in cattle, such as the use of video monitoring, temperature monitoring, data input into phone applications etc. [See National Mastitis Council for more details.](#)

⁵⁸ Stear M. J., Bishop S. C., Mallard B. A., Raadsma H. (2001). The sustainability, feasibility and desirability of breeding livestock for disease resistance. *Res. Vet. Sci.* 71, 1–7 10.1053/rvsc.2001.0496

⁵⁹ Guy, S. Z. Y., Thomson, P. C., & Hermes, S., 2012. Selection of pigs for improved coping with health and environmental challenges: breeding for resistance or tolerance? *Frontiers in Genetics*, 3, 281. <http://doi.org/10.3389/fgene.2012.00281>

⁶⁰ Morgan-Davies C; Wishart H; Lambe NR; Kenyon F; McBean D; Waterhouse A; McCracken DI, 2015. EID and other technological advances in small ruminant research. Available at: <http://animalhealthmedia.com/wp-content/uploads/2015/12/IT-EID.pdf>

Fish - Integrated multi-trophic aquaculture (IMTA) systems are used to recycle the by-products from one species (eg. unused food, nutrients and energy) to become inputs for another, enabling a range of species to be farmed together at the same site (eg. seaweed, shellfish and finfish).⁶¹

Goats – Similarly to cattle, dairy automation or automated milk harvesting systems are becoming more prevalent in the dairy industry to improve health and welfare outcomes alongside milk quality, many dairy cow technologies are available and have been specifically adapted for goats. Further, electronic identification is allowing for the plotting of multiple data points per individual goat to build a picture of herd health, yield, production and genetic data that facilitates the delivery of sustainable herd improvements.

Pigs – [Researchers are currently developing a 3D camera system to help identify the early signs of tail biting.](#) 3D cameras automatically measure how pigs hold their tails (up or down), indicating early signs of tail injury, allowing early intervention and the prevention of tail biting outbreaks.

Poultry - In the poultry sector, in-ovo sexing is currently being explored and developed so that male embryos that are not suitable for egg production can be destroyed before hatching. The poultry sector also widely utilises sensory technology to both better understand, and achieve the most appropriate environmental conditions to improve poultry welfare on farm.

Sheep – Electronic Identification (EID) in sheep has led to increased monitoring of individual animals allowing early detection of problems and targeted solutions. For example, with the use of EID, the [Moredun Research Institute](#) has carried out a research project focussing on lamb worming management to target individual requirements, which has the potential to slow anthelmintic resistance.^{62,63}

⁶¹ Global Food Security, 2014. Insight: The UK Aquaculture Industry. [pdf] Available at:

<https://www.foodsecurity.ac.uk/publications/insight-issue-four-uk-aquaculture-industry.pdf>

⁶² Kenyon, F., McBean, D., Greer, A.W., Burgess, C.G.S., Morrison, A.A., Bartley, D.J., Bartley, Y., Devin, L., Nath, M. & Jackson, F., 2013. A comparative study of the effects of four treatment regimes on ivermectin efficacy, body weight and pasture contamination in lambs naturally infected with gastrointestinal nematodes in Scotland. *Int J Parasitol Drugs Drug Resist.* 3, 77-84

⁶³ Greer, A.W., Kenyon, F., Bartley, D.J., Jackson, E.B., Gordon, Y., Donnan, A.A., McBean, D.W. & Jackson, F., 2009. Development and field evaluation of a decision support model for anthelmintic treatments as part of a targeted selective treatment (TST) regime in lambs. *Vet. Parasit.* 164, 12-20

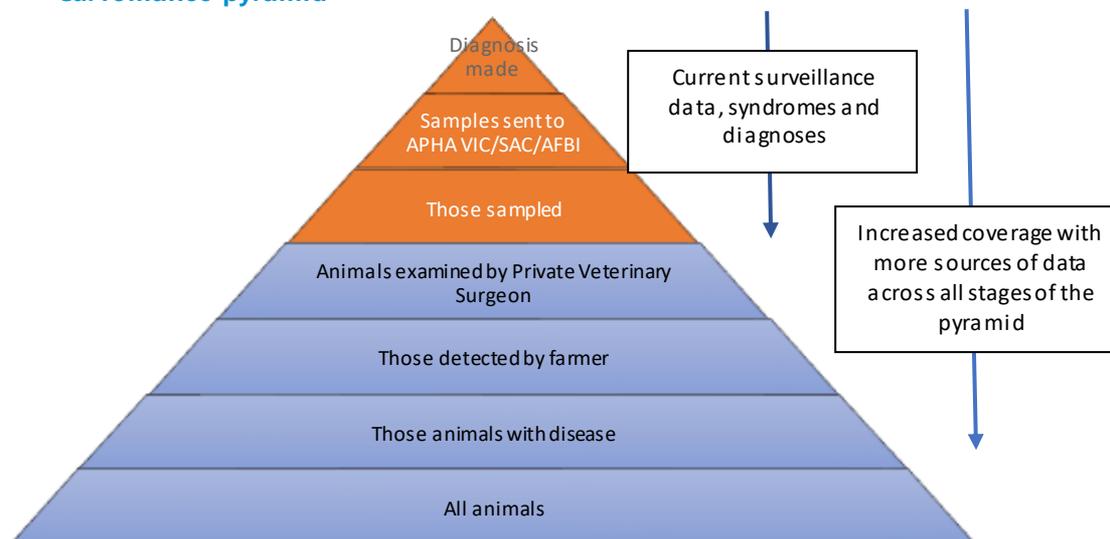
Annex D – Extracts from the **BVA position on veterinary scanning surveillance (animal health and disease monitoring)**

Adopting new approaches to data collection and feedback

The UK has a well-established network of scanning surveillance which can be enhanced through the exploration of new data sources and data collection and feedback practices. BVA supports the use of syndromic surveillance or ‘health informatics’⁶⁴ to increase the coverage of the current scanning surveillance network across species sectors. Syndromic surveillance - that is to say the real-time collection, analysis, interpretation and dissemination of health-related data - enables the early identification of the impact (or absence of impact) of potential human or veterinary public-health threats across species areas.⁶⁵ It is important to recognise the synergistic benefits of increasing the sensitivity of surveillance data currently collected across the UK through the collection of health information and clinical disease events from additional sources eg. health records, market monitoring, abattoir reports⁶⁶, farm assurance schemes and fallen stock reports. This data is not at present systematically collected in the UK, with only data from diagnostics submissions being routinely collected through the Veterinary Investigation Diagnosis Analysis database systems (VIDA – see Glossary for full definition).

Figure 2 illustrates the ‘surveillance pyramid’, at present livestock diagnostic data is only collected from the top three levels of the surveillance pyramid. A shift towards syndromic surveillance would allow for clinical data from disease events to be collected across more levels, levels at which diagnostic submissions are not made, thus increasing sensitivity as data is collected from more sources.

Figure 2 (adapted from Richard Irvine, Head of APHA Surveillance Intelligence Unit, 2017): The surveillance pyramid



BVA recognises that whilst syndromic surveillance expands data capture and sensitivity, it also reduces specificity in terms of the identification of clinical syndromes and diagnosis. However, in the current climate of resource constraints and remodelling of traditional diagnostic surveillance

⁶⁴ Health informatics is the reuse or repurposing of existing health data for research or surveillance

⁶⁵ Pig Health and Welfare Council (PHWC), 2017. 'Report of Roundtable on Syndromic Surveillance in Pigs' [pdf] Available at: <https://pork.ahdb.org.uk/media/273228/phwc-ss-roundtable-report-2016.pdf> [Accessed: 8 January 2018].

⁶⁶ van Klink, E, Prestmo, P & Grist, A, 2015, 'Animal Health and Disease Monitoring in the Abattoir'. *Livestock*, vol 20., pp. 330-335

services, syndromic surveillance represents a means of maintaining coverage within the surveillance system, whilst incentivising collaborative engagement and data sharing amongst key stakeholders such as animal keepers, veterinary professionals, private veterinary practices and private laboratories. All are key aims set out in the Kinnaird Review⁶⁷, Surveillance 2014⁶⁸ and by the OIE who have highlighted:

*“...the need to strengthen surveillance and early detection systems for diseases of domestic and wild animals throughout the world and recommends making this a major objective of official health policies is throughout the world.”*⁶⁹

The below case studies illustrate how syndromic surveillance is currently being employed in companion animal practice in the UK and in the dairy sector in the Netherlands. These examples highlight key principles that could be replicated in approaches to collecting production animal, equine and wildlife syndromic data.

Case study 1 – SAVSNET and health informatics

SAVSNET, the Small Animal Veterinary Surveillance Network, is a national system operating to provide real time veterinary surveillance in companion animals, which utilises Big Data to better understand trends in animal disease. Real-time electronic health record data is obtained from two main sources; from veterinary practices and commercial diagnostic laboratories.

The data from practices includes a simple unique syndrome questionnaire that takes veterinary surgeons on average approximately seven seconds to complete at the end of consultations and links this to data already available within the patient health record (eg. age, gender, sex, treatment, clinical free text, owner postcode). Complementary data is currently collected from eight diagnostic laboratories, and includes the species, postcode of the submitting veterinary practice, the test performed and result, and is collected in whatever format is most convenient for the laboratory.

Participating veterinary surgeons benefit from real-time interactive benchmarking; these are currently provided free of charge as an additional incentive to participation. Other outputs include surveillance reports in the veterinary literature, “research-ready” data available to researchers through an application process and online access to data summaries for the general public.

The majority of the initial funding to pilot SAVSNET was from a consortium of commercial companies and Defra. Subsequent collaboration with BSAVA saw SAVSNET established as a national infrastructure. Current funding is from Biotechnology and Biological Sciences Research Council (BBSRC) emphasising the research value of these collected data, and the close links between research and surveillance, with additional funding from commercial/academic researchers. There is a dedicated core team of 4.1 FTE and input from academic staff.

⁶⁷ The Scottish Government, 2011. ‘The Review of Veterinary Surveillance: How information on animal disease is gathered, analysed and disseminated in Scotland’ [pdf] Available at: <http://www.gov.scot/Resource/Doc/362344/0122619.pdf> [Accessed: 8 January 2018].

⁶⁸ Animal Health and Veterinary Laboratories Agency (AHVLA), 2013. Surveillance 2014 Changes to the delivery of Veterinary Scanning Surveillance in England and Wales. Available at:

<http://webarchive.nationalarchives.gov.uk/20140707142907/http://www.defra.gov.uk/ahvla-en/disease-control/surveillance/new-vet-surv-model/> [Accessed: 2 January 2018].

⁶⁹ OIE, 2017. ‘The OIE recommends strengthening animal disease surveillance worldwide’ [online] Available at: <http://www.oie.int/for-the-media/press-releases/detail/article/the-oie-recommends-strengthening-animal-disease-surveillance-worldwide/> [Accessed: 8 January 2018].

Case study 2 – Surveillance of cattle health in the Netherlands: The national cattle health surveillance system (CHSS)

In the Netherlands, a national Cattle Health Surveillance System (CHSS) is in place that consists of several surveillance components that meet different surveillance objectives. The CHSS is commissioned to GD Animal Health (GD) by the government and Dutch producers' boards for dairy and veal. The main objectives of the CHSS are 1) early detection of (re)emerging diseases or new disorders and 2) monitoring trends and developments in cattle health.

For the first objective, a telephone helpdesk 'GD Veekijker' is operational and staffed by veterinary experts. This helpdesk receives approximately 4,000 calls about cattle each year. The aim of this helpdesk is to provide independent veterinary advice and in turn, the helpdesk gains information on animal health problems that may be related to (re)emerging diseases, which is valuable for early detection of animal health disorders and diseases. All telephone calls are registered in a central database and aggregated on a monthly basis. In addition, farmers can submit samples to the diagnostic laboratory or dead cattle for pathology. On a monthly basis, syndromic surveillance is carried out on the results of the calls, and lab submissions (both from the diagnostic lab and pathology). Additionally, weekly syndromic surveillance is conducted on data from milk deliveries to the dairy plants. The results are discussed to determine aberrations that may indicate the emergence of diseases.

For the second objective, a quarterly data analysis component is in place to monitor trends and developments in cattle health using routine census data. This surveillance component is called the Trend Analysis Surveillance Component (TASC). TASC contains key monitoring indicators that relate to cattle health such as parameters on mortality, fertility, udder health and antimicrobial usage. Multivariate multilevel models are used to analyse both trends in time and associations between cattle health indicators and potential confounders (eg. herd size, season, etc.).

The results of all surveillance components are aggregated and discussed among a group of veterinary experts and epidemiologists on a weekly basis. When notifiable diseases or serious animal health issues are suspected the authorities are contacted at once. Otherwise, the results are reported to the stakeholders on a quarterly level. In addition, information from the CHSS is used to inform farmers and veterinarians. The Dutch CHSS provides insight in cattle health at any point in time and has proven to be a sensitive system to detect (re)emerging diseases such as Bluetongue and Schmallenberg virus. The CHSS visualises trends in time, can be used to support or nuance signals, is sustainable and provide warnings or initiate changes in policy when unfavourable trends in animal health occur.

The example of SAVSNET, and the cattle health surveillance system (CHSS) in the Netherlands, highlight the following key factors at play to make a success of syndromic surveillance data input, capture, analysis and feedback across species areas:

- There should be a **standardised method of data input**.
- It should be **easy to submit data**, with a balance between the level of detail required and the associated increase in time and cost.
- There should be **sufficient connectivity and IT literacy** amongst those inputting data.
- Sharing of data should be **incentivised** by enabling veterinary professionals, veterinary practices, animal keepers and laboratories to derive professional, economic, logistic and public relations value from inputting data, on top of the value derived for animal health and welfare.
- There should be appropriate **technology, and skills and expertise**, to distil syndromic surveillance data from different sources.
- The **importance of qualitative data** should be recognised and there should be a mechanism for capturing this.
- Data collection should include **consent for the anonymised sharing of data** to allow for its wider use.

Recommendation 8: BVA calls on the UK Governments to increase the coverage of the scanning surveillance network through the use of syndromic surveillance and the repurposing of existing health data or data on clinical disease events eg. health records from private practice, private laboratories, abattoir reports, market monitoring, farm assurance schemes or fallen stock reports.

Recommendation 9: Submission and sharing of data should be incentivised by enabling veterinary professionals, veterinary practices, animal keepers and laboratories to derive professional, economic, logistic and public relations value from inputting data, on top of the value derived for animal health and welfare.

Recommendation 10: A respected, independent body should be identified as the trusted 'honest-broker' of data and information.

Rethinking traditional approaches to funding and coordination

Consideration should be given to fostering greater diversification of funding for scanning surveillance, which recognises multiple beneficiaries of disease surveillance and breaks down barriers between publicly funded animal disease surveillance and academic research. For example, Government, industry organisations, academic institutions, charities working in partnership and exploring opportunities to work collaboratively with human health through the 'One Health' agenda, such as joint-working on the important issue of antimicrobial resistance.

This partnership approach is currently being explored in human health through [Health Protection Research Units \(HPRUs\)](#) – research partnerships between universities and Public Health England (PHE), which act as centres of excellence in multidisciplinary health protection research in England.

Scotland already demonstrates an alternative approach to funding and the integration of expertise that cuts across Government and research institutions. This integrated approach facilitates knowledge exchange between diagnostic services and research institutions, avoiding duplication of

research/work/studies and fostering an integrated approach to advancing knowledge in animal health and disease monitoring. Integration is achieved through the following approaches:

- The Scottish Government part funds both SAC Consulting Veterinary Services (SACCVS), as part of Scotland's Rural College (SRUC) and Moredun Research Institute, to perform animal disease surveillance for farmed livestock and identify new and emerging domestic animal diseases through the Veterinary Services Programme.
- SACCVS receives income from fees charged to veterinary practices for post mortems and laboratory tests carried out under the Scottish Government funded programme.
- SACCVS carries out commercial activities including health schemes, diagnostic testing of equine and companion animal samples and analytical testing of plants, soils and animal feeds. Income from these activities carried out in competition with private laboratories enables SACCVS to maintain a network of local disease surveillance centres throughout Scotland.

Recommendation 15: Consideration should be given to taking a blended funding approach to surveillance research and delivery with the UK Governments working in partnerships to co-fund projects with research institutions (eg. Research Council UK), industry organisations or charities.

Recommendation 16: As the Animal Health Surveillance Governance Board for England and Wales reaches the end of its three-year term, its effectiveness should be robustly reviewed to ensure an appropriate governance structure is maintained.