

| One Health in Action





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Foreword



By 2050, the world's population is expected to grow to 9.6 billion (United Nations, 2013), and, based on current consumption patterns, food production would have to increase by 70% in order to feed the extra mouths (Food and Agriculture Organization of the United Nations, 2009), and demand for meat protein is projected to double.

These predictions point to the need for vets to play a greater role in helping to tackle global challenges, through improving animal health and in helping society understand the broader challenges of sustainable animal agriculture. This includes the need for environmental protection, good animal welfare and public health education on healthy levels of dietary meat intake."

Vet Futures report, 2015

Veterinary surgeons have many and varied roles across a very wide range of animal species. Since the *Vet Futures* report was published in 2015 and the first *Vet Futures Action Plan* was released covering the period 2016–2020, there has been a significant shift in the geopolitical landscape.

The interconnections between human wellbeing, animal wellbeing and environmental wellbeing are more pronounced than ever. There are ongoing concerns about food safety and food security, the ability of food systems to deliver increased demand for protein, and sustainable intensification. There are worries about bioterrorism, antimicrobial resistance, climate change, transboundary diseases, ecosystem health, sustainability, and zoonotic disease control.

These are big, global challenges. While we know that there are many veterinary surgeons engaged in roles associated with these challenges, there has been growing interest in the additionality provided by interdisciplinary collaboration or One Health.

The sixth action recommended in the *Vet Futures Action Plan 2016–2020* refers to the formation of the UK One Health Coordination Group (UKOHCG), to increase collaboration between veterinary and human health professionals and environmental organisations, in line with the One Health concept.

This report draws on the combined experience of members of the UKOHCG and several other key stakeholders to help define and showcase One Health for a wider audience through the careful use of selected One Health case studies, focused in the UK.

Perhaps unsurprisingly, 'health' goes beyond the absence of disease to also embrace welfare, including mental health, and the reduction of injuries. 'Animals' goes beyond livestock to also embrace companion animals and wildlife, and the 'environment' can be anywhere animals and people interact – at the core is interdisciplinary collaboration.

It is our hope that readers of this *One Health in Action Report* will gain a better understanding of how collaboration between stakeholders can make a real difference to the world that we live in.

**👤 Simon Doherty, Senior Vice President, British Veterinary Association,
Chair, UK One Health Coordination Group**

November 2019

Introduction

“One Health is the collaborative effort of multiple professionals, together with related disciplines and institutions – working locally, nationally, and globally – towards optimal health and wellbeing for people, domestic animals, wildlife, plants, and our environment.” – The One Health Commission¹



The concept recognises that the health and wellbeing of people, animals, and the environment are inextricably linked, and that, as the world's population grows, professionals across each of these areas must collaborate in order to effect change. Collaborative working is essential to make sure adequate healthcare is available to all, that public health and animal health and welfare are safeguarded, that food is produced sustainably, and that the natural environment is protected.

The One Health approach is helping us to meet these and other challenges, including through centres of excellence for research, education and training, and already underpins a range of initiatives to address key global challenges, including:

- **Global health security** – the Global Health Security Agenda was launched in 2014 to help create a world safe and secure from infectious disease threats and elevate health security as a national and global priority. A coalition of 55 countries worldwide, the World Health Organization, the Food and Agriculture Organization, and The World Organisation for Animal Health is working together to prevent, detect, and respond to global infectious disease threats using the One Health approach.
- **Malaria** – the System-wide Initiative on Malaria and Agriculture was created by the International Water Management Institute in Sri Lanka to investigate the relationship between agricultural practices, livestock management, and malaria occurrence.
- **Global warming** – the Paris Agreement within the United Nations Framework Convention on Climate Change is developing cross-disciplinary policies to keep the global average temperature to less than 2°C above pre-industrial levels.
- **Antimicrobial resistance** – the European Food Safety Authority, the European Centre for Disease Prevention and Control, and the European Medicines Agency are working together to solve the antimicrobial resistance problem by monitoring the current situation and developing policies that tackle agricultural, environmental, and healthcare factors.

The UK One Health Coordination Group

The UK One Health Coordination Group (UKOHCG) was formed in 2017 following a recommendation in the Vet Futures Action Plan to establish a means of linking the leading organisations in the veterinary, medical, and environmental fields in the UK and utilising their networks to disseminate information, research, and tools to foster collaboration in practice, education, and policy

The UKOHCG is comprised of representatives from: British Veterinary Association (BVA), British Medical Association (BMA), British Veterinary Nursing Association (BVNA), National Trust, Royal College of Nursing (RCN), Royal Society for Public Health (RSPH), The Wildlife Trusts, and Veterinary Public Health Association (VPHA).

Through coordinated communications and cross-promotion, the group identifies and promotes existing examples of effective One Health initiatives and projects in the UK, ensuring broad reach and impact through the dissemination of knowledge and experience and by championing local and national projects to help replicate their successes across the UK. By bringing the relevant stakeholders together, it provides a platform for new ideas to flourish and for new connections to be fostered.

One Health in Action

One Health can seem vast and distant to busy professionals, making it something which is difficult to incorporate into everyday life. For the One Health approach to be successful, it needs to be culturally embedded at all levels – international, national, community, and individual.

This report highlights some real-world examples of One Health in Action, showing how the concept can be applied in a range of situations to make a tangible difference. We hope that it will inspire more joined-up thinking and collaboration across the professions for the benefit of all. We often hear about the issues we need to act on, but not always about solutions – this report highlights some practical ways in which everyone can help. From individual conversations to large-scale projects across an organisation, no One Health action is too small to make a difference.

The veterinary profession has a long history of recognising and encouraging the concept of One Health. Through the Vet Futures and VN Futures projects, jointly led by the Royal College of Veterinary Surgeons and BVA/BVNA and launched in 2015 and 2016 respectively, UK veterinary surgeons and veterinary nurses identified that their day-to-day work frequently incorporates One Health approaches. Vets play an essential role in protecting and advancing human, public, and environmental health at the local, national, regional, and international levels. However, the nature of One Health means they cannot work alone, so when creating this report, we have sought the views and input of experts in human and environmental health where possible to supplement and augment our work – a true One Health approach.



From individual conversations to large-scale projects across an organisation, no One Health action is too small to make a difference.



THOUGHTS...

- ❓ How could a One Health approach benefit your work?
- ❓ Is there anyone you could collaborate with to help improve human, animal, or environmental wellbeing?

Mental health and wellbeing

Mental health includes our emotional, psychological, and social wellbeing. It affects how people and animals think, feel, and act. It also influences how we handle stress, relate to others, and make choices. Positive mental health allows people to realise their full potential, cope with the stresses of life, work productively, and make meaningful contributions to their communities.²

Why is this a **ONE HEALTH** issue?



More information

Find out more about this issue:

- mentalhealth.gov/basics/what-is-mental-health
- mind.org.uk/information-support/tips-for-everyday-living/nature-and-mental-health
- wildlifetrusts.org/nature-health-and-wild-wellbeing
- <http://publications.naturalengland.org.uk/publication/4513819616346112>
- rsph.org.uk/our-work/policy/wellbeing/mental-wellbeing.html
- rcn.org.uk/library/subject-guides/animal-assisted-interventions
- vetlife.org.uk
- vetmindmatters.org

THOUGHTS...

- ❓ How can you take advantage of your local natural environment to improve your personal mental wellbeing?
- ❓ Could your workplace link with other organisations to help protect and improve mental health?
- ❓ Does your workplace properly recognise the importance of mental wellbeing?

CASE STUDY

MyPlace – nature prescribing



▶ wildlifetrusts.org

Wildlife and wild places are disappearing from our daily lives, while at the same time our need for them increases. Nature, and being active in it, helps us stay well and recover from illness. The Wildlife Trusts are using a One Health approach – working with a diverse range of people and organisations – to **put nature into recovery**³. When we succeed, everyone will be able to value and enjoy wildlife as part of a daily health routine.

Regular volunteering for a local Wildlife Trust has been shown to be particularly effective. An **independent study by the University of Essex**⁴ into Wildlife Trust volunteering programmes found that **95% of participants with low wellbeing who volunteered outdoors once a week reported an improvement in their mental health in just six weeks**. For example:

MyPlace⁵ is an innovative partnership between Lancashire Wildlife Trust and NHS Lancashire Care, which has helped over 1,000 young people in East Lancashire with poor mental health to have a positive impact on their local environment and improve their mental health and wellbeing. Young people like Joshua.



© Matthew Roberts for The Wildlife Trusts

Joshua had poor mental health; he had been out of work for over two years. He rarely had a reason to leave his house, which led to a vicious cycle of depression and anxiety. Due to these challenges, he was referred onto Lancashire Wildlife Trust's MyPlace programme for young people through the local NHS Wellbeing Service.

Joshua took part in a huge range of outdoor activities, from repairing footpaths to learning bush-craft skills, from going on and leading nature walks to undertaking tree surveys. Little by little, his confidence improved, and he began interacting more. After a few months, he secured a part-time job. After two years, Joshua had turned his life around:

“MyPlace made me feel happy, learning new things about nature I wouldn't have known. I'm on a decent wage and on much more than I was. It's all come together to help me.”

MyPlace breaks down barriers, reduces stigma, and saves scarce NHS resources. It demonstrates value for money by helping people overcome both poor mental health and low employment prospects.

Paul Farmer, Chief Executive of Mind, the mental health charity, said:

“Research by Mind and others has consistently shown that ecotherapy, such as outdoor exercise and getting out into nature, is not only good for mental health but can also help address the social issues that come with having a mental health problem. It has been shown in some cases to be more effective – and cost less – than medication.”

The time has come for 'nature prescribing' initiatives like these to become an integrated part of our health services, so that we help people become healthier and happier as well as keep them from needing expensive or unnecessary medication or therapy. Let's have a 'MyPlace' approach everywhere.

👤 **Dom Higgins, Nature and Wellbeing Manager, The Wildlife Trusts**

CASE STUDY

Pet protocol – dogs in healthcare



rcn.org.uk

The recognition that dogs, and other animals, can provide support to people in many different ways has led to an increase in the number of health and social care settings where dogs are present. For example, for a person who is diabetic, avoiding dangerously low blood sugar is a daily challenge. **Claire Pesterfield⁶** was a paediatric nurse, but her diabetes would sometimes lead her to have blackouts on the ward. Her friend suggested she get a medical alert assistance dog, which can detect when her sugar levels fluctuate. Claire's now been with her dog Magic for over four years. "He's not just my companion, he's saved my life. Magic is trained to alert me to an odour change on my breath that happens when I have low or high glucose levels".

However, a recent Royal College of Nursing (RCN) survey found that although the majority of respondents thought animals were hugely beneficial to patients, most nurses said animals were not allowed in their workplace.

There are rightly a number of concerns being raised about bringing a dog into a clinical environment and these need to be addressed. Many organisations have developed their own guidance, policies, and protocols to ensure that there are robust safeguards in place which address infection prevention and control, as well as health and safety concerns.

In 2018 the RCN brought together a group of charities and organisations to develop a [protocol for working with dogs in health care settings⁷](#). The working group comprised nurses, infection prevention control, allergy, and RCN staff, as well as representation from [Pets as Therapy⁸](#), [Medical Detection Dogs⁹](#), and a therapy dog handler. In developing this protocol, the working group consulted widely to ensure its recommendations met the health and wellbeing needs of both animals and people. There was expert contribution from a veterinary professor; [Dogs for Good¹⁰](#), [Assistance Dogs \(UK\)¹¹](#), [Assistance Dogs International¹²](#), and [Animal Assisted Intervention International¹³](#).

The protocol is designed to share best practice and to inform local policy and practice. It provides evidence-based, best practice criteria so that hospitals and other health settings can introduce animals into the care environment with confidence. It highlights the key points that need to be taken into account when bringing dogs into various healthcare settings. It outlines the safeguards that should be put in place to protect patients, staff, visitors, the owner/handler, and the animals. It explains that every organisation will need its own highly detailed policy, but it is hoped that the protocol will assist those who would like to develop a policy. In a broader approach it is hoped that it will also create greater consistency of practice, build credibility to the work of assistance dogs, and increase the public perception of the important role assistance dogs may have in healthcare.

Widespread research has shown how animals can improve patient care. RCN Professional Lead for Long-term Conditions and End-of-life Care, Amanda Cheesley said:

"Anyone who's worked in this area can see the amazing impact animals have on the health of adults and children alike. However, there are so many myths around the dangers of having animals in healthcare settings that most organisations are too concerned to try it out."

By following the RCN's protocol, services will be able to ensure the safety of patients and healthcare staff, as well as the animals and their owners, while allowing patients to reap the benefits that interaction with animals can bring.

🗨️ Wendy Preston, Head of Nursing Practice, Royal College of Nursing

CASE STUDY

The Mind Matters Initiative



➤ rcvs.org.uk

➤ vetmindmatters.org

The Royal College of Veterinary Surgeons (RCVS) exists to set, uphold, and advance the educational, ethical, and clinical standards within the veterinary professions. We do this to help enhance society through improved animal health and welfare, an aim that is shared by the many veterinary surgeons and veterinary nurses that we register. But, in order to achieve this, we also need veterinary professionals who are able to work to the best of their abilities. To this end, the College launched the Mind Matters Initiative (MMI) in 2015 as a response to the high levels of mental distress and increased risk of suicide among members of the veterinary team. These professionals perform a vitally important role with ever-increasing challenges, for which they regularly need to draw on enormous emotional and physical reserves. The MMI, along with other support services, exists to equip members of the veterinary community with the knowledge, resources, and tools they need to remain well in their work.

The work of Mind Matters is divided into three streams:

Prevent – proactively looking at systemic issues within the veterinary professions to help minimise the chance of people becoming unwell in the first place, such as supporting research, understanding workplace wellbeing, and considering recruitment into the professions. Our joint anti-stigma campaign, *&me*¹⁴, which we run with the Doctors' Support Network, also falls under this stream of activity.

Protect – a programme of communications and training designed to equip individuals with the skills and knowledge they need to stay well, even when working under challenging conditions, such as mental health awareness training, mindfulness, wellbeing awards, and resilience work.

Support – financial and other support for existing independent sources of one to one help, together with an investigation into what more may be required to support those in need, and catalysing the development of those services.

The MMI is incredibly busy, with a wide range of activities under all three streams. We continue to roll out our mental health awareness training sessions and are about to launch resilience training in collaboration with the British Small Animal Veterinary Association. Towards the end of the year we will be launching a course specifically for managers.

We are currently rolling out a veterinary Schwartz Round pilot, an initiative originally used in the human healthcare sector to allow multidisciplinary teams to come together and discuss the emotional aspect of their work in a controlled, facilitated way. We will be undertaking an evaluation of this pilot to assess its impact and potential for the profession.

As a regulator, the RCVS is also keen to look at the impact of its activities on the mental health and wellbeing of veterinary professionals, and has commissioned a report which considers this and will make recommendations for change.

Animal health is a key part of everything we do at the College. We know that animal and human health are intrinsically linked – a concept more recently referred to as 'One Health' but which is far from a new idea – and there are a great many examples of the ways in which animal health matters to the global human population. However, this synergy between animal and human health works both ways. Our vets and veterinary nurses are crucial for animal health, but in turn, we recognise that positive outcomes in this area are best delivered by a workforce whose own wellbeing is prioritised and nurtured.

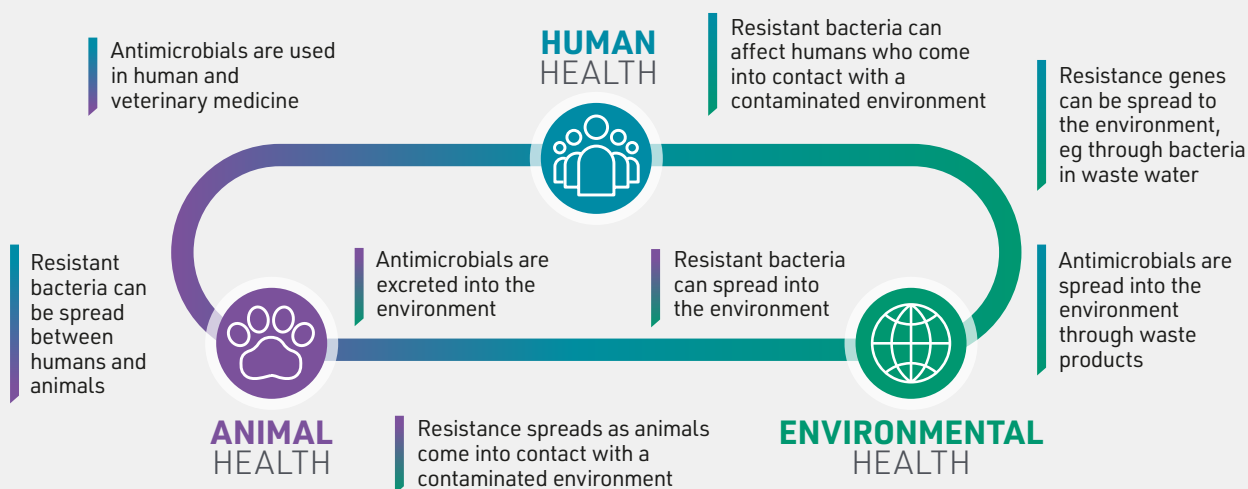
🗣️ **Lisa Quigley, Mind Matters Initiative Manager, Royal College of Veterinary Surgeons**

Antimicrobial resistance

Antimicrobials are essential to veterinary and human medicine to treat disease, but inappropriate use could leave them ineffective. Drug resistant infections are already responsible for an estimated 700,000 deaths globally each year, and without action this figure could reach ten million by 2050¹⁵.

Continued availability of all existing antimicrobials and the development of new ones are essential to maintain the health and welfare of humans and animals. Each use of antimicrobials increases the risk of selection for resistant bacteria, so we must all ensure that our use of antimicrobials is responsible.

Why is this a **ONE HEALTH** issue?



More information

Find out more about this issue:

- bva.co.uk/News-campaigns-and-policy/Policy/Medicines/Antimicrobials
- bma.org.uk/collective-voice/policy-and-research/public-and-population-health/antimicrobial-resistance
- who.int/antimicrobial-resistance/en
- gov.uk/government/collections/antimicrobial-resistance-amr-information-and-resources
- bda.org/amr

THOUGHTS...

- ❓ Is your workplace using antimicrobials in a responsible way? Could anything be improved?
- ❓ When using antimicrobials, are you and/or your clients fully aware of the need to follow prescription protocols?
- ❓ Have you signed up as an Antibiotic Guardian at antibioticguardian.com?

CASE STUDY

Are you antibiotic aware? – One Health poster campaign



bva.co.uk

Antimicrobial resistance (AMR), poses a real and urgent threat to our ability to treat animals and protect human health in the future. The veterinary profession in the UK has been committed to championing the responsible use of antimicrobials through a One Health approach. During my time as a BVA Officer, I have been fortunate to engage with the human medical professions on this pressing challenge. Throughout, I have been struck by the similarities between the worlds of veterinary and human medicine.

Evidence confirms there are poor behaviours shared by animal owners and human patients. BVA research shows that three out of five vets have seen clients who expect antibiotics to treat their pets and found there is still a lack of understanding about responsible antibiotic use, with 70% of vets reporting poor owner compliance. The British Medical Association (BMA) has found nearly 6% of households have leftover antibiotics prescribed for humans, meaning patients had stopped their treatment early.

These similarities show that the key messages that doctors have been trying to get across to their patients mirror those vets have been issuing to animal owners. This includes messages such as always finishing the prescribed course, and that not every illness requires antibiotics. Therefore, there is clear merit in developing a consistent message that will work across human and animal health settings.

With this in mind, BVA led an effort to design a One Health poster that could be placed in both vets' and doctors' practice waiting rooms. The design process was characterised by a unified, partnership approach by veterinary and human healthcare organisations – BVA, BMA, Public Health England, and the Veterinary Medicines Directorate – coming together around the shared imperative of tackling AMR.

The *Are you antibiotic aware?* poster conveys six top tips on responsible antibiotic use and is a first in targeting these messages to both human patients and animal owners. We jointly launched the poster to mark European Antibiotic Awareness Day in November 2016.

We also took the further step of distributing the poster to all BVA members and encouraged vets and vet nurses to make a friendly introduction to their local medical GP practice and share the poster with them. Our former President, Sean Wensley, did just that, visiting his local GP practice in Bangor, Northern Ireland (pictured).



This One Health initiative was shortlisted for an Antibiotic Guardian Award in 2017. This acknowledged the need for a One Health approach to tackle AMR. Increased collaboration between health sectors is crucial to properly address this global concern, so it was fantastic to work with other leading veterinary and human medical organisations to create and disseminate our poster, ensuring positive steps are being taken across both sectors to preserve these essential drugs for future generations.

👤 John Fishwick, Past President, British Veterinary Association

CASE STUDY

Dentists take leading role in antimicrobial resistance



bda.org

The British Dental Association (BDA) has taken a leading role in integrating dentistry into the One Health antimicrobial resistance (AMR) agenda, beginning with an interdisciplinary expert summit convened in 2014. We brought together key players from the dental, medical, veterinary, and pharmaceutical worlds to recognise the role of the dental profession in efforts to address AMR, identify the drivers of antibiotic overuse in dentistry, learn from the experiences of other health professions, and develop recommendations to overcome barriers to improving stewardship. The consensus report of the summit identified a range of individual patient- and prescriber-level causes, and wider system-level causes, of prescribing in dentistry that were not aligned to professional guidelines, and proposed actions for the BDA and others to address them.

To support individual dentists in optimising their antibiotic prescribing practice, the BDA collaborated with the Faculty of General Dental Practice (FGDP) to develop a [self-audit tool](#)¹⁶, which facilitates self-assessment against the FGDP's excellent guidance on dental antibiotic prescribing. The tool is freely available via the websites of both organisations and also forms part of a Public Health England stewardship toolkit for dentists, which includes additional patient information materials to assist in patient-clinician discussions and explain why antibiotics might not be required. Along with other initiatives, this has helped UK dental practices to make significant progress in reducing antibiotic prescribing; dentists dispensed around 25% fewer prescriptions for antibiotics in 2017 than in 2013. However, with 5.2% of all antibiotics¹⁷ still prescribed in dentistry – including many that are unnecessary – there is no room for complacency.



© BDA

This is why we are also campaigning to address the system-level barriers that are preventing further reductions in unnecessary dental prescribing. Although most cases of dental pain require an operative intervention and will not be cured by antibiotics, the current NHS dental contract places pressure on dentists to prescribe inappropriately as a quick fix because it fails to provide protected and funded slots for time-consuming urgent care. The BDA has raised this problem with former Chief Medical Officer Professor Dame Sally Davies, with the Department of Health and Social Care and with NHS England commissioners. As the sole dental organisation represented on the Department of Health and Social Care's Human Health AMR Stakeholder Group, which developed the UK's new five-year AMR strategy and underpinning 20-year vision, we have pressed for it to be recognised by those setting national policy. We also highlighted it to parliamentarians at an evidence session co-hosted by the All Party Parliamentary Groups for Pharmacy, Antibiotics, and Dentistry and Oral Health in April 2019, and we continue to make the case for funded urgent treatment time during negotiations currently taking place on the reform of the dental contract.

Of course, the best possible solution to the problem of unnecessary antibiotic prescribing in dentistry is to prevent dental disease in the first place, and the BDA is working hard towards this aim on many fronts.

Dr Arianne Matlin, Head of Health and Science Policy, British Dental Association

CASE STUDY

Finding resistance in bacteria from pigs to an antibiotic of last resort for humans



Animal &
Plant Health
Agency



Veterinary
Medicines
Directorate

▶ [gov.uk/apha](https://www.gov.uk/apha)

In 2015, the Animal & Plant Health Agency (APHA) received submissions from two pig farms in England which showed bacteria resistant to colistin¹⁸. At the same time, a study from China showed for the first time that a gene for colistin resistance could jump between different species of bacteria¹⁹. *Escherichia coli* from the two English farms were tested and found to contain this mobile resistance gene, known as *mcr-1*.

Colistin is considered to be an antibiotic of last resort in humans. Although little was known about the potential risk pathways between pigs and humans, the finding was considered to be a potential threat, so was escalated to the Veterinary Medicines Directorate²⁰ (VMD) as the policy leads for AMR in animal health. The VMD's notification system, ResAlert, was used to inform relevant organisations of the findings, including Public Health England, Food Standards Agency (FSA), Defra, Scottish Government, Northern Ireland Assembly and Welsh Government.

Key cross-sector stakeholders were brought together to discuss the reason for the occurrence of the gene on these farms, and crucially the scope for spread to other livestock or to people via direct contact or food. Public Health England briefed attendees on the significance of colistin resistance in human patients; FSA advised on the risk of transmission and survival of the gene in the food chain; and APHA/VMD and livestock industry representatives provided briefings on the use of colistin in livestock, the impact of colistin resistance on livestock, and the results of continued investigations on the farms.

As a result of this collaborative approach, the following urgent actions were taken:

- The farms were investigated and one was depopulated. Further testing was carried out after restocking, revealing that levels of *mcr-1* had reduced¹⁸.
- APHA tested archived samples which had been collected as part of active surveillance programmes and investigated the distribution of *mcr-1* in the wider population²¹.
- APHA enhanced passive surveillance by testing all porcine diarrhoea submissions for *E. coli* carrying *mcr-1*.
- Findings were shared with key stakeholders, resulting in a voluntary restriction on the use of colistin in food producing animals by the members of the Responsible Use of Medicines in Agriculture Alliance.
- Public Health England declared that the risk to human health was considered to be very low and FSA declared the risk to public health from food to be very low when food was properly handled and cooked.

A collaborative One Health approach was essential for researching and controlling this potential threat, showing the importance of food safety and disease surveillance in tackling AMR.

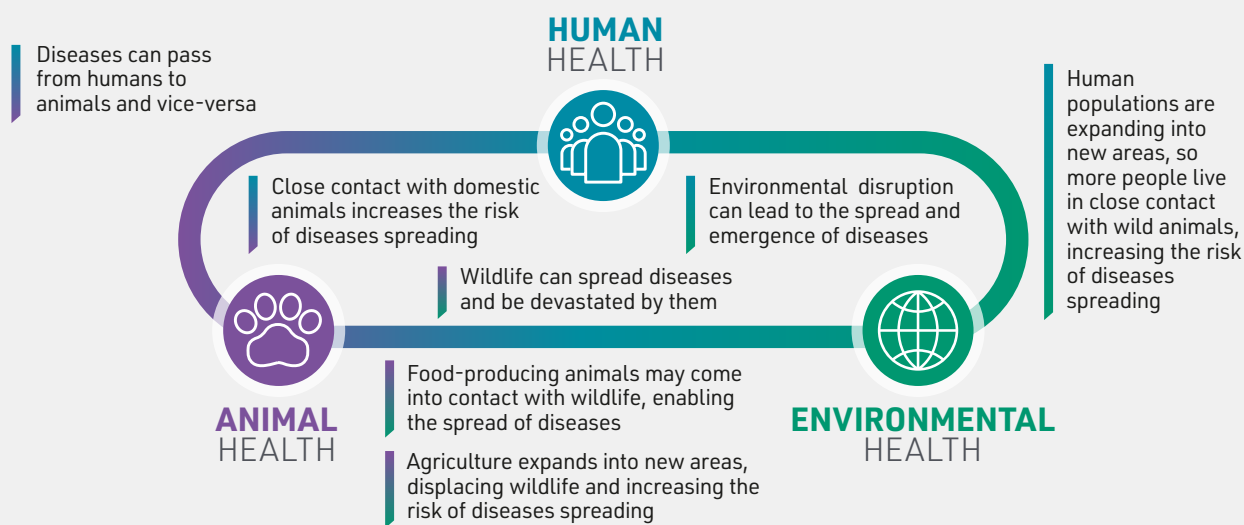
🗨️ **Katherine Grace, Veterinary Adviser for Exotic and Notifiable Disease, Animal & Plant Health Agency**

Zoonoses

Zoonoses are diseases that can be transmitted from animals to humans. Worldwide, nearly 75% of all emerging human infectious diseases in the past 30 years originated in animals²².

Close contact provides more opportunities for diseases to spread. This may include between pets and their owners, livestock and their keepers, or during recreational activities involving animals. With the increase in international travel and trade, diseases can spread quickly across the globe. They may be brought into a country through, for example, legal and illegal importation of pets, accidental importation (stowaways), invasive species, and human travellers.

Why is this a **ONE HEALTH** issue?



More information

Find out more about this issue:

- hse.gov.uk/biosafety/diseases/zoonoses.htm
- gov.uk/government/publications/list-of-zoonotic-diseases/list-of-zoonotic-diseases
- cdc.gov/onehealth/basics/index.html

THOUGHTS...

- ❓ Does your workplace contribute to any surveillance networks?
- ❓ Are you doing your bit to help prevent the spread of diseases, eg hand-washing?
- ❓ Can you advise others on how to reduce their risk of spreading disease?

CASE STUDY

Changing threats from tick-borne disease



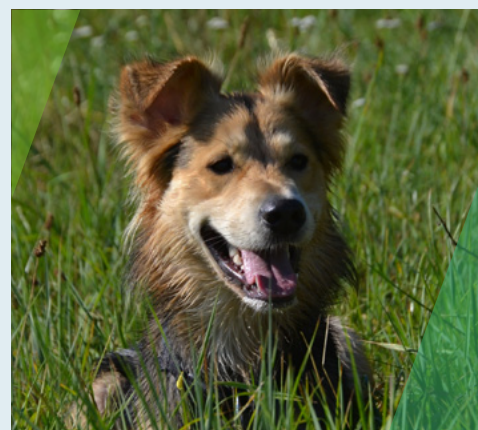
bristol.ac.uk/biology

In the UK ticks carry pathogens that can cause disease, including the bacteria that cause Lyme disease²³, an infection that affects both dogs and humans. Infection can result in a 'bull's-eye rash' in people, lethargy, muscle and joint pain, and fever.

In recent decades the distribution, abundance, and phenology of ticks and tick-transmitted infections have shown striking changes in Europe. This is thought to be a result of factors linked to habitat modification, increases in host abundance, changes in land use, and climate change. Global trade and the greater movement of people and pets have also increased the potential for the introduction and establishment of novel tick species not previously present in some areas, as well as novel pathogens.

Many of the most important tick vectors in Europe will feed on both humans and animals, and some tick-borne pathogens, most notably *Borrelia* spp., the causal agent of Lyme disease, will cause clinical disease in humans and a range of animal hosts. Continued surveillance is essential to detect changes in tick and tick-borne disease incidence. However, with highly aggregated spatial distributions and low pathogen prevalence, studies need to be undertaken at scale to provide meaningful results. This can be technically demanding and resource intensive.

Working with our partners at MSD Animal Health, we designed a series of public participation surveys, which recruited over 1,000 veterinary practices. Between 2015 and 2018, practices screened over 15,000 dogs and cats for ticks and over 9,000 tick samples were submitted for molecular analysis.



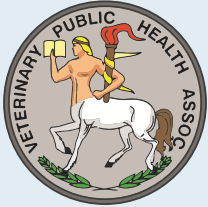
The work was able to quantify the distribution and prevalence of a range of tick-borne pathogens in different areas of the UK, with an unprecedented degree of resolution, allowing the risk to animals and humans to be quantified, providing spatially explicit risk maps, and raising awareness at a national level of the importance of these vectors and the potential impacts of changes in their distribution. The data provided information about the key drivers which influence tick and tick-borne pathogen presence along with climatic and other environmental factors.

The work gives us a baseline against which future changes can be compared; it will be important, therefore, to repeat this study in the future, to allow changes in tick abundance and new or unrecognised disease agents to be detected. It engaged veterinary professionals and pet owners, and involved extensive efforts to raise public awareness; the results demonstrate the power of public engagement in allowing large-scale surveys to be undertaken, raising awareness of the changing threats from tick-borne disease in humans and animals. Focussing the study on dogs and cats was logistically and administratively more straightforward than a study of ticks on humans would have been, but it provides data that, with care, can be extrapolated to allow consideration of the risk to humans. Ongoing tick and tick-borne disease surveillance remain vital, to allow movements across Europe to be tracked.

👤 Professor Richard Wall, Senior Tutor, School of Biological Sciences, University of Bristol

CASE STUDY

Tackling tapeworms



▶ vpha.co.uk

Tapeworms can infect farm animals, companion animals, wildlife, and humans. They are flat, ribbon-like worms that can live in your gut if you swallow their eggs or small, newly hatched worms. Many do not cause obvious symptoms and can be easily treated, but occasionally they can lead to diarrhoea, weight loss, and loss of appetite. If they spread around the body, they may cause serious problems by forming cysts in the lungs, central nervous system, or liver. In agriculture, tapeworms can significantly impact on animal health and welfare, with high financial implications.

A tapeworm infection can start when a human or animal eats food or drinks water which is contaminated with infected faeces. For example, a pig infected with tapeworm will pass tapeworm eggs in its faeces, which get into the soil. This soil can then contaminate a food or water source, and if you eat or drink from that source, you can then be infected. In order to protect both human and animal health, it is essential to break this cycle.

Poor hygiene standards and eating raw or undercooked meat increase the likelihood of humans ingesting tapeworms. Dogs being imported from abroad increase the risk of tapeworms entering the country and spreading, as dog faeces can spread the eggs. Zoological species may carry unique species of tapeworms, and reintroduction of wildlife species may lead to the release of further parasites into the wild. This is a complex, multifactorial problem, so requires a One Health approach to tackle it.

In March 2017, alongside the Association of Government Veterinarians, the Veterinary Public Health Association hosted the *Controlling tapeworms: established and emerging* conference. The aim was to discuss strategies for reducing the incidence of diseases caused by tapeworm parasites in animal and human patients. The conference attracted an audience of veterinarians, NHS doctors, and food safety professionals.

We heard presentations from the Public Health England Parasitology Reference Laboratory, Agriculture and Horticulture Development Board, Sheep Veterinary Society, Association of Meat Inspectors, British Small Animal Veterinary Association, European Scientific Counsel on Companion Animal Parasites, British Veterinary Zoological Society, Food Standards Agency, City of London Animal Health and Welfare Services, Animal & Plant Health Agency, and Federation of Veterinarians of Europe.

The conference highlighted the importance of meat inspections in reducing the risk posed by tapeworms to public health, and it is vital that pet owners and the general public are on board if we are to control tapeworm infestations. Continued educational efforts are needed, especially in parts of the country where the awareness of the risks to human and animal health is low. Awareness of the biology of the parasite and its management also needs to be improved among small animal practitioners. The speakers really helped to highlight the range of risks these parasites pose, and to educate everyone about the One Health nature of this problem.

It became clear that we have the tools needed to control these parasite infections, and effective communication between different stakeholders will be key to the success of our efforts. It will be essential to have close cooperation between the medical and veterinary professions. The conference was a great way of putting this back on the agenda and bringing everyone together to allow key stakeholders to make useful connections. We hope that the various veterinary and medical organisations will now work more closely to help control the spread and impacts of these parasite infections.

🗣️ Enrique Vegas, UKOHCG representative, Veterinary Public Health Association

CASE STUDY

Trojan dogs – highlighting the risks of rehoming stray dogs from abroad



bva.co.uk

BVA has been working to raise awareness around the risks posed by imported dogs with unknown health histories, also known as 'Trojan dogs'. It follows from the strength of feeling on the issue among our 17,000+ members, who have conveyed their concerns through our [Voice of the Veterinary Profession survey](#)²⁴.

A 'Trojan dog' is a stray dog with an unknown health history that has been brought into the UK for rehoming. Stray dogs with unknown health histories and could harbour undetected and potentially life-threatening exotic diseases not traditionally seen in the UK, such as [leishmaniasis](#)²⁵, rabies, canine babesiosis, and heartworm, without showing any outward clinical signs. When imported into the UK, such chronically infected 'Trojan', or carrier, dogs risk passing on the infections to susceptible pets and, in the case of some diseases, to humans as well. These infections can be difficult to detect or successfully treat in such carrier dogs.



Under current pet travel regulations, stray dogs can be moved within the EU as long as they are compliant with existing pet travel regulations, including receiving the rabies vaccination and completing a 21-day wait period. However, a stray dog with an unknown history may be moved into the UK while it is still incubating a variety of diseases, as there is no requirement for testing before travel. In this way the owner of such a dog could unintentionally introduce a new and dangerous infectious disease into the UK to which our native dogs have no immunity.

As part of our One Health approach to safeguard human and animal health and welfare, BVA is encouraging rescuers to consider supporting national charities within the dog's country of origin instead. We're also advising people to support UK charities such as the Dogs Trust, who are working to raise awareness and improve the lives of stray dogs in countries outside the UK, and to consider giving a forever home to any of the thousands of dogs within the UK that are in need of a home.

We are also asking the Government to strengthen pet movement regulations. Our [pet travel position](#)²⁶ makes 16 recommendations, including:

- Restricting the movement of dogs from countries with a high rabies risk in terrestrial animals and reintroducing the rabies titre test as a mandatory requirement before travel.
- Restricting the movement of stray dogs from countries which are endemic for diseases not currently considered endemic in the UK.
- Reintroducing compulsory tick treatments for all dogs and cats travelling under the Pet Travel Scheme.

To help reach the public and raise awareness of this issue, we have developed a suite of infographics, and have published blogs, including from [eminent parasitologist, Lord Trees](#)²⁷.

We also developed guidance for vets and the pet-owning public, including our handy [Pet Travel Checklist](#)²⁸ which helps to remind owners of what checks their pet needs before a holiday, reducing the risk of their pet acting as a Trojan dog.

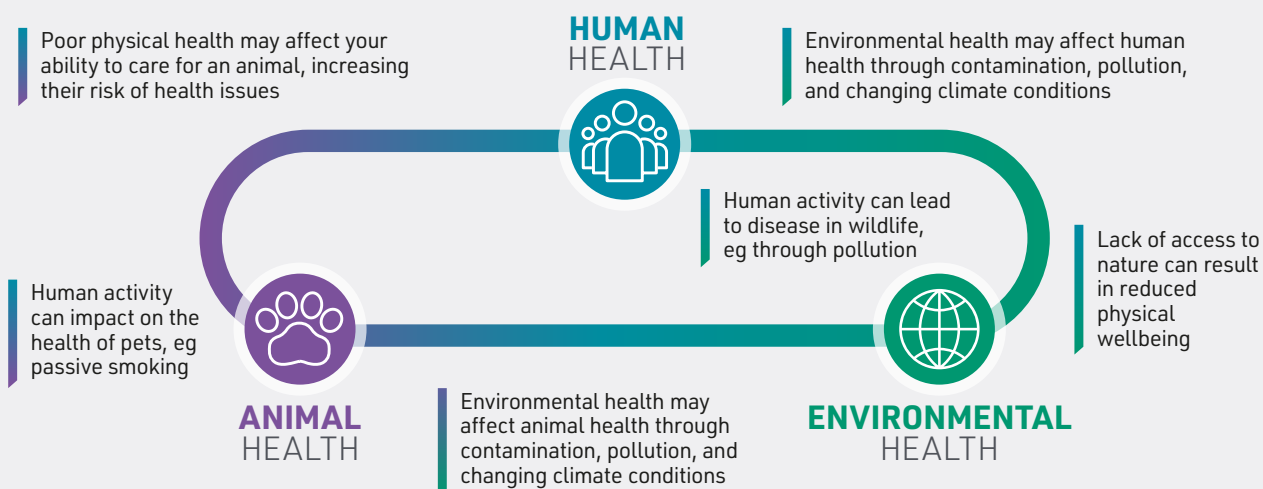
Through strengthened regulation and increased awareness, we hope our work will lead to a reduced risk of potentially dangerous zoonotic diseases entering the UK.

🗣️ Daniella Dos Santos, President, British Veterinary Association

Non-communicable diseases

Non-communicable diseases (NCDs) tend to be chronic diseases and are the result of a combination of genetic, physiological, environmental, and behavioural factors. NCDs are cardiovascular diseases (like heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma), and diabetes. Non-communicable diseases kill 41 million people each year, equivalent to 71% of all deaths globally²⁹. Although they are less well documented, NCDs are known to affect animals. For example, pet obesity can lead to a range of health issues and evidence suggests this is becoming more prevalent³⁰.

Why is this a **ONE HEALTH** issue?



More information

Find out more about this issue:

- [who.int/news-room/fact-sheets/detail/noncommunicable-diseases](https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases)
- [cdc.gov/chronicdisease/about/index.htm](https://www.cdc.gov/chronicdisease/about/index.htm)
- publichealthmatters.blog.gov.uk/2016/02/09/working-globally-to-tackle-non-communicable-diseases/
- rsph.org.uk/uploads/assets/uploaded/18165127-73a3-4c7a-8eb01fd5b791e5b1.pdf

THOUGHTS...

- ❓ How could you improve your local environment to improve your health, and that of your pet or your clients' pets?
- ❓ Could you help motivate someone to improve their lifestyle by highlighting health benefits to both them and their pet?
- ❓ Who could your workplace link up with to make a difference in this area?

CASE STUDY

Health checks for dog owners



PDSA, Salford Health Improvement Service³¹ and Salford City Council Dog Warden Service teamed up to improve pet wellbeing and increase the uptake of NHS health checks by engaging with dog owners.

Salford City Council

- ▶ pdsa.org.uk
- ▶ salford.gov.uk

The **NHS Health Check³²** (NHSCH) programme is a world-leading screening programme aimed at tackling preventable death and disability across England. In particular, it systematically measures risk factors known to cause cardiovascular disease (CVD), offering individuals aged 40 and over the opportunity to understand and modify their personal CVD risk.

Salford HIS, a frontline public health service provider within Salford City Council, works to extend the uptake of NHSCH in community settings through innovative approaches. Across the UK there is a significantly lower uptake of NHSCH within the most socioeconomically deprived communities and of those people who receive an invitation from their GPs, many (somewhere between 40-70% of all patients) don't take up the offer.

PDSA is the UK's leading veterinary charity, providing free and low-cost veterinary care to the pets of people in need and promoting responsible pet ownership. PetWise on Tour is the charity's mobile animal wellbeing service, which tours the UK to offer pet health and wellbeing advice within communities.

In July 2018, Salford HIS first partnered with PDSA PetWise on Tour for a week to test a new engagement method.



Each organisation has its own bespoke health check vehicle, which visited local parks together. Additionally, the Salford Dog Warden Service was present, offering free dog microchipping and 'have-a-go' dog agility to increase public interest and interaction. The approach was based on the premise that by engaging people's interest in their dog's wellbeing it would be possible to engage with them regarding their own health; specifically, dog owners were encouraged to take up the opportunity of a NHSCH while their dog was receiving a PDSA PetWise MOT – a health and quality of life assessment based on the Five Welfare Needs outlined in the UK Animal Welfare Acts.

On completion of the NHSCH, attendees were asked "Would you have accessed the NHSCH at your doctor's?" and follow-up interviews were undertaken eight weeks later. 104 NHSCHs were completed and 78% of patients stated they would not have accessed the NHSCH at their GP surgery; 48 patients required follow-up appointments with their GP and 18 were referred into community lifestyle interventions. At follow-up, 32 made positive lifestyle changes and 13 accessed community lifestyle interventions. 40 of those requiring clinical follow-up were interviewed and 26 were under investigation at their GPs.

PDSA veterinary professionals undertook 161 PetWise MOTs, improving the health and wellbeing of dogs and providing reassurance to their owners, many of whom derive significant physical and mental health benefits from owning their dog. One resident said, "Absolutely fantastic for humans and dogs. If it wasn't for the dog check I wouldn't have come."

The Salford programme has been expanded in 2019 and a similar approach could be replicated nationally. Community-based One Health approaches such as this have the potential to narrow health inequalities through improving the health of both pets and people in some of the country's most socioeconomically deprived areas.

Dr Sean Wensley, Senior Veterinary Surgeon (Communication and Education), PDSA



CASE STUDY

Smoking cessation



Royal College
of Nursing



BVNA
British Veterinary
Nursing Association

▶ rcn.org.uk

▶ bvna.org.uk

The health burden of smoking is well documented. Despite this, 15% of the UK population still smoke³³. Smoking harms nearly every organ in the body and reduces life expectancy. Its effects can cause several chronic conditions which may have a severe impact on quality of life.

Passive smoking – breathing in second-hand smoke while spending time with an active smoker – can also cause long-term health problems including declined lung function and asthma. Passive smoking has a 1% worldwide mortality.

Despite the wide range of resources now available, many people find it difficult to stop smoking. Even people with current smoking-related health problems will continue to smoke, often exacerbating their condition.

A collaboration between the Royal College of Nursing (RCN) and the British Veterinary Nursing Association (BVNA) as part of the VN Futures initiative has used a novel One Health approach to support smoking cessation.

Educating someone about the negative effects of passive smoking on their family or friends can provide a strong motivation for them to stop smoking. The aim of the One Health collaboration was to highlight veterinary research that demonstrates that the effects of passive smoking extend to animals as well as humans³⁴. The idea was that learning about the health risks to animals might provide a new and strong incentive for some smokers to try to quit the habit.

A press release was written and disseminated widely, with the aim of sharing the information with the general public and both nursing professions, veterinary and human. The resulting media attention was above and beyond the expectation of the team. There were two prime time television interviews with representatives from the RCN and from VN Futures. Two national radio channels ran interviews and highlighted the research, which was then shared with over ten local radio stations across the UK. Two national newspapers ran the story in the UK. The RCN communications team tracked references to the press release and related interviews as far away as Australia and Brazil. Additionally several professional nursing journals ran articles about the project.

The results of this project are impossible to quantify; however, given the impressive media coverage, the team felt the aim of highlighting the research was certainly achieved.

Collaboration between human-centred and veterinary nurses in this way is hugely valuable to many One Health issues. While each professional works within their scope of practice, further education can allow them to signpost people to appropriate services.

Ultimately the team would like to see One Health issues incorporated into relevant education guidelines for each profession so that from the beginning nurses are encouraged to work collaboratively and think laterally when it comes to supporting the health of their patients, whatever the species.

🗨 **Helen Ballantyne, BVNA representative on the UKOHCG,
British Veterinary Nursing Association**

CASE STUDY

Dark skies



The
countryside
charity

[cpre.org.uk](https://www.cpre.org.uk)

Our view of the stars – a source of infinite amazement for scientists, casual observers, and the millions of us that seek out rural places to rest and recuperate – is obscured by light pollution. It's a sad fact that many children will grow up never seeing the Milky Way, our own galaxy, because of the impact of artificial light.

There is increasing awareness of the impact that light pollution can have on wildlife, by interrupting natural rhythms including migration, reproduction, and feeding patterns. Artificial light is known to cause confusion to migrating birds, often with fatal outcomes. Humans are also affected by the interruption to their natural sleep cycle, and research suggests that artificial light at night can negatively affect our health, increasing risks for obesity, depression, sleep disorders, diabetes, breast cancer, and more³⁵. Light spilling up into the night sky is also a waste of energy and money accounting for between 15-30% of a council's carbon emissions.



© Jen Rowland

CPRE, the countryside charity, wants to reconnect people with the wonder of truly dark skies. Our campaigning work helps shape policies that control the spread of light pollution, both nationally and locally. In 2016, CPRE published the most detailed maps of England's night skies, using satellite data captured at 1.30 am throughout September 2015. A range of organisations came together to crowdfund the Night Blight mapping including several National Parks and Areas of Outstanding Natural Beauty, astronomy organisations, and Natural England. Our mapping shows that in England, just 22% of night skies are pristine, free of any light pollution. There are also detailed maps that identify how bright or dark places are. This means they can be used to shape planning and decisions locally, including what the impacts on people and wildlife may be, and to see which areas are darkest and should be protected and enhanced. The interactive maps and information can be found on our dedicated website: www.nightblight.cpre.org.uk

Our 'Night Blight' mapping and data is making a real difference to people and wildlife across the country. Consultancies use it to inform their responses to proposed major development, wildlife surveys and to understand the special qualities of a place. Councils are using the data to integrate into their Geographical Information Systems (GIS) so they can use it to inform planning and policy decisions. Community groups use the data to inform their neighbourhood plans. For example, in West Horsley, Surrey, the 'Night Blight' mapping has been used as evidence for a strong policy in their neighbourhood plan that will help ensure their unique dark skies are protected in the future. The interactive Night Blight maps can also be used to find the darkest skies near you. Ultimately, we want to see more people fall in love with the majesty of a truly dark starry night sky – one of the most magical sights the countryside has to offer.

CPRE wants to see more done to ensure that our communities are lit in a responsible way, with local authorities considering how they can improve their approach to street lighting, ensuring that new developments are lit appropriately, and that areas of existing dark skies are protected, for the benefit of people and wildlife.

We want our 'Night Blight' maps to be used to inform local planning policy and decisions, as evidence for international recognition for the very darkest skies, and by anyone who cares about their night-time environment.

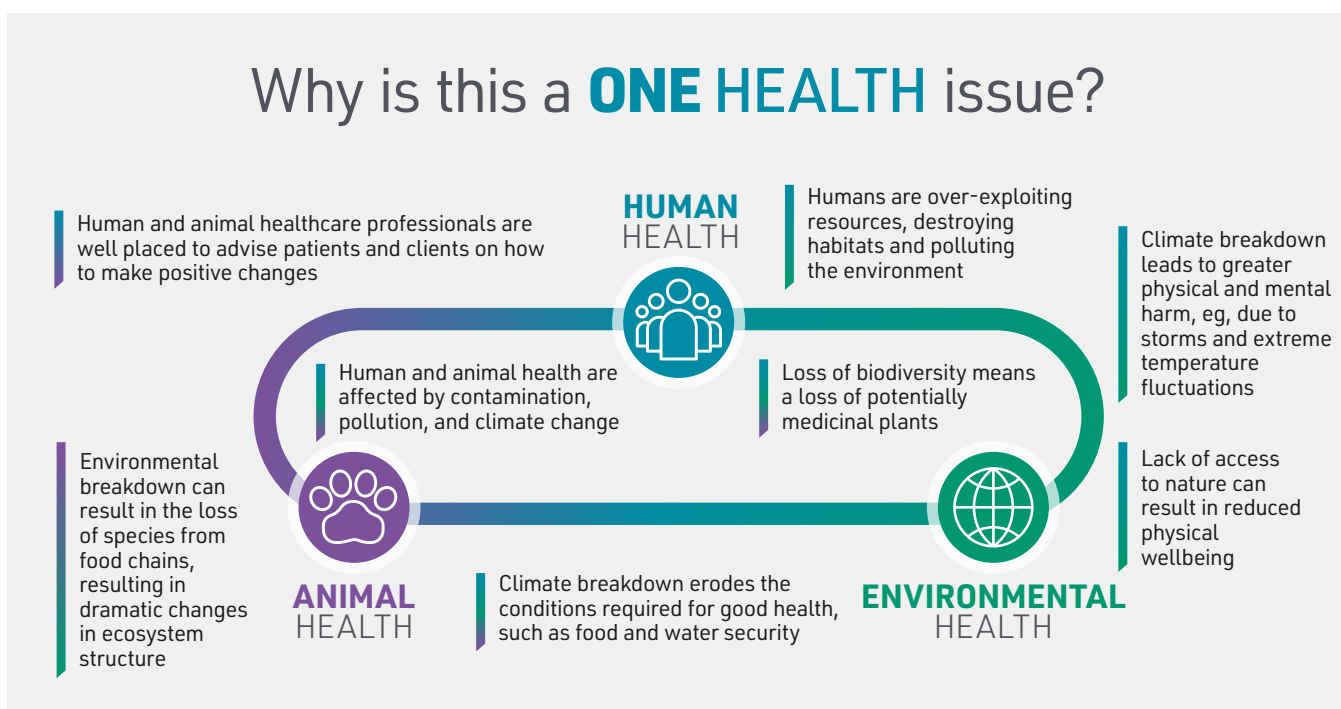
👤 Emma Marrington, Rural Enhancement Lead, CPRE, the countryside charity

Environment and climate change

Nature is the bedrock of the living world and we are totally dependent on natural services. For humans, nature provides food and water, energy, medicines and genetic resources. However, our natural world has been significantly degraded through human activities. A United Nations report highlighted that the average abundance of native species in most major land-based habitats has already fallen by at least 20%, mostly since 1900³⁶.

A degraded environment will have a big impact on human and animal health and welfare. According to *The Lancet*, climate change is “potentially the biggest global health threat of the 21st century”³⁷. These negative health impacts will increase in frequency and severity if the temperature rise exceeds 1.5°C. Urgent action is required in order to restrict global temperature increases below this limit, with the Intergovernmental Panel on Climate Change³⁸ estimating that carbon emissions would have to be cut by 45% by 2030 and come down to zero by 2050.

Why is this a **ONE HEALTH** issue?



More information

Find out more about this issue:

- ukhealthalliance.org
- wildlifetrusts.org
- ipcc.ch
- bva.co.uk/news-campaigns-and-policy/policy/farm-animals/sustainable-animal-agriculture

THOUGHTS...

- ❓ What changes can you make at home or at work to be more sustainable?
- ❓ How can you help colleagues or clients to better understand their impacts on the environment?
- ❓ Could you spend more time in nature to make the most of the benefits it provides?
- ❓ Is there an organisation you could lobby to do more to protect the environment?

CASE STUDY

Riverlands project



National
Trust

▶ nationaltrust.org.uk

We all rely on rivers. For centuries they've been the veins that run through our cities and countryside: providing water for us to drink and grow crops, powering our industries, and providing us with tranquil places to explore and escape.

Today, though, our rivers are in trouble – and so is the wildlife that depends on them. Intensive farming, pressures from development, and the effects of climate change have all taken their toll, and now only 14% of England's rivers are in good health. This means that some of our most important plants, insects, animals, and birds are at risk.

The £13 million Riverlands project aims to bring rivers back to life, starting with six rivers and the catchments of land that surround them. The rivers range from the 60-mile long Derwent in Cumbria to the steep, narrow streams of Porlock Vale in Somerset. Riverlands is a partnership led by the National Trust with the Environment Agency and Natural Resources Wales.

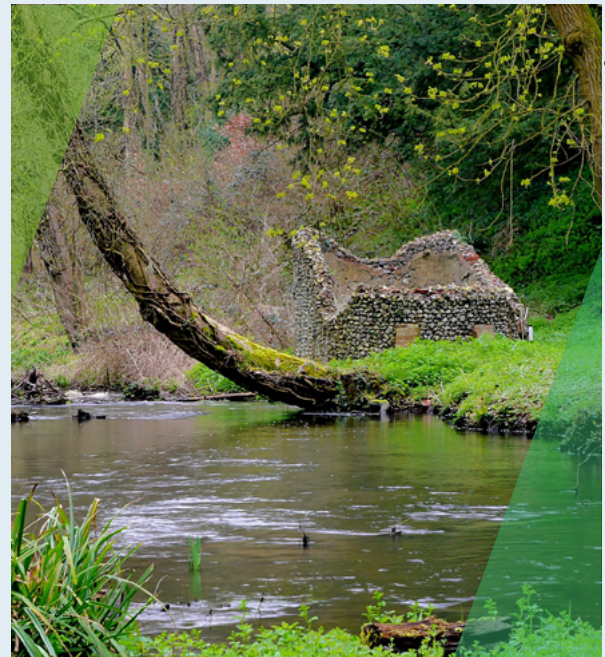
The aim of the project is to create river catchments that are healthy, clean, and rich in wildlife, are easily accessed, valued, and loved, and that are in long-term care. To do this, the project brings together expertise from across partner organisations in ecology, hydrology, farming, human health and wellbeing, and community participation.

Riverlands also works with local communities to help them rediscover and reconnect with their rivers – as spaces for leisure and activity, to socialise, or to simply take a walk beside the water and clear their minds.

Overall, these actions will result in an improved environment for people and wildlife. Reinstating the natural processes and shapes of rivers slows down the flow of water and so reduces downstream flooding. This makes landscapes more resilient to the extreme weather patterns likely with climate change. Work with farmers is helping to find ways of reducing agricultural pollution and loss of soils. Restoring and creating a range of wetland habitats means rivers can support a greater diversity of plant and animal life, and helps to protect rare species. Work with communities is connecting people with nature, helping them enjoy activities on the water, and giving them a chance to gain skills and get involved with looking after their rivers. This brings a range of health and wellbeing benefits, and gives people the opportunity to have a genuine say in the future of the rivers. Altogether, this means the rivers are more likely to be cared for in the long term.

Phase one of the project covers six rivers and a further six will be added soon. The new models of working and partnerships as the project develops will be shared and applied more widely. By helping people connect with their environment we hope to give our rivers a brighter future.

👤 **Dr Anita Weatherby, Research Programme Manager, National Trust**



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CASE STUDY

Greening Davies Veterinary Specialists

DAVIES

The Veterinary Specialists

vetspecialists.co.uk

The United Nations Brundtland Commission of 1987 defined sustainability as "... meeting the needs of the present without compromising the ability of future generations to meet their own needs". The Davies Green Group was founded in 2017, but we quickly realised that there was a knowledge gap in how to implement effective sustainability in veterinary practice while maintaining high levels of clinical standards and legal compliance. In particular, we found a conflict between infection control and plastic and chemical (over)use, and a lack of understanding regarding waste segregation and disposal.

We started by joining an external accreditation agency, [Investors in the Environment](#)³⁹ (iiE), and using their frameworks to systematically assess our resource usage, using information released by the [Sustainable Development Unit](#)⁴⁰ of the NHS and the [Association of Anaesthetists](#)⁴¹. We became aware that the leading contributors to our carbon footprint were energy, anaesthetic gases, procurement, and travel.

In September 2019, Davies Veterinary Specialists were awarded the top Green Level accreditation with iiE, following demonstration of a comprehensive Environmental Management Scheme. During this process, we have overhauled our waste management systems (including undergoing external audit), supported active and lower-carbon travel, developed and implemented a sustainable procurement policy, replaced fossil fuel use, and educated staff on lower-flow anaesthesia. We have also provided leadership in our community, passing on sustainability tips and resources by email, WebinarVet seminars, journal articles, evening CPD, lectures, and online information and [downloads](#)⁴².


Globally, we are currently on a trajectory for temperature increases of over 3°C, necessitating carbon emission reductions to 0% by 2050, or as soon as possible before, to avoid catastrophic consequences. With this in mind, we are focussed on reducing our total energy consumption and carbon emissions, particularly from anaesthetic gases which block a natural cooling 'window'.

Our Green Group has had a positive impact on staff recruitment and satisfaction. We have supported staff in personal sustainability, for example with a bulk-buy radiator insulation scheme and staff pledges on World Environment Day. Our quarterly newsletter reminds staff of the nature onsite and in our local area, which has benefits to mental health and performance.

We actively use [Terracycle](#)⁴³ to recycle difficult composite materials such as pet food packaging and have found new disposal routes for hazardous materials such as fluorescent strip bulbs. Improved segregation also avoids carbon emissions due to overtreatment of non-hazardous materials. Distribution of reusable water bottles to all staff has encouraged a move away from the use of single-use plastic cups, and our reusable scrub hats and warming blankets are popular and cost saving.

Finally, we have seen financial savings on many of the Green Group initiatives, including [Sharpsmart](#)⁴⁴ systems, remanufactured printer cartridges, low carbon bags and [Bio-bins](#)⁴⁵. Energy-saving initiatives have ranged from turn-off stickers, to installing outdoor drying lines, to purchasing more energy-efficient equipment, such as air-source heat pumps and oxygen-based washing machines.

We want to continue to substantially reduce our carbon footprint, and to mitigate all of our negative environmental impacts. We want to see sustainability as standard practice across the sector, encouraging vets to use our unique training and perspective to safeguard animal health and welfare alongside our precious world and its incredible resources.

 **Ellie West, Veterinary Anaesthetist and Sustainability Lead, Davies Veterinary Specialists**

CASE STUDY





NHS Sustainable Development Unit

 Sustainable Development Unit

sduhealth.org.uk

Climate change is the biggest threat to public health of the 21st century. This is due to direct impacts – for example, air pollution, which contributes to climate change and is linked to health problems ranging from lung cancer to dementia – and indirect impacts – for example, more frequent extreme weather events, crop failure, and changing temperature patterns. All these things will put pressure on the health and social care system, creating more service need.

The health and social care system in England is a huge employer, and consequently is responsible for significant amounts of carbon emissions, water and air pollution, as shown in this table⁴⁶:


	 Carbon emissions	 Water	 Air Pollution (NHS only)		 Waste (NHS providers only)	
Unit	Million tonnes CO _{2e}	Billion m ³	Tonnes NO _x	Tonnes PM _{2.5}	Tonnes	Tonnes directly to landfill
2017	27.1	2.23	7,286	333	589,000	55,500
Baseline	33.3 (2007)	2.83 (2010)	New 2017 baseline		New 2016/17 baseline	

The Sustainable Development Unit (SDU) was set up in 2008 and is now jointly funded by NHS England, NHS Improvement, and Public Health England. Over the first ten years of its life, the SDU focussed on making the argument for why sustainable development should be an integral part of the way we deliver health and social care. As public awareness, scientific modelling, and evidence has built, the SDU's position has shifted to a place of exploring how health and social care can successfully embed sustainable development. In 2019, for the first time, sustainable development commitments were included as a part of national health policy in the NHS' Long Term Plan:

- Meeting the 2020 and 2025 carbon reduction commitments outlined in the Climate Change Act (2008).
- Ensuring that at least 90% of the NHS fleet uses low-emissions engines (including 25% ultra-low emissions) by 2028.
- Cutting air pollutant emissions from fleet and business mileage by 20% by 2023/24.
- Phasing out primary heating from coal (by 2023/24) and oil (by 2028/29) on NHS sites.
- Reducing single-use plastics in the system.

The SDU is now working to deliver these challenging but important commitments through several national programmes of work. We are also looking at how we can broaden this even further, by using the United Nations Sustainable Development Goals as a philosophical underpinning to all of our work. In order to deliver our strategy, we are working more closely with other organisations across the system to influence, integrate, and embed wherever it's appropriate.

A vital part of this work is sharing examples that we know have successfully contributed to our goals. We do this by sharing case studies and exemplars on our website, and are looking at how we can help to scale and spread proven ideas across the system. For more information, please visit sduhealth.org.uk.

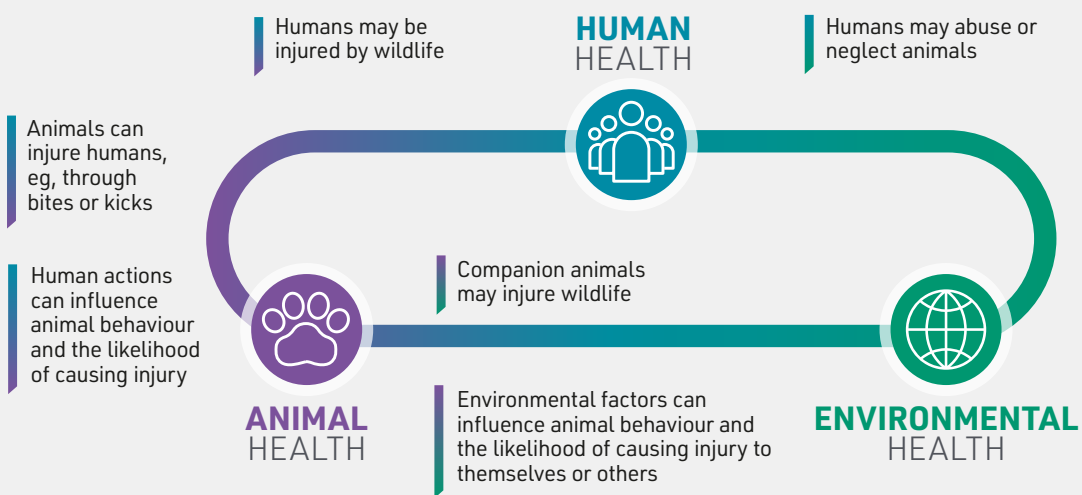
 **Sonia Roschnik, Director, Sustainable Development Unit**

Injuries

Injuries are physical traumas or damage to the body caused by external force. Animals can injure humans, with potentially deadly impacts. The best way to manage such injuries is to prevent them happening, such as by understanding and, where necessary, modifying animal behaviour, or advising humans how to act around wildlife.

Humans may also physically harm animals. While most injuries are accidental, in some cases they are not. Where serious animal abuse has occurred in a household there may be an increased likelihood that some other form of family violence is also occurring.

Why is this a **ONE HEALTH** issue?



More information

Find out more about this issue:

- thelinksgroup.org.uk
- rspca.org.uk/whatwedo/endcruelty
- beta.bva.co.uk/take-action/our-policies/abnormal-behaviour/
- abtcouncil.org.uk

THOUGHTS...

- ❓ Do you know what you would do if you suspected a case of abuse?
- ❓ Can you teach others about how to treat animals appropriately?
- ❓ Could your workplace link up with other local organisations to help prevent animal-related injuries?

CASE STUDY

Preventing dog bites



[leedsth.nhs.uk](https://www.leedsth.nhs.uk)

Serious animal bites cause pain and injury which can result in disability or disfigurement. They may also get infected if not checked and treated. These infections are rarely serious if treated quickly, but occasionally they can spread to the blood or other parts of the body.

The number of dog bite injuries (DBI) presenting to primary and secondary care continues to rise with an increasing number requiring hospital admission and surgical intervention. Dog bites are often multifaceted in cause and result from a complex interaction of human, animal, and social factors – something that was not immediately clear until we embraced a One Health approach.

The department of Maxillofacial Surgery at Leeds Teaching Hospitals NHS Trust wanted to discover what was leading to the high volumes of DBIs. To find this out, we worked closely with our fellow subspecialty colleagues in Emergency Medicine and Plastic Surgery, and with veterinary colleagues to devise key questions to include in a data collection tool. Taking a One Health approach by including veterinary colleagues helped to highlight the importance of asking critical questions involving the animal's veterinary and biting history. So far, this register has enabled us to assess characteristics of the dogs attributed to the dog bite, the situations in which bites occurred, and the nature and severity of the bite injury. This information can then be shared with dog owners through their own vets.

Our data collection identified several key areas:

1. The young age of a significant proportion of patients.
2. A predilection for the face and structures in this demographic.
3. Permanent disfiguring scarring and the likely psychological impact.
4. Children were significantly more likely to be bitten in summer months.
5. The majority of dogs had never bitten before.
6. The commonest reported reasons for bites related to food and feeding times, separating fighting dogs, DBIs common during play, dogs were frequently in unfamiliar environments, and being too close to the dog's face.

We presented and published our results widely to promote strategies for prevention and treatments. This included engaging primary care colleagues (GPs) by publishing our work in relevant primary care journals, highlighting risks, and providing preventative strategies.

Identifying individuals within different professions was fundamental to addressing the key issues for reducing the risks of DBIs. Through our collaborative working, we have strived to improve the identification, awareness, and treatment of DBIs. We have also promoted preventative strategies.

More widely, we believe that One Health should be more actively promoted in our undergraduate and postgraduate learning, with a far more concerted effort to joined-up thinking. We have surveyed current undergraduates and postgraduates regarding the benefits of the One Health concept and identified a significant interest in this. The collective ideas and efforts contribute towards the improvement of clinical care for all our patients while actively encouraging new ways of thinking.

Dr Christopher Mannion, Consultant Maxillofacial Surgeon and Honorary Clinical Associate Professor, Leeds Teaching Hospitals NHS Trust

CASE STUDY

The Links Group



▶ thelinksgroup.org.uk

Increasing research and clinical evidence suggests that there are inter-relationships, commonly referred to as 'links', between the abuse of children, vulnerable adults and animals. A better understanding of these links can help to protect victims, both human and animal, and promote their welfare.

Through the Links Veterinary Training Initiative, members of the veterinary team are being trained to promote the safety and welfare of vulnerable children, animals, and adults so that they are free from violence and abuse. Vets learn to work with the police and human healthcare professionals to better understand what can be done to intervene in the cycle of violence. It is increasingly recognised that an animal can be the sentinel case coming out of a violent household in need of help. There have been some barriers to progress, not least the understandable apprehension in vets that by reporting incidences of non-accidental injury there is a risk of driving animals away from treatment, just when they need it most. The fundamental question for the vet remains: "Did I do everything I could to ensure that animal's welfare?" However, as awareness of abuse grows within the profession, vets and other members of the veterinary team have questions; for example: "I once saw a dog that had been starved to death; later that owner was prosecuted for starving a child – could I have made a difference?" The answer is firmly "yes", by working in collaboration with other agencies, as the case history below demonstrates.

Imagine you are a vet: one day, you are presented with a kitten with a swelling above its eye. The owners state that "a cupboard door fell on the kitten". It is treated and sent home. Just two weeks later, the kitten is presented again with dyspnoea (laboured breathing); fractured ribs are diagnosed. The owners state that the two-year-old child sat on the kitten. The vet is now concerned about how safe the household is for this young animal and the thought occurs that there is also a two-year-old child in the house. Two weeks later, the kitten comes back in with severe ataxia (staggered gait) and extreme distress; it deteriorates over the next 24 hours, despite intensive care, and is euthanased. The case is reported to the RSPCA and the postmortem examination demonstrates skull fractures and severe bruising (the rib fractures are also confirmed).

An experienced RSPCA inspector takes up the case and interviews the owners. There is no consistency to the story about the injuries; the injuries are trivialised and there is little concern expressed for the kitten, which leads to serious concerns. An experienced vet is consulted, and non-accidental injury is suspected. A police criminal record check on the family is requested and reveals several allegations of abuse: domestic abuse and rape of a partner and physical abuse of a child. The allegations are 'non-proven' due to a lack of evidence to take to court, because the abused partner is unwilling to give evidence. Additionally, the family has fallen off the police 'radar' as they moved from area to area.

The death of a small kitten from several horrific non-accidental injuries, and the decision of the veterinary surgeon to report the case to the RSPCA, has potentially saved a child and an abused partner from further harm. This family is firmly back on the social services and police radar, demonstrating how vets can help disrupt the cycle of violence by working with human healthcare professionals.

👤 **Dr Freda Scott-Park, former Chair, The Links Group**

CASE STUDY

Compassionate Class



rspca.org.uk

In the past decade, the way young people obtain information and how they communicate with each other has changed rapidly. Images and information are readily accessible to young people online, and a recent [RSPCA report](#)⁴⁷ revealed that nearly a quarter of school children aged 10–18 have witnessed animal cruelty and neglect on social media. In response to this, the RSPCA launched our biggest ever prevention and education programme: **Generation Kind**.


Generation Kind⁴⁸ is an initiative composed of nine interconnected projects that work in three key areas to help transform the future treatment of animals. These areas are children in schools, young people who are disadvantaged, and young people who have offended or are at risk of offending.

In order to create real, meaningful change in a new generation's attitude towards animals, it is vital that we reach children at a young age so that we can shape the beliefs that will influence their whole lives. A Generation Kind project with one of the widest reaches is **Compassionate Class**⁴⁹, a set of teacher-led classroom activities that inspire pupils to develop compassion for animals through the lens of animal welfare. Aimed at children aged 7–11 (Key Stage 2), the teaching resources cover key RSPCA areas of work such as wildlife, farm, and companion animals.

With a focus on empathy and compassion, Compassionate Class builds on pupils' natural inquisitiveness and discovery learning while indirectly contributing to developing their prosocial behaviour and wellbeing. Our initial evaluations from Compassionate Class show that 1061 schools participated in 2018/19 and over 75% of survey participants reported a significant increase in understanding of sentience and responsibilities towards animals.

We hope that Compassionate Class will help young people throughout England and Wales develop kind behaviours and actions towards animals. We aim for them to better understand the needs of animals, to reflect on how those needs mirror their own, to empathise with animals through this learning process, and to become advocates for animals in their future choices – both as consumers and citizens.

Compassionate Class continues to grow throughout England and Wales. Our future plans are to adapt the resources so that they are suitable for students with special educational needs and disabilities, as well as to target areas where there is a specific need for more animal welfare education. We will continue to incorporate new discovery activities that explore wider environmental and animal welfare issues, with the aim of fostering a passion for animal welfare within the animal owners, politicians, and decision-makers of tomorrow.

 **Clover Cotmore, Prevention and Education Facilitator, RSPCA**

Further thoughts

This report showcases One Health projects which are already making a difference. We hope that these will inspire you to work with other professionals for the benefit of humans, animals, and the environment, and give you ideas on how you can do that.

The 'Thoughts...' boxes throughout are designed to help you to think about how you could engage with the One Health agenda. Here are some further thoughts on how One Health could make a difference at individual, community, national, and international levels.

INDIVIDUALS

- ❓ How do your actions impact on the health of animals, humans, and the environment? What could you do better?
- ❓ Could you get to know some local professionals and organisations and swap your skills and knowledge?
- ❓ Can you encourage an organisation or influential person to support One Health approaches?

COMMUNITY

- ❓ Could your organisation or workplace form links with other local professionals working in a different sector?
- ❓ Are you designing any programmes or policies which would benefit from taking a One Health approach?
- ❓ What can be done to encourage more joined-up thinking between organisations?

NATIONAL

- ❓ Can One Health thinking be used to frame legislation?
- ❓ How can we raise awareness of the benefits of taking a One Health approach to tackling national challenges?
- ❓ How could a One Health approach be integrated into research and education?

INTERNATIONAL

- ❓ Who can we collaborate with around the world to tackle One Health challenges?
- ❓ Can we learn from any international organisations and projects?
- ❓ Could you, or an organisation you are part of, contribute to the work of international organisations?

ALL

We'd love to hear about the One Health projects you are involved in, or any that you think will inspire others to get involved.

Email policy@bva.co.uk or tag @BritishVets in your #OneHealthInAction social media posts.

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