



We are very grateful to our investment managers Vestra Wealth for supporting the publication of this Annual Review.



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Registered charity no. 209642 Incorporated by Royal Charter

www.aht.org.uk







The mission of the Animal Health Trust is to promote animal welfare through scientific investigation into the causes, treatment and prevention of animal diseases by:

- Developing new knowledge and techniques for the better diagnosis, prevention and cure of disease
- Providing a world-class clinical referral service
- Communicating our findings to others.

Everything the Animal Health Trust does has the health and welfare of animals at its heart.

We are passionate about horses, dogs and cats and exist to make life better for generations of animals.

In many parts of the world disease and injury are far bigger threats to animals than neglect.

Our vets and scientists work around the clock to combat these.

We have two referral clinics: one for horses, the other for dogs and cats. Our vets work out what the problem is and find ways of treating it.

In our research laboratories our scientists, who work with our vets, look for new ways to diagnose problems, stop them from happening and, where we can, cure them.

We are committed to education. The knowledge we gain we share internationally to benefit horses, dogs and cats all around the world.

All the funds we raise through treating animals in our clinics go straight back into developing new diagnostic tests, treatments and vaccines to help thousands more animals.

Nearly all horses, dogs and cats in the UK will have benefited from our work – that includes your pets and those of your family and friends.

We are innovative. We are passionate. We are pioneers. We are the Animal Health Trust.

## **President's foreword HRH The Princess Royal**

The Animal Health Trust (AHT) is perhaps the animal world's best kept secret; it is not as well known in the UK as it should be. One of the reasons the AHT exists is to help to ensure the health and welfare of our horses. Its veterinary and scientific staff, who work passionately in its clinics and laboratories, help to keep our animals healthy and fit; if it did not exist we would all very quickly become aware of how much it is needed.

For those who have benefited from its work, the AHT is known and respected across the world for its expertise in disease surveillance and monitoring, prevention, diagnosis and treatment of injury and more recently, eye disease. For many years the AHT has helped owners of horses to contain a number of infectious disease outbreaks of, for example, equine flu, Strangles and equine herpesvirus. By containing these outbreaks, the financial and welfare benefits have been immeasurable.

Much of the AHT's information gathering is completed with the help of vets, but there are times when those of us closest to our animals need to contribute vital information. During 2014, the AHT began research studies looking to combat two of the equine world's most pernicious diseases: equine grass sickness and laminitis. These projects will only succeed with participation from horse owners whose help is needed to gather specific information on their own horses. You can read more about these studies on page 10 of this Review.

The AHT should be the charity for all owners, vets and those who work with and enjoy watching horses in all their many roles. Their contributions are a vital part of its success and its success is vital to them so, as the charity's President, I want to thank you for your support to date and ask that you continue supporting our important work. By teaming your ongoing financial and practical support with the skills and expertise within the AHT, together we can continue to help countless more animals for years to come.







**Main:** The AHT offers a fully comprehensive referral service in the treatment of both medical and surgical conditions that affect the equine eye. This area of our work grew exponentially in 2014.

**Right:** Dr Mark Vaudin, Chief Executive Officer of the AHT, who presented prizes to Belvoir Hunt Pony Club, winners of the AHT-supported Pony Club Showjumping, at the Land Rover Burghley Horse Trials in 2014.



### A word from the Chief Executive Dr Mark Vaudin on 2014

2014 was my first full year as Chief Executive of the Animal Health Trust (AHT). We achieved many things and I hope you enjoy reading about some of them in this Review. As a charity, the AHT is dependent on support from people like you who realise the benefits horses bring to our lives.

During 2014, your support enabled one of our most successful fundraising years in recent times, meaning more funds to fight disease and injury in animals. On behalf of everyone at the AHT, I offer my heartfelt thanks for your support.

You may not be aware of all the research the AHT is involved in, and how this will be helping your animals. A number of horse and pony owners only come into contact with the AHT through veterinary referral to our renowned Equine Clinic.

The work we are undertaking behind the scenes not only enables us to offer the very latest diagnostic and treatment options in our clinics and diagnostic laboratories, but means we are continuing to seek new preventative measures.

I would like to echo the words of our President, HRH The Princess Royal, in saying that the AHT is your charity. We are here to benefit your animals and with your support, together we can progress research into better diagnostic tests, treatments, vaccines and other preventative options.

As well as financial support, samples and information from you are key in enabling the AHT to continue to support all horse and pony owners, and their animals, across the UK. The AHT needs horse and pony owners to supply certain information from the field so we can further pull pieces of these puzzles together.

Our equine research is diverse; from researching infectious diseases such as equine grass sickness, equine influenza and Strangles to research to prevent performance related issues. I would like to take this opportunity to encourage you to get involved and support our research.

You can find out more at www.aht.org.uk/horses

With your support we look forward to continuing to improve the health and welfare of companion animals for years to come.





### Fighting... Disease in horses

#### Fighting equine influenza

Equine influenza is a highly contagious viral disease that spreads readily from horse to horse. 2014 was a busy year for our equine influenza research team, with around 30 outbreaks confirmed in horses in the UK. For each outbreak, we attempted to isolate the causative strain of influenza virus and determine its genetic fingerprint. In order to review the current recommendations for equine influenza vaccines, these findings were presented at the annual World Organisation for Animal Health (OIE) vaccine strain selection.

Our Equiflunet surveillance programme now includes a network of approximately 300 veterinary practices giving good coverage across the UK. We advocate the need to vaccinate against equine flu, whilst encouraging vaccine manufacturers to update their products to contain relevant virus strains.

We know that a small percentage of vaccinated horses do not develop an adequate level of protection to equine flu and remain susceptible to disease. In collaboration with French colleagues, we have been investigating Thoroughbred horses who respond poorly to vaccination. We will be presenting and discussing our results at British and French equine vet congresses during 2015.

#### Fighting equine grass sickness (EGS)

EGS is a frequently fatal disease of horses. The disease results in severe and extensive nerve damage, particularly affecting the gastrointestinal tract. EGS has been in existence for more than 100 years but its exact cause is still unknown. Almost all cases occur in horses with access to grazing, and growing evidence points to the bacterium *Clostridium botulinum* type C, commonly found within soil, as the cause.

We identified a vaccine currently used to prevent mink from getting botulism and believe this could provide the protection required in horses. This is the basis of our ground-breaking nationwide EGS vaccine trial. This field trial is looking to enrol more than 1,000 horses and ponies, from British premises that have been affected by EGS at least once in the past three years.

The vaccine trial involves horses and ponies receiving either a course of the *C. botulinum* type C toxoid vaccine or an inactive placebo. If successful, the trial could be a breakthrough in preventing the disease, providing benefit to many horse owners in Britain.

#### **Fighting laminitis**

A serious and debilitating disease which can lead to long-term lameness and pathological changes in the foot, laminitis has the potential to strike any of Britain's horses and ponies. In a partnership project with the Royal Veterinary College, we are researching the true frequency of the disease in Britain, as well as how best to prevent it.

We are collecting data from horse owners across Britain to investigate the frequency of the disease as well as factors that increase or decrease its risk, in order to provide owners with evidence-based guidelines to reduce the impact of the condition nationwide.

Any horse or pony is eligible to take part in the study, whether it has experienced laminitis previously or not. Data are collected via a monthly questionnaire containing details of the horses' management. If successful, the study will provide the first set of evidence-based guidelines on how best to prevent the condition, leaving Britain's horse owners better equipped to protect their animals from the disease.



Equine influenza outbreaks 2014
March 2014: North Yorkshire,
Bedfordshire.

August 2014: West Lothian, Bedfordshire.

September 2014: Cornwall, East Lothian, Essex, Perthshire, Somerset (3), Staffordshire, Sussex.

October 2014: South Ayrshire (2), Scottish Borders (2), Warwickshire, Worcestershire (2), Cumbria, Kent, West Midlands, Ayrshire, Perthshire (2)

November 2014: Cambridgeshire, Buckinghamshire, Kent, Leicestershire, East Riding of Yorkshire, Staffordshire, Gloucestershire.



Main: Our Care About Laminitis project needs horse owners across the UK to help us to help horses and ponies of all kinds, from elite competition horses to much-loved family ponies, to beat this horrible disease. Join the study at

#### www.careaboutlaminitis.org.uk

Left: Outbreaks of equine influenza across the UK in 2014 are detailed on this map. Monitoring and controlling outbreaks is important in fighting infectious disease in horses - we carry out this process for many equine diseases, including equine influenza.



# Fighting... Injury in horses

#### Fighting inherited disease through stem cell research

Tendon injuries are a common injury of horses and are a frequent problem in sports horses. In our laboratories, our stem cell researchers have created artificial tendons by growing stem cells in a 3D culture model. We are now refining the model to apply external strain to mimic the effects of exercise. We hope this will help in developing a successful stem cell therapy for tendon injuries in racing and sport horses.

We have also shown a genetic link to fracture risk in horses and are now using stem cell models to understand the genetics that control this risk in Thoroughbred horses. We are currently studying the genes of two fracture cases and two control horses to identify the specific mutations which contribute to fracture risk, and understand how they may lead to fracture. Our aim is to be able to advise owners and trainers of horses on the relative risk of fracture.

#### Fighting injury in horses through back research

Using data collected repeatedly over time, we looked at how horses' back dimensions change over time. We looked at the effects of horse, saddle and rider on these dimensions, and tried to determine their association with season, weight, work and saddle management. We found considerable variations in back dimensions over the course of a year. Factors such as gait abnormalities at initial examination have a negative effect whereas subsequent improved saddle fit and similar, or increased, work intensity has positive effects. This study highlights the importance of having saddle fit reassessed professionally several times a year.

#### Fighting injury in horses through arena surface research

We have been part of a four-year collaboration, between eight equine experts from six universities, three equine and racing-specific research and testing centres and two horse charities in Sweden, the UK and United States. The study, published by the Fédération Equestre Internationale, has brought together the latest data and published scientific papers on arena and turf surfaces, and the effects these have on horses in training and in competition.

AHT researchers have also furthered knowledge into how different types of maintenance can affect arena surfaces. Our aim was to provide advice on how best to manage surface maintenance to lower the risk of injury. We collected information on surface firmness, cushioning, responsiveness and grip and found out how mechanical properties of different surfaces change when maintained with a variety of maintenance equipment.

Thanks to this research, and extensive support and partnership between welfare charities and horse sport, we can fully understand how the right surfaces, with the necessary preparation and ongoing maintenance, can enable sport horses to perform to the best of their ability.

Find out more about our research to help horses at www.aht.org.uk/horses

### **Supporting the fight...** Fundraising in 2014

The AHT is a charity and would not be able to fight disease and injury in animals without the continued support of people like you. We remain extremely grateful for your generosity.

In 2014, our combined fundraising efforts raised more than £3.87 million. Some highlights from the year include:

#### **Newmarket Gala Race Day**

In May, we hosted our annual fundraising race day at Newmarket's July Course. More than 250 guests attended, enjoying a champagne reception and sumptuous lunch in our hospitality marquee. Guests were treated to racing tips from Bob Champion MBE, and gave generously to our auction and raffle, helping us to raise more than £45,000 for the AHT.

#### **UK Equestrian Awards**

More than 400 guests from all walks of the equestrian world attended our UK Equestrian Awards in November. This event is a significant date in our fundraising calendar. In 2014, Lady Harris chaired the organising committee and helped us reach a record-breaking fundraising total of £165,000.

#### **Fellowship and corporate support**

The AHT's Fellowship Scheme enables individuals or companies to support and work with the AHT. We invite our Fellows to a special calendar of social and sporting events throughout the year, many of which are attended by our President, HRH The Princess Royal. Involvement in this scheme also provides Fellows with many opportunities to make new friends and business acquaintances in an informal environment.

In 2014, our Fellowship Scheme had 20 members, all committing to give £5,000 a year for three-years to our vital work. The Fellowship programme is an excellent way for committed individuals and corporate supporters to enjoy the benefits of a strong association with the pioneering work of the AHT. The common bond through a long term investment in animals and their wellbeing has proven to be an ideal form of introduction to rewarding new acquaintances.

#### **Lasting legacies**

Leaving a gift to the AHT in your Will is a lasting way to help the companion animals who so enrich our lives. Thanks to the foresight of those who remember the AHT in this way, we have trained veterinary specialists of the future, pioneered new treatments, gained new understanding of methods to prevent disease, and enabled thousands of animals to live healthy, happy lives. Gifts in Wills allow us to plan for the future, guaranteeing that the animals we care about have the best chance of fighting disease and injury. In 2014, we gratefully received more than £1.8 million from gifts in Wills – providing half of the AHT's annual fundraising income.

We hope many of you will consider leaving your own legacy to support our fight to find better ways to treat cancer, prevent the spread of infectious diseases and eradicate hereditary diseases. Without charitable support, none of this would be possible.

For further information and to keep up to date with the progress of our fight, please visit **www.aht.org.uk.** Thank you.













Main: New sponsors and more quests contributed to our most successful Gala Race Day to date.

**Top:** Eventer Alex Liddle (on behalf of the late John Huntridge), Vet Dr Pat Harris, Racehorse trainer Richard Phillips and commentator, Mike Tucker all received awards at the AHT's 2014 UK Equestrian Awards. **Centre:** Will you consider leaving your own legacy by remembering the AHT in your Will?

**Bottom - left:** Our President, HRH The Princess Royal, presents to guests at a Fellowship Reception at Buckingham Palace. **Middle:** Racehorse trainer Criquette Head-Maarek, Vet Robrecht Cnockaert and The British Pony Dressage Team also collected awards at the AHT's 2014 UK Equestrian Awards. **Right:** Lady Harris, Chair of the AHT Equestrian Awards organising committee.

### **Money matters**The AHT's financial year

#### **Income**

As an independent charity we receive no government funding. We rely on generous donations and grants to maintain our position at the forefront of veterinary progress. Our work benefits generations of dogs, cats and horses around the world.

In 2014 our total income was £14.17 million. The funds we raised, from charitable sources, amounted to £3.87 million.

The balance of income came from funding for our research work (£1.73 million), fees charged for veterinary services (£8.41 million), fees charged for education services (£0.04 million) and investment income (£0.12 million).

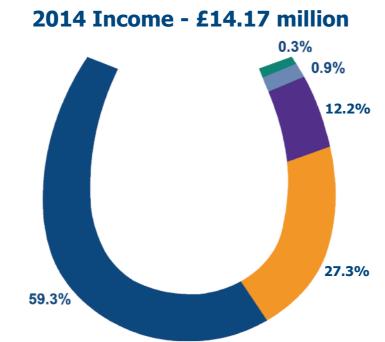
Every penny we receive is invested back into our charitable work, enabling us to be a leading authority in the understanding of diseases in animals through scientific endeavour and its application to their welfare.

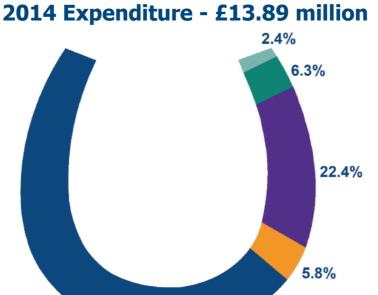
#### **Expenditure**

In 2014, we spent a total of £13.89 million achieving our objectives. £3.11 million was spent on our research. We spent £0.88 million on education and £8.77 million delivering and developing our veterinary services.

A further £0.33 million was spent on governance and other costs.

During 2014, we spent £0.80 million on fundraising. For every one pound directly invested in fundraising and generating legacies, we raised £5.









63.1%



### **2014 Acknowledgements**

Without support the AHT could not continue its vital work. We are grateful to each and every person who donates time, money or skills to the Trust. We would like to offer special thanks to the following:

#### **Foundations** Adrian Swire Charitable Trust The Alborada Trust Alice Noakes Memorial Charitable Trust The Anna Rosa Forster Charitable Trust Anne Duchess of Westminster's Charity Audrey Earle Charitable Trust Ava Gardner Trust Bernard Sunley Charitable Foundation The Polo Charity Trust Beryl Evetts & Robert Luff Animal Welfare Trust Limited Bezvon Charitable Trust Biotechnology and Biological Sciences Research Council Brigadier D V & Mrs H R Phelps Charitable Settlement **BSAVA Petsavers BVA Animal Welfare Derek Butler Trust** Diana Symon Charitable Trust Didham Charitable Trust Dogs Trust **Dorothy Howard Charitable Trust** C H Harrison Deceased Charitable

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The Wellcome Trust Wixamtree Trust World Horse Welfare

Keeshond Club

The Kennel Club

Moulton College

#### Societies, Clubs and Associations Ms Sue Clifton-Harris

Adopt a Boxer Scotland American Kennel Club Bearded Collie Club Bishops Stortford Dog Training Club Ms Yvonne Cox & Mr Darren Young British Dressage **British Eventing** British Horse Society British Showjumping British Veterinary Nursing Association Mr & Mrs B Dutson Broadland Dog Training Club **Burghley Horse Trials** Bythams with Creeton & Careby Ride Mr Steve Elsom Italian Spinone Club of GB Flatcoated Retriever Society

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**NGRA Meredith Trust** Royal Norfolk Agricultural Association Southern Afghan Club Trust Southern Finnish Lapphund Society Swedish Vallhund Society Welsh Pony & Cob Society West Torrington Canine Society Woodbridge & District Dog Training Club

#### **Individuals**

Miss P Ebsary

Miss J Errington

Mrs Lesley Field

**AHT Friends** 

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Mr Jon Terry & Mrs Anita Hope Mr Giles Thompson Mr Mike Tucker Mrs Tuxworth The Lord & Lady Vestey SRN

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We are innovative. We are passionate. We are pioneers. We are the Animal Health Trust.

# **President's foreword HRH The Princess Royal**

The Animal Health Trust is committed to improving the health and welfare of dogs and cats. There are more than nine million pet dogs and almost eight million pet cats in the UK, all who can benefit, directly or indirectly, from the charity's work.

In 2014 the charity's Small Animal Centre continued to be a leading light in veterinary referrals, through its combination of expert clinicians, nurses and support staff, pioneering treatments and state-of-the-art facilities. The Kennel Club Cancer Centre at the Animal Health Trust administered more than 770 radiation doses to 76 individual dogs, from more than 20 breeds with 15 different types of cancer. Thanks to charitable support, we were also able to undertake a full refurbishment of our operating theatres, enabling us to remain cutting edge and most importantly, treat more animals in need of our care.

In our research laboratories, our genetics researchers made significant progress using the very latest sequencing technologies and we hope to identify genetic mutations more quickly and in turn develop DNA tests to help eradicate conditions. Please read more about these exciting developments on page 13 of this Review.

We have begun a ground breaking six-year research study aimed at learning more about glaucoma in dogs. Glaucoma affects more than 1,500 dogs in the UK each year, with the majority having to have both eyes removed. Our research aims to better understand this condition, which breeds are affected, and the genetics involved. We hope to be able to develop a simple DNA test which could quickly identify which dogs possess the genetic abnormality responsible for this condition.

As with many of our research projects which benefit small animals, we are reliant on samples and information supplied by owners. Many of the DNA tests developed at the Animal Health Trust in recent years would not be available today if it was not for the financial and practical support of people like you who realise the biggest threats to small animals in the UK are disease and injury.

As the charity's President, I want to thank you for your support to date and ask that you continue to support our important work. By teaming your ongoing financial and practical support with the skills and expertise within the Animal Health Trust, together we can continue to help countless more animals for years to come.

Lane





Main: Dr Mark Vaudin, Chief Executive Officer of the AHT, with Pea, a Jack Russell-Collie cross, at the 2014 Greyhound Extravaganza, held at Lanwades Park - home of the Animal Health Trust.

**Right:** Now the AHT is even more special than before! Davide Berlato (I), James Oliver (c) and Francesco Cian (r) were all recognised as RCVS Specialists this year.



### A word from the Chief Executive Dr Mark Vaudin on 2014

2014 was my first full year as Chief Executive of the Animal Health Trust (AHT). We achieved many things and I hope you enjoy reading about some of them in this Review. As a charity, the AHT is dependent on support from people like you who realise the benefits dogs and cats bring to our lives.

During 2014, your support enabled one of our most successful fundraising years in recent times, meaning more funds to fight disease and injury in animals. On behalf of everyone at the AHT, I offer my heartfelt thanks for your support.

2014 was a busy year for our renowned Small Animal Centre with nearly 3,000 new patients treated. In addition to this, our education programmes went from strength to strength with members of our nursing team passing the Registered Veterinary diploma and one of our nurses achieving the Feline Nursing Diploma, scoring the highest marks in the UK.

More of our clinicians passed their European or Australian specialist qualifications, and a number of the AHT team received Royal College of Veterinary Surgeons Specialist recognition – the highest level of accreditation a vet can achieve in his or her field of expertise. The AHT has always been special, but now we're even more so!

A number of dog and cat owners only come into contact with the AHT through veterinary referral to our Small Animal Centre. Because of this you may not be aware of all the research the AHT is involved in, and how this will be helping your animals.

The work we are undertaking behind the scenes not only enables us to offer the very latest diagnostic and treatment options in our clinics and diagnostic laboratories, but means we are continuing to seek new preventative measures.

The AHT is your charity. We are here to benefit your pets and with your support, together we can progress research into better diagnostic tests, treatments, vaccines and other preventative options.

With your continued support we look forward to continuing to improve the health and welfare of companion animals for years to come.



### Fighting deafness in cats

Did you know that the AHT was one of the first places in the country to offer Brainstem Auditory Evoked Response (BAER) hearing tests in cats and dogs for congenital deafness?

However, the genetics causing this condition still remain unclear. In 2014, we launched a new study to enable us to better understand the prevalence of congenital deafness in white kittens and their littermates in the UK.

Kittens between nine and 13 weeks old from five breeds: Mainecoon, British Shorthair, Norwegian Forest, Russian and Turkish Vankedisi are assessed via a BAER hearing test – a completely safe and non-invasive test which monitors the kitten's brain response to a series of clicks to establish whether the kitten hears normally, or is deaf in one or both ears.

It is hoped this study will assist and contribute to further learning about the genetic heritability and genetic defects behind deafness in white cats which could ultimately lead to breeders being able to breed out the genes causing this condition altogether.

Find out more at www.aht.org.uk/deafnessinwhitecats



### Fighting... Disease and injury in dogs and cats

#### Fighting cancer in dogs

Cancer is the most common disease causing death in dogs. One in four dogs will be affected by cancer at some point in their life. The AHT's cancer research group carries out research intended to enable clinicians to better diagnose, treat and cure many more dogs in the future.

One study has focussed on uveal melanomas, the most common primary eye cancer, affecting all dogs. Whilst most uveal melanomas in dogs do not spread outside the eye, at present the only way to predict whether this tumour will spread is to remove the affected eye, or a significant part of the eye, for examination by a pathologist. A consequence of this is that eyes could be unnecessarily removed from dogs found to have 'benign' tumours.

We have been encouraged by preliminary results from this study and hope that our research could lead to the development of a minimally-invasive test to predict if a tumour of this kind will spread. As well as preventing the unnecessary removal of eyes unaffected by uveal melanoma, the availability of such a test would mean a patient would not have to undergo anaesthesia and surgery in order to provide a tumour biopsy.

The pilot study using uveal melanoma biopsies has been made possible through use of specialised equipment, funded by the Kennel Club Charitable Trust. We are planning further studies, using this technology, to learn more about oral melanomas and mast cell tumours, two of the most common cancers in dogs. The aim of our research is to understand more about cancer so that, in the future, it could lead to the development of improved prognostic tests, helping clinicians to decide on the most appropriate treatment for a dog affected by one of these cancers.

#### Fighting hyperthyroidism and other diseases in cats

Hyperthyroidism is a common problem in cats. The AHT is one of just a few places in the UK to offer treatment for this condition. Because treatment involves a three-week isolation period, we undertake a pre-assessment of cats to ensure treatment at that time is the most approriate course of action for each patient.

We undertook a retrospective study to ensure our pre-assessment of cats with hyperthyroidism, and our advice to vets and owners of cats with the disease, is relevant and necessary.

Cats referred to the AHT with this diagnosis are thoroughly assessed and evaluated prior to radioiodine therapy to ensure they are suitable candidates. The aim of the assessment is to make sure the cat is otherwise healthy so that the risk of developing health issues, such as heart failure, during the three weeks of isolation is very low.

Our research demonstrated that nearly 20% of cats from the study referred for hyperthyroid treatment were found to have other concurrent but previously undiagnosed conditions, such as lymphoma or chronic intestinal disease. Clearly it would not be in the best interest of these animals to be isolated for three-weeks during treatment for hyperthyroidism.

With one in five cats from the study suffering from other conditions as well as hyperthyroidism, the AHT now advocates to the wider veterinary profession the need for thorough pre-assessment which identifies cats suitable for the treatment and those that aren't. The benefits of doing this include minimising the risk for cats who are unsuitable for treatment and also reducing unnecessary costs for the owners.





Main: All dogs could benefit from our cancer research. By using specialised equipment, funded by the Kennel Club Charitable Trust, we hope to be able to develop prognostic tests for uveal melanoma, oral melanoma and mast cell tumours.

Left: Each year we treat around 300 cats in our Small Animal Centre. Our commitment to research means we learn more about the conditions affecting our patients, and in turn, can offer the very best diagnosis and treatment for each individual.



## Fighting... Disease and injury in dogs and cats

#### Fighting inherited disease in dogs

Inherited disease in purebred dogs has been high on the news agenda for several years. Through the Kennel Club Genetics Centre at the AHT, we are spearheading research into conditions that affect the health and welfare of a number of breeds.

Our research utilises DNA collected by a simple mouth swab from pet dogs, always with their owner's consent. During 2014 we received DNA samples from approximately 2,320 dogs, of 115 different breeds. 37% of these were affected with an inherited disorder.

We combine the simplicity of DNA collected from mouth swabs with cutting-edge DNA sequencing techniques, including whole genome sequencing and whole exome sequencing, to speed up our search for genetic mutations. From this information, we create DNA tests, where we can, which dog owners and breeders can use to idenftify the genetic status of their dogs.

In 2014, analysing DNA samples submitted on mouth swabs using the latest sequencing techniques, enabled us to identify two disease mutations and develop new DNA tests for:

#### Macular corneal dystrophy in Labrador Retrievers

Macular corneal dystrophy (MCD) is a hereditary disease that can affect middle-aged Labrador Retrievers. Affected dogs develop cloudy eyes, due to an abnormal accumulation of carbohydrates in their corneas. This disease is progressive, and although not painful, can cause marked visual impairment in affected dogs. A case was first identified at the AHT in 2013 and discussions of this unique presentation lead to the identification of a small number of additional cases. We undertook a research project to find the causal mutation which was successful and resulted is us making a DNA test available. This newly emerging disease, which is caused by a recessive mutation, can now be stopped in its tracks before the mutation has a chance to become more widespread and before any more dogs suffer impaired vision as a result.

#### Primary open angle glaucoma in the Petit Basset Griffon Vendéen

Primary open angle glaucoma (POAG) is a painful and blinding disease associated with high pressure in the eye due to a build-up of fluid. In 2014, after several years of work using DNA samples provided by many supportive owners and breeders, we identified the mutation that causes POAG in the Petit Basset Griffon Vendéen. A DNA test was launched at Crufts in March 2015.

Both tests are available to purchase, along with a number of other tests, from the AHT DNA Testing online shop at **www.ahtdnatesting.co.uk** 

#### Glaucoma in dogs

Primary glaucoma, linked to the inherited eye abnormality goniodysgenesis, is a problem which affects an estimated 1,500 dogs from 40 breeds each year; with the majority having to have both eyes removed. In 2014 we started a new project, with generous funding from Dogs Trust, to better understand this condition, which breeds are affected, and the genetics involved.

By collecting DNA samples from dogs diagnosed with glaucoma, dogs diagnosed with goniodysgenesis and dogs over the age of five clear of goniodysgenesis, our geneticists hope to identify the mutation(s) responsible for goniodysgenesis and develop a DNA test to identify which dogs might be at risk of developing glaucoma and of passing those genes on to their offspring. A DNA test would make it possible to reduce the prevalence of this disease in dogs.

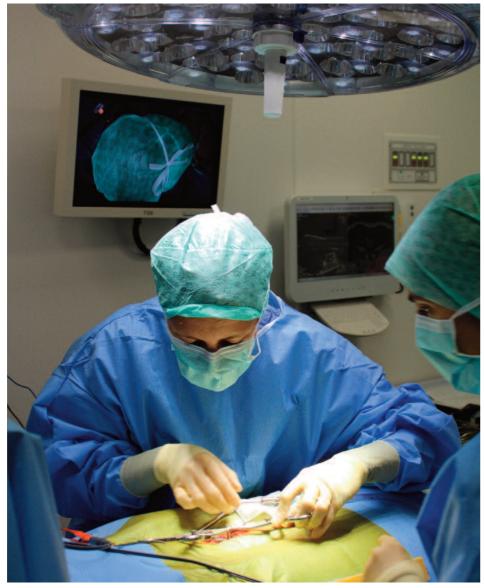












**Main:** Thanks to generous donations from the Jayem and Margaret Giffen Charitable Trusts our small animal operating theatres have been refurbished.

**Top - left:** Wendy and Ruth of Lowestoft Dog Agility Group undertook a Christmas Day Dip for our cancer research. **Middle:** TV presenter, Paul O'Grady, chose to raise awareness of the AHT through the Pawtraits Exhibition, a collection of photographs of well-known faces and members of the public with their animals. Dr Mark Vaudin is pictured with the 'Pawtrait'. **Right:** Helen and Julia, our Ruff Runners, who completed the London Marathon for the AHT.

**Centre:** Our operating theatres now house a C-Arm which, among other treatments, allows procedures without the need for open surgery. **Bottom:** Steve and Caroline Shore, part of the AHT team who completed the Prudential Ride London-Surrey 100.

# **Supporting the fight...** Fundraising in 2014

The AHT is a charity and would not be able to fight disease and injury in animals without the continued support of people like you. We remain extremely grateful for your generosity.

In 2014, our combined fundraising efforts raised more than £3.87 million. Some highlights for the year include:

#### **Special appeals**

Our major appeal of the year raised substantial funds to modernise and refurbish the three operating theatres in the Small Animal Clinic. The theatres were originally opened in 1996 and have seen more than 12,000 surgeries performed across all surgical specialties. Thanks to the support of charitable trusts and members of the public, we exceeded the £250,000 target and completed the project as planned in the early autumn. Theatre services at the AHT have a reputation for being among the very best in the country; thanks to the generosity of donors that will continue to be the case for many years to come.

#### **Personal challenges**

In 2014, several of our amazing supporters undertook amazing challenges to raise funds for the AHT. These include:

- Wendy Brown and Ruth Orriss who braved the icy North Sea waters at Lowestoft beach on Christmas Day. Wendy's dog Star was treated at the AHT for leukaemia and the Christmas Day Dip raised £600 for the AHT's cancer research
- 'Ruff Runners', Julia Baldwin and Helen Cain, who raised more than £7,000 after completing the 2014 Virgin London Marathon
- Eight intrepid Team AHT cyclists took part in the Prudential Ride London Surrey 100. In the second year we have entered a team into this gruelling 100km challenge, together the eight riders raised a staggering £8,000.

#### **Supporter schemes**

The AHT depends on regular donations. Knowing that your gift is coming to us on a monthly or annual basis allows us to make significant progress in our fight against disease and injury, and plan for the future. We have three supporter schemes offering different levels of involvement: AHT Friends, Guardians and Fellows. In 2014, we were delighted to see growth in the number of donors who support our work through committed giving and thus provide vital funding for core clinical, research and education projects. Regular donors are the lifeblood of the AHT and make such a considerable difference to the lives of horses, dogs and cats.

#### **AHT online shop**

We launched a new online gift shop enabling people across the world to purchase gifts for all the family, both two-legged and four-legged. All funds raised through the online shop go straight back iinto our work fighting disease and injury in animals. Visit the shop at **www.ahtshop.co.uk** 

We hope you will continue to support our fight to find better ways to treat illnesses including cancer, prevent the spread of infectious diseases and eradicate hereditary diseases. Without you, none of this would be possible.

For further information and to keep up to date with the progress of our fight, please visit **www.aht.org.uk.** Thank you.

### **Money matters**The AHT's financial year

#### **Income**

As an independent charity we receive no government funding. We rely on generous donations and grants to maintain our position at the forefront of veterinary progress. Our work benefits generations of dogs, cats and horses around the world.

In 2014 our total income was £14.17 million. The funds we raised, from charitable sources, amounted to £3.87 million.

The balance of income came from funding for our research work (£1.73 million), fees charged for veterinary services (£8.41 million), fees charged for education services (£0.04 million) and investment income (£0.12 million).

Every penny we receive is invested back into our charitable work, enabling us to be a leading authority in the understanding of diseases in animals through scientific endeavour and its application to their welfare.

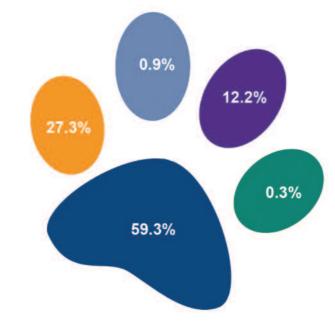
#### **Expenditure**

In 2014, we spent a total of £13.89 million achieving our objectives. £3.11 million was spent on our research. We spent £0.88 million on education and £8.77 million delivering and developing our veterinary services.

A further £0.33 million was spent on governance and other costs.

During 2014, we spent £0.80 million on fundraising. For every one pound directly invested in fundraising and generating legacies, we raised £5.





### 2014 Expenditure - £13.89 million

