

## **Driving evidence-based improvements for the UK's "Stressed. Lonely. Overweight. Bored. Aggressive. Misunderstood...but loved" companion animals**

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### **Abstract**

#### **Background**

The Five Welfare Needs in UK animal welfare legislation underpin a legal duty of care and are an animal welfare assessment framework. Health and welfare problems arise when these needs are unmet. The veterinary professions work with others to address these problems, but there is no publicly-funded UK companion animal welfare surveillance to identify priorities, or promote and monitor change.

#### **Methods**

The veterinary charity, the People's Dispensary for Sick Animals (PDSA), together with the market research organisation, YouGov, has undertaken a longitudinal nationwide survey, assessing whether the UK's pet dogs, cats and rabbits are having their Five Welfare Needs met. Data from nationally representative samples of pet-owning adults, drawn from YouGov's online survey panel, have been used to produce the PDSA Animal Wellbeing (PAW) Report annually since 2011.

#### **Results**

Examples are given of how the PAW Report has been used to monitor trends in animal welfare problems, drive collaborative behaviour change campaigns, create evidence-based funding applications and inspire innovation in veterinary practice.

#### **Conclusion**

The PAW Report has contributed to closing a gap in national companion animal welfare surveillance. When governments rely on non-governmental organisations to assist with animal welfare surveillance, reliable sources such as the PAW Report can inform research, policy and legislation.

### **Introduction**

Veterinary leadership in animal welfare, expected by society, requires that veterinary professionals and organisations advocate the best interests of animals in clinical settings, and through policies, campaigns, education and other outreach activities<sup>1</sup>. In clinical contexts, advocating patients' best interests is the mainstay of animal welfare-focused practice<sup>2,3</sup>. In policy, campaigns and outreach, it fulfils the duty of veterinary professionals to

champion animal welfare across society, beyond the bounds of animals under their direct care<sup>2,4</sup>.

The People's Dispensary for Sick Animals (PDSA), is a national UK veterinary charity that has provided free and low cost veterinary care to the sick and injured animals of people in need since 1917, funded by public support. It operates through a nationwide network of 48 Pet Hospitals with a 1000-strong veterinary team, providing treatment to 470,000 pets each year and supporting 300,000 eligible pet owners in receipt of means-tested state benefits. In seeking to increase its external animal welfare advocacy, and provide an evidence base to inform advocacy by the broader companion animal sector, PDSA set out to understand how well the UK's pet dogs, cats and rabbits were having their Five Welfare Needs met. This was against a backdrop of legislative change - the Animal Welfare Act 2006<sup>5</sup> (applicable in England and Wales), Animal Health and Welfare (Scotland) Act 2006<sup>6</sup> and Welfare of Animals Act (Northern Ireland) 2011<sup>7</sup> each introduced a legal duty of care on pet keepers and owners, framed around an animal's needs – the Five Welfare Needs. Under the Acts, a person responsible for an animal's welfare must ensure that the following five needs are met

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- (a) a suitable environment,
- (b) a suitable diet,
- (c) to be able to exhibit normal behaviour patterns,
- (d) to be housed with, or apart from, other animals, and
- (e) to be protected from pain, suffering, injury and disease.

Following the passing of the Acts, and in line with PDSA's Vision of "A lifetime of wellbeing for every pet", the charity undertook to convey the Five Welfare Needs to the pet-owning public as a five-step "plan" to ensuring a pet's good health and wellbeing.

Despite successfully generating media coverage on companion animal welfare problems such as obesity, health harms linked to selective breeding, and malnutrition in rabbits, PDSA recognised that there were limited ways of determining these campaigns' impacts on human behaviour change, noting that there is no independent, publicly-funded national surveillance of companion animal welfare in the UK. Systems for large-scale collection of anonymised primary-care veterinary data, such as the Veterinary Companion Animal Surveillance System (VetCompass) and Small Animal Veterinary Surveillance Network (SAVSNET) provide valuable surveillance on veterinary diseases and disorders, but wider animal welfare surveillance incorporates a broader range of indicators of physical health and mental wellbeing. Animal welfare surveillance enables identification of welfare problems and their magnitude, tracks changes in these problems over time, assists with prioritising actions and promotes work to address priority problems<sup>8</sup>.

Responding to this need, PDSA published its first PDSA Animal Wellbeing (PAW) Report in 2011<sup>9</sup>. Produced in conjunction with the market research organisation, YouGov, to gain nationally representative datasets, it has become the UK's largest annual assessment of companion animal health and wellbeing, exploring whether the country's pet dogs, cats and rabbits are having their Five Welfare Needs met and assessing trends in the prevalence of companion animal welfare problems. It also includes information about pet owners' preparation for, and experience of, pet ownership, estimates the UK population of owned pet dogs, cats and rabbits, and surveys veterinary professionals to gain their insights into companion animal health and welfare.

This paper gives examples of how data from the first eight annual PAW Reports have driven animal welfare advocacy through policy and practice, both within PDSA and across the broader veterinary and companion animal welfare sector.

## **Method**

### **Design**

Data for the PAW Reports are collected by a questionnaire, carried out anonymously online. The surveys are undertaken by YouGov using nationally representative samples of UK pet-owning adults (aged 18 years and older) drawn from their online survey panel. The survey panel comprises over a million people living in the UK, who are recruited from various sources, including advertising and through partnerships with other websites. Once recruited, panellists have no obligation to participate in YouGov surveys but are restricted in how often they can participate. Panellists receive a modest participation incentive, as is common for online panels.

### **Sample**

A sample of current pet owners is randomly drawn from the online survey panel; only respondents that own at least one pet dog, cat or rabbit are allowed to participate in the survey. Individuals are invited by YouGov to participate by email, with an accompanying link to do so.

Separate sampling from the online panel, as well as data from the Office for National Statistics, is used by YouGov to determine the incidence of UK pet ownership by species, as well as other demographic information. This information is used as the basis for weighting the pet ownership sample in order that it is representative of the entire UK population of pet owners by species (cat, dog or rabbit owners) and the owner's gender, age and geographical region. Percentages reported throughout the PAW Report are rounded to the nearest whole number. All differences included in the report are statistically significant unless otherwise indicated, to a confidence interval level of 95%.

To separately survey veterinary professionals (veterinary surgeons, veterinary nurses, veterinary and veterinary nursing students) an open link is shared by PDSA through targeted channels, including social media and veterinary publications.

The UK pet population estimates were calculated using a combination of three data sources:

- 1) A nationally representative survey of 4,000 UK adults conducted online using the YouGov Omnibus (a daily survey representative of UK adults), from which the incidence of pet dog, cat and rabbit ownership among the overall UK population is extrapolated;
- 2) Data collected for the PAW Report through the YouGov questionnaire conducted online using the YouGov panel, providing figures on the number of pets per owner within the pet-owning population (for example, the number of cat owners owning one cat, two cats etc.);
- 3) Official government statistics on the number of households in the UK<sup>10</sup>.

To produce the pet population estimate, the proportion of the population who own a pet is multiplied by the projected number of households in the UK. Then, using the YouGov PAW Report survey data, the estimated numbers of people who own a pet dog, cat or rabbit are multiplied by the number of pets they own, to create overall pet population estimates for each of the three pet species.

The relatively small number of people with more than 10 pets are excluded from the calculation.

## Measures

The UK Government and devolved Governments in Wales, Scotland and Northern Ireland have published species-specific Codes of Practice to accompany the animal welfare Acts<sup>11,12,13,14</sup>, which give guidance on how the Five Welfare Needs can be met for pet dogs, cats and rabbits. These were used to create good practice care scenarios, against which provisions made by owners for their pets can be assessed. Codes of Practice for the Welfare of Cats, for example, advise owners to provide at least one litter tray per cat in a household, to reduce the risk of stress and associated disease; the PAW questionnaire – structured around each of the Five Needs for dogs, cats and rabbits - asks cat owners how many cats they own and how many litter trays they provide. Additional questions relate to an owner’s experience of pet ownership, such as how the reality of associated costs compares to pre-acquisition perceptions of likely cost, and whether and how pre-acquisition research was undertaken on a pet’s needs. Several questions have remained unchanged since 2011 allowing tracking of responses and trends.

## Results and Discussion

36,494 UK dog, cat and rabbit owners over the age of 18 years were surveyed across the eight annual PAW Reports since 2011 (Table 1). After the first year, a decision was made to reduce the sample size so that it remained large enough to be nationally representative, while as cost-effective as possible for PDSA.

**Table 1**

### PAW Report sample size by year

Year	Sample size (UK dog, cat and rabbit owners aged 18+)
2011	11124
2012	3956
2013	2149
2014	1069
2015	5152
2016	4252
2017	4153
2018	4639

UK populations of owned dogs, cats and rabbits have been estimated annually across the same period (Table 2).

**Table 2**

**Estimated UK populations of owned pet dogs, cats and rabbits in 2011 and 2018**

Species	Estimated UK pet population (millions)	
	2011	2018
Dog	8.3	8.9
Cat	11.9	11.1
Rabbit	1.7	1.0

PAW survey data has been used to influence and support PDSA’s policy and practice in four key areas: behaviour change campaigns, trend monitoring, collaborative sectoral working and internal clinical strategy. Examples of each are given in the following sections (i) to (iv):

**(i) Behaviour change campaigns**

As a national veterinary charity, PDSA raises awareness of preventable companion animal health and welfare problems through print, broadcast and social media, using PAW survey data to provide issue-specific evidence and impact assessment. An underpinning theme is that “love isn’t enough”, conveying the risks of anthropomorphism and humanisation to pet health and welfare<sup>15,16</sup>. This is based on the ethical principle that in return for the meaningful companionship and enjoyment provided by millions of pets to people, companion animals should, in return, be provided with what they need for a good quality of life. The Five Welfare Needs provide a useful framework for considering necessary welfare provisions (in addition to being a legal requirement), for both physical health and mental wellbeing<sup>17</sup>, yet PAW survey data shows that many pet dogs, cats and rabbits are not having their Five Welfare Needs adequately met. Accordingly, the inaugural 2011 PAW Report was released with a headline public message that the UK’s pets are “*Stressed. Lonely. Overweight. Bored. Aggressive. Misunderstood...but loved*”<sup>9</sup>.

Obesity is a familiar example where love for a pet may be expressed in a way that does not meet their needs, particularly their “need for a suitable diet”. Obesity is the most important medical disease in companion animals worldwide<sup>18</sup>. In the UK 59 per cent of dogs in 2010 were classified as overweight or obese<sup>19</sup> and the current prevalence may be higher<sup>20</sup>. The 2018 PAW Report found that the most common reason for feeding treats to pet cats, dogs and rabbits (excluding treats for training) – fed to 91 per cent of dogs, 81 per cent of cats and 83 per cent of rabbits<sup>21</sup> - was that “it makes them [the pet] feel happy” (dogs and cats) and “it provides variety for them” (rabbits). Regularly feeding treats and snacks, despite being well-intentioned, is a risk factor for overweight and obesity. The three most popular reasons influencing owners to give their pet a treat<sup>21</sup>, are given in Figure 1 (response items were not mutually exclusive). Obesity predisposes to other medical conditions<sup>22</sup>, and

overweight dogs have a reduced quality of life<sup>23</sup> and lifespan<sup>24</sup>. Excessive or unhealthy treat-feeding can be characterised as “killing with kindness”.

To help address pet obesity, PDSA has run a national “Pet Fit Club” campaign annually since 2005, where some of the UK’s most overweight pets are recruited to a six month diet and exercise programme, overseen by PDSA veterinary surgeons and veterinary nurses. Individual animals safely lose weight, while their stories, progress and images generate regional and national media attention, which is used as a platform to convey the health harms of obesity and explain risk factors to the pet-owning public. In the launch of the 2018 campaign, PAW data highlighted that 5.7 million UK pets are fed treats every day, including crisps, cake, cheese, chips, chocolate and takeaways.

The annual launch of the PAW Report also provides an opportunity for PDSA to highlight priority animal welfare problems. Inadequate pre-acquisition preparation by prospective pet owners is considered an important root-cause problem of many other common health and welfare problems. The 2018 media launch and associated campaign led with the finding that 24 per cent (5.2 million) of UK pet owners undertook no research at all before taking on their pet<sup>25</sup>, unchanged from 2016.

## **(ii) Monitoring trends**

Annually, it costs around £60 million to provide PDSA’s charitable services. As well as understanding whether the charity is moving towards its Vision, and providing high quality data for use by Governments and others, the PAW Report also provides financially relevant insights into whether funds allocated specifically towards education and behaviour change are associated with a nationwide reduction in common, preventable health and welfare problems.

PAW data is obtained via owner report rather than direct animal observation, which has been employed by others. Mullan and Main<sup>26</sup>, for example, surveyed the husbandry, health and welfare of 102 pet rabbits and made follow-up visits to their homes in the South West of England. Such an approach has the advantage of good observer reliability but with a limit on sample sizes and geographical distribution. Owner report increases the risk of bias (for example, giving what is felt to be a “right” or most socially desirable response) but YouGov panellists complete many surveys on many topics, all anonymously, so such pressures may be lessened or absent. The relatively large sample sizes should also reduce the effects of such potential biases, as should surveying online as no interviewer is present, giving respondents the opportunity to answer openly and truthfully. Limitations of online surveying include potential underrepresentation of certain demographic groups; for example, 47% of adults aged 75 years and over were classed as recent internet users in the Office for National Statistics 2019 Internet Users survey<sup>27</sup>, compared to 99% of adults aged 16 to 44 years. Overall, however, there is a high level of internet access in Great Britain, with 96% of households in January to February 2020 having internet access<sup>28</sup>. YouGov’s panel represents all ages, socio-economic groups and other demographic types which allows them to create nationally representative online samples and access harder to reach groups.

Multi-cat households and their potential association with chronic stress in cats, and inappropriate diet for rabbits, are two examples of animal welfare problems that have been monitored since 2011 using unchanged tracking questions.

#### (a) Multi-cat households/chronic stress

Of the estimated 11.1 million owned UK pet cats in 2018, 43 per cent were living in a multi-cat household (2 or more cats in a single household). This proportion has remained largely unchanged since 2011 (44 per cent in multi-cat households). In 2018, a fifth (19 per cent) of cats in multi-cat households were living with another cat that they “don’t always get along with” or “aren’t keen on”.

Since 2011, the number of cats living permanently indoors (and therefore potentially less able to avoid social contact with other cats) has risen from 15 per cent in 2011 to 26 per cent in 2017.

Adult cats show variable degrees of sociability and many cats are happier living without other cats<sup>29</sup>. Some may form social bonds with other cats, particularly littermates that they have grown up with<sup>29,30</sup>, while others prefer to be alone.

Living with another cat with which there is conflict is a risk factor associated with feline idiopathic cystitis<sup>31</sup>. Multi-cat households in which owners report agonistic behaviour between household cats have higher odds of there being negative cat-owner interactions (e.g. cats growling or hissing at their owners) compared with non-agonistic multi-cat households<sup>32</sup>.

When living in enforced social groups, feline stress may be increased through cats having to compete for key resources (e.g. litter trays, food and water bowls, elevated resting places and scratching posts). To reduce this risk, veterinary professionals and feline behaviourists often recommend that the number of provided litter trays should be one more than the number of cats (eg<sup>33</sup>), spaced out around the home, even if the cats have outdoor access<sup>34</sup>. In 2013 and 2018 the percentage of households with two cats providing three or more litter trays was just two and four per cent respectively.

#### (b) Inappropriate diet for rabbits

There has been a positive trend since 2011 in the extent to which diets provided to pet rabbits align with veterinary feeding recommendations, with a sustained increase in provision of hay, rabbit pellets and fresh greens (e.g. vegetables and herbs), and rabbit “muesli” (a mix of seeds and flakes) provision declining by 29 percentage points (Fig 2).

Muesli-type mixes are associated with selective feeding which leads to a nutritionally unbalanced diet<sup>35</sup>, while insufficient provision of dietary hay and fresh greens is associated with poor dental and digestive health<sup>35</sup>, and poor psychological wellbeing<sup>36</sup>. Veterinary and animal welfare organisations advocate that a daily quantity of feeding hay is provided to each rabbit that is equal to or greater than their body size<sup>37</sup>. Of those rabbits being fed hay, the proportion being provided with this recommended quantity has doubled since 2011, from 12 to 25 per cent. Nevertheless, continuing work is required to maintain this trend in order that the remaining three quarters of pet rabbits are also fed an appropriate daily quantity of hay.

#### (c) Familiarity with the UK Animal Welfare Acts

Given the perceived value of the Five Welfare Needs as a practical tool to help pet owners assess and monitor their pets’ quality of life, the PAW Report has monitored awareness of,

and familiarity with, the UK Animal Welfare Acts since 2011. During this time there has been an overall increase in the proportion of owners answering that they have not heard of the legislation (a quarter of all dog, cat and rabbit owners in 2018, from 22 per cent in 2011; Fig 3). This undesirable trend has formed the basis of collaborative campaigns and novel hospital-level approaches by the charity. While these issue-specific campaigns and innovative clinical approaches have been associated with some positive changes, further collaborative work is required if pet owners are to understand the legal responsibility underpinning pet ownership (in a similar way to understanding the legal requirement to wear a car seat-belt, without necessarily knowing the details of the specific legislation) and are to utilise the Five Welfare Needs in guiding their practical approach to care-giving.

### **(iii) Collaborative working**

Several PAW Reports (eg<sup>21</sup>) have stated that the charity “can’t [improve pet wellbeing] alone”. To help expand the Report’s reach and influence, 50 invited quotes supporting and discussing the annual findings have been published in the Reports between 2011 and 2018, from veterinary and veterinary nursing bodies (19 quotes), other animal welfare charities (9), recognised veterinary specialists (7), accredited animal behaviourists (6), veterinary advisory bodies and services (3), animal welfare scientists (3), the UK veterinary regulator (2) and a pet food manufacturer (1).

The companion animal welfare sector, comprised of these and other stakeholders, uses the PAW Report to understand current issues and trends. Robin Hargreaves, then President of the British Veterinary Association (BVA), said in the 2013 Report that the Report “[helps] the veterinary profession to see where our initiatives have made an impact.” The PAW Report has been cited in numerous peer-reviewed papers (eg<sup>38,39,40,41,42,43</sup>), contributing to the academic literature on companion animal health and welfare.

Beyond informing the sector, the PAW Report has provided a platform for collaborative working to address priority issues, such as the following:

#### **(a) Inappropriate diet for rabbits – Rabbit Awareness Week campaign**

In 2018, the annual “Rabbit Awareness Week” campaign<sup>44</sup> – a coalition of ten organisations and animal welfare charities, including PDSA, that focuses on rabbit welfare – used the 2017 PAW Report finding that 25 per cent of rabbit owners still feed muesli-type mixes<sup>25</sup>, to justify its “Move Away from Muesli” theme, aimed at owners, retailers and the veterinary profession.

#### **(b) Registering pets with veterinary practices – Pets Need Vets campaign**

Also in 2018, BVA, together with the Royal College of Veterinary Surgeons, launched a joint “Pets Need Vets” campaign<sup>45</sup>, highlighting the benefits of registering a pet with a vet. This campaign led with the 2017 PAW Report statistic that 85 per cent of UK dog, cat and rabbit owners had registered their pet with a vet<sup>25</sup>, conveying the value of registration to prompt the remaining 15 per cent to do the same.

#### **(c) Cat neutering – the Cat Population Control Group**



The proportion of neutered pet cats has remained largely static (89 per cent in 2011, 91 per cent in 2018; Fig 4). Despite a high prevalence of neutering, owners report that 13 per cent of female cats have had a litter and 70 per cent of those litters were unplanned<sup>25</sup>. Cats are traditionally neutered from six months of age, but queens can become pregnant from four months<sup>46</sup>. Neutering of cats at six months of age is based on tradition rather than an evidence-based rationale<sup>46</sup>. The Cat Population Control Group – a coalition of nine animal welfare organisations, including PDSA, and supported in their aim by BVA and the British Small Animal Veterinary Association (BSAVA) – has been established to help shift the normal age of neutering for all owned pet cats not intended for breeding from six months to four months, to prevent unplanned litters<sup>47</sup>.

#### (d) Breeding for exaggerated conformation

Similarly, the highlighting by the PAW survey of veterinary professionals, of “exaggerated conformation” in dogs (selectively breeding for conformational traits, such as brachycephaly, that are associated with health problems) as a priority welfare problem, coupled with the clinical caseload treating affected animals in PDSA Pet Hospitals, motivated PDSA’s involvement as a founding member of the UK Brachycephalic Working Group in 2016 - a coalition of 11 organisations representing academia, dog breed health co-ordinators, the UK dog registering body, the veterinary profession and animal welfare charities, working to improve the conformation-related health of dogs at individual and population levels. Information about the Group’s ongoing activities and annual summaries are available at [www.ukbwg.org.uk](http://www.ukbwg.org.uk).

#### (e) Compulsory microchipping of dogs

The Microchipping Alliance, a coalition of 17 animal welfare charities, assistance dog charities, veterinary organisations, dog membership organisations and other organisations affected by dog issues, successfully campaigned for microchipping as a permanent form of dog identification to be made compulsory, including PAW Report data on prevalence of dog microchipping in its campaign briefing. 70 per cent of owned UK dogs were microchipped in 2011 (Fig 5); the Alliance lobbied for legislation to require the remaining 30 per cent to be microchipped, in order that stray or lost dogs could be rapidly reunited with their owners. Compulsory microchipping came in to force in Northern Ireland in 2012, then England, Wales and Scotland in 2016. There was a 9 percentage point increase in dog microchipping in the year following the legislation, from 83 per cent in 2015 to 92 per cent in 2016. In the period 2011 – 2018, PAW Report data showed that the prevalence of microchipping also increased in cats (46 per cent to 68 per cent; Fig 4) and rabbits (3 per cent to 19 per cent; Fig 6). This may be linked to the legal requirement in dogs, if pet owners have become more aware of the procedure and its welfare benefits, and veterinary professionals have become more accustomed to actively recommending it.

#### (f) Jointly reporting complementary data sets with veterinary bodies

One way of maximising cross-sector input and buy-in to the PAW Report findings, and subsequent action-planning, would be for PDSA to convene a coalition of inputting organisations to jointly produce the Report. There are trade-offs between the benefits of such an approach, such as shared funding and unified messaging, and other legitimate

considerations including resource constraints and a potential dilution of the charity's visibility in one of its key strategic areas. Recognising the benefits of increasing joint-working, in 2018 the PAW Report, along with its own findings, also reported findings from BVA and the British Veterinary Nursing Association (BVNA)'s, "Voice of the Profession" surveys. Collaborating with these national representative bodies helped ensure that the three influential data sets had a wide distribution and could readily be jointly interpreted for enhanced impact.

#### **(iv) Informing PDSA clinical practice and strategy**

While the PAW Report was initiated to assist with PDSA's external national advocacy and provide national companion animal welfare surveillance, the veterinary profession's opportunities to advocate animals' best interests exist at individual (e.g. veterinary professionals having direct contact with animal keepers and owners), community (e.g. veterinary practices providing animal welfare expertise and advocacy through local media, to local politicians, and other outreach activities), national (e.g. veterinary associations and charities formulating and advocating animal welfare policies) and international (through policy formulation and advocacy, and effective partnerships between national and international veterinary associations, and other international bodies and institutions) levels<sup>1,2</sup>. At the individual and community levels, PAW Report data have prompted development of innovative practice-based approaches to improving pet wellbeing in PDSA hospitals, which have then been shared with the wider veterinary and veterinary nursing professions; these include novel consultation frameworks, school education programmes and a mass preventive healthcare initiative.

##### **(a) Novel consultation frameworks**

Data from the BVA and BVNA Voice of the Profession surveys, reported in the 2018 PAW Report, found that 15 per cent of veterinary practices currently offer dedicated pre-purchase clinics for prospective pet owners, with 31 per cent of responding veterinary professionals saying that related consultation frameworks would assist them. PDSA developed and launched a "*Which Pet?*" veterinary consultation framework to meet this need, with support materials including a free e-learning module for veterinary professionals, client and veterinary team booklets and marketing posters<sup>48</sup>. The consultation is divided into three parts: the first discusses the prospective owner's lifestyle and circumstances, generating a shortlist of potentially suitable species and breeds. The second discusses the Five Welfare Needs – what they are and how they could be met for species of interest from the shortlist. The final section discusses responsible sourcing, such as promoting the online Puppy Contract and Puppy Information Pack<sup>49</sup>.

PetWise MOTs are a PDSA-developed quality of life assessment framework, used by veterinary professionals in consultation with owners, to assess whether individual pets are having their Five Welfare Needs met and to offer tailored advice. A veterinary consultation is used to discuss each of the Five Needs as they relate to a client's pet, with a Red, Amber and Green scheme used to commend good practice and to sensitively communicate recommended improvement areas to owners when indicated. 104,312 MOTs were conducted in PDSA hospitals between 2014 and 2017. Overall, a higher frequency of green scores and a lower frequency of red and amber scores was reported at a follow-up MOT

compared to a first MOT<sup>50</sup>. PDSA now offers training in PetWise MOTs for all veterinary professionals and the framework has been taken up by other animal welfare charities<sup>51</sup>.

(b) School education programmes

The 2015 PAW Report found that 97 per cent of veterinary professionals believed there was value in encouraging owners to understand and follow the Five Welfare Needs and 93 per cent believe that learning about the Five Welfare Needs should be a compulsory part of the national curriculum taught in UK schools. In 2018, PDSA Community and Education Veterinary Nurses reached over 64,400 children through school workshops on pet wellbeing and the Five Welfare Needs.

(c) Mass preventive healthcare initiative

From 2014 – 2017 PDSA undertook its first national programme through its hospitals, “*PetWise for Cats*”, focused on improving the welfare of pet cats. Funding from the Marchig Animal Welfare Trust enabled 72,084 cats to be neutered, 92,495 to be microchipped and saw the delivery of 104,312 feline PetWise MOTs, providing education and guidance to 66,409 owners. PDSA Pet Hospitals have reduced the recommended age of cat neutering from 6 months to 4 months to prevent unwanted litters<sup>52</sup>, which was embedded across the charity as part of the programme. PetWise for Cats was an example of how PAW Report data has been used to build a successful, evidence-based application to a funding body. .

## Conclusion

The PAW Report has provided unique annual insights into the health and wellbeing of UK pet dogs, cats and rabbits, and contributed to closing a gap in national companion animal welfare surveillance. By committing to the Report over nearly 10 years and prioritising it within PDSA’s long-term strategy, it has become established and respected within the veterinary professions and broader companion animal welfare sector, driving advocacy such as joint campaigns, novel veterinary consultation frameworks and credible funded interventions. The Report and linked outputs, including analysis and dissemination through university collaborations (eg <sup>50</sup>), provide a good example of how non-governmental organisations (NGOs) can use data to set a proactive, collaborative agenda towards their aims and Vision, leaving them less vulnerable to more reactive, short-term demands.

Governments have a role in providing robust and effective animal welfare surveillance across different sectors, and using resulting data to inform welfare policy. The UK Government has cited a need for data to enable the measurement of animal welfare at a national level, to monitor changes over time and help gauge the success of welfare-improvement strategies<sup>53</sup>. When this surveillance function is provided by an NGO, gleaned intelligence, including on emerging national welfare issues, can inform Government policy, research and legislation. In this case, Governments should be receptive to utilising high-quality NGO data and NGOs should continue working to build relationships and trust with relevant Government departments.

The PAW Report demonstrates that there is some way to go until PDSA's Vision of "A lifetime of wellbeing for every pet" is realised. Ongoing improvements will require continued sector-wide collaborative advocacy coupled with overarching strategic co-ordination, which should be increased. The social science of human behaviour change is increasingly being applied to animal health and welfare problems, and is likely to facilitate future progress.

## Acknowledgements

The authors would like to thank the many colleagues and departments across PDSA and YouGov who support the production and dissemination of the PAW Report, and Katharine Wonham for her comments on a draft of this paper.

## Author contributions

Planning, NM, RH, SW, VB, ET; conduct, NM, RH, SW, VB, KG, ET; reporting SW, DCJM, VB, ET, KG, RH, NM. Guarantor, SW.

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