

Report on 2023 Veterinary Antibiotic Amnesty



RESPONSIBLE USE OF MEDICINES ALLIANCE

RUMA

COMPANION ANIMAL & EQUINE

Published 21 March 2024 by RUMA CA&E

Report on 2023 Veterinary Antibiotic Amnesty

Fergus Allerton, Ian Ramsey, Mary Bawn

Abstract

The second One Health Antibiotic Amnesty took place in veterinary practices across the UK and community pharmacies in the Midlands region and Scotland during November 2023. This built on the success of the pilot veterinary Antibiotic Amnesty from November 2022 and the Antibiotic-Guardian award winning Amnesty in community pharmacies of 2021.

Once again, the veterinary community came together to support this important initiative and promote the concept of safe disposal of antibiotics to pet owners. The 2023 veterinary arm of the Antibiotic Amnesty saw the return of over 2,458 antibiotic tablets (more than 3 times last years' total), 160 oral antibiotic suspensions (no data from last year to compare), 119 topical preparations containing antibiotics (more than double last year) and 11 antibiotic injections (a small decrease). A range of antibiotic products including highest priority critically important antibiotics (fluoroquinolones) were among these returns. 2023 saw sign up from 302 practices and veterinary organisations who requested to receive regular communications updates about the campaign and later, in the practice survey at the end of the campaign, 113 practices responded as having taken part (versus 66 in 2022: an increase of 70%).

An ongoing objective of the Antibiotic Amnesty is not only to raise awareness of the importance of safe antibiotic disposal but also to share the broader messaging around responsible use and the importance of ongoing antimicrobial stewardship (AMS). The campaign again attracted significant press, digital and social media visibility, including articles in Vet Times and Vet Record, plus a number of consumer media also covered the campaign in 2023 including national media outlet The Daily Star which has a significant pet owning reader demographic and a dedicated pet section in the title.

This year the campaign was funded, and project managed, by the Responsible Use of Medicines Alliance - Companion Animal and Equine (RUMA CA&E) which has taken the Amnesty on as its flagship campaign aligned to its vision and mission. The RUMA CA&E Alliance will be leading and co-ordinating the campaign again in 2024.

Insights from the 2022 survey of pet owners were used to help further shape and strengthen the 2023 campaign narrative and support the development of even more client-facing and practice assets and resources including everything from client guidance sheets through to social media posts and graphics. This original survey of pet owners from 2022 (n=139) indicated that leftover antibiotics may be a more common situation (24%) than had been previously reported for human patients. Survey respondents reported only moderate awareness (72%) of safe routes for antibiotic disposal despite an appreciation of the risks associated with AMR.

It was also noted that the BSAVA practice survey (n=106) carried out in 2022, highlighted limited preparedness and engagement with the amnesty due to the fast-tracked roll-out of the pilot campaign. This led to a much earlier start to the 2023 campaign with communications beginning in Q2 2023 to offer a longer lead time so that practices could plan ahead and build the campaign into practice activity plans before the November 'go live' date. RUMA CA&E also activated a campaign sign-up process, which allowed practices and veterinary organisations to subscribe to receive regular campaign information and updates via email newsletters. There were 302 sign ups from both individual practices (the vast majority) and veterinary organisations. The number of practices involved was a significant uplift compared to 2022 (the 2022 practice survey was completed by 106 practices but only 66 of those practices had been actively engaged in the amnesty). The 2023 practice survey was completed by 132 practices with 111 of those confirming active participation. The number of practices that took part in either (or both) the 2022 or 2023 amnesties is not known but based on the increase in returned antibiotics, survey completions and email sign ups to the campaign, the overall impact and reach of the campaign has increased year on year.

It is hoped that for the 2024 campaign, further growth and optimisation can be secured as well as championing the amnesty framework/blueprint to other countries wherever possible to further drive a One Health focus on addressing AMR.

Introduction

In this report the results of the second veterinary Antibiotic Amnesty (2023) are described. The Antibiotic Amnesty took place during November 2023; a timing which also took into account the enhanced focus on AMR and AMS during November which also included World Antimicrobial resistance Awareness Week (WAAW)¹, European Antibiotic Awareness Day (EAAD)², the launch of the RUMA Agriculture Targets Task Force Report³, numerous industry events both online and physical events (e.g. London Vet Show and the RUMA Agriculture webinar conference), the launch of The Veterinary Medicines Directorate's (VMD) UK-Veterinary Antibiotic Resistance Sales Surveillance (2022) Report⁴, as well as numerous other industry and sector AMS initiatives that were happening during the month. It should be noted that the Veterinary Antibiotic Amnesty has a core focus on companion animal and equine practice.

For the Veterinary Antibiotic Amnesty specifically, veterinary practices were invited to reach out to their client base and encourage the return of unused (or partially unused) packs of antibiotics for safe disposal, with the environmental impact of disposing of these medicines inappropriately at the forefront of the communications alongside the dangers of using leftover antibiotics on pets without veterinary guidance. This initiative ran in parallel with the NHS Midlands and Scottish antibiotic amnesties which also took place during November in participating community pharmacies in these geographies.

Background

The World Health Organisation (WHO) has declared that antimicrobial resistance (AMR) is one of the top 10 global public health threats facing humanity. The veterinary profession is already actively engaged in promoting prudent antimicrobial use and, has developed resources including the BSAVA/SAMSoc PROTECT ME poster to raise awareness. The livestock side of the veterinary sector is more advanced in its AMS infrastructure having developed specific sector reduction targets for antibiotic use via the RUMA Agriculture Targets Task Force Group, the first targets of which were published back in 2017. Efforts in the farming livestock sectors has seen UK antibiotic sales for food-producing animals reduce by 59% since 2014, to 25.7 mg/kg. This represents the lowest sales to date. Sales of Highest Priority Important Antibiotics (HP-CIAs) in food-producing animals remain at very low levels at 0.12 mg/kg in 2022 and account for less than 0.5% of total sales.

¹ [World AMR Awareness Week 2023 \(who.int\)](https://www.who.int/campaigns/world-antimicrobial-resistance-awareness-week-2023)

² [European Antibiotic Awareness Day \(EAAD\) 2023 \(europa.eu\)](https://www.europa.eu/european-antibiotic-awareness-day)

³ [RUMA Targets Task Force – RUMA](https://www.ruma.org.uk/our-work/our-ambitions)

⁴ [Veterinary Antimicrobial Resistance and Sales Surveillance 2022 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/114222/veterinary-antimicrobial-resistance-and-sales-surveillance-2022-report.pdf)

Antibiotic use in the pet and equine sectors is very different to agriculture. One notable difference is the close bond and living proximity which exists between pet and owner which increases the potential for micro-organisms and bacteria to transfer from pets to humans (and vice, versa). This means that even low use of antimicrobials in these sectors could lead to resistance to key medicines, through the transfer between owners and pets or horses. In the interests of One Health, this is why the CA&E sectors are a very important consideration when we are thinking about antimicrobial stewardship and AMR.

The overarching aims of an initiative such as the Antibiotic Amnesty, is to focus attention and efforts both across the profession and in support of educating pet owners of the role they can also play in preventing AMR through AMS activities.

It is estimated that about 4 000 active pharmaceutical ingredients (APIs) are being administered worldwide in prescription medicines, over-the-counter therapeutic drugs and veterinary drugs ([Burns et al., 2018\[2\]](#)). Antibiotic over-prescribing is common in both human and veterinary medicine potentially driving antibiotic resistance without any benefit for the patient. (Allerton, Pouwels Buckell - Companion 2023. Available in the BSAVA Library: DOI: 10.22233/20412495.1123.8).

In the paper, *Disposal of Unused Drugs: Knowledge and Behavior Among People Around the World*⁵, a literature review (2005–2015) identified that the ‘most common method for disposal of unused medications in households was disposal in household waste (countries included Kuwait, United Kingdom, Lithuania, Qatar, Serbia, Ghana, Bangladesh, Malta and Saudi Arabia).’ The paper also found that ‘Many respondents were generally concerned with issues of inadequate medicine discarding but the behavior regarding disposal of unused drugs often did not equate to awareness (Serbia, USA, Kuwait, Malta and UK).’

In an article published by The Organisation for Economic Co-operation and Development (OECD) entitled ‘Management of Pharmaceutical Household Waste: Limiting Environmental Impacts of Unused or Expired Medicine’⁶ it states that information campaigns can increase the awareness and uptake of take-back schemes and that it is important for any such campaigns to identify the target group as well as the information gap (i.e. the reasons for a lack of participation should be analysed before designing the awareness campaign).

⁵ [Disposal of Unused Drugs: Knowledge and Behavior Among People Around the World | SpringerLink](#)

⁶ [Foreword | Management of Pharmaceutical Household Waste : Limiting Environmental Impacts of Unused or Expired Medicine | OECD iLibrary \(oecd-ilibrary.org\)](#)

Responsibly administering antibiotics to pets only when needed represents a key stewardship goal, but any benefit can be reduced if the unused antibiotics end up polluting the environment due to unsafe/improper disposal. The NHS community pharmacy messaging used as part of the amnesty publicity in 2023 stated: ‘Throwing old or unwanted antibiotics away in household rubbish or down the sink or toilet will harm the environment and could increase the risk of harmful bugs in the environment.’⁷

In addition, a survey of veterinary professionals released by BVA in November 2023 (Voice of the Profession) found that:

‘Almost 90 percent of UK vets are concerned about losing the ability to treat infections in animals as a result of antimicrobial resistance (AMR). Other concerns included potential enforced restriction on veterinary use of antimicrobials in the future (reported by 84% of vets) or the inability to control infections following surgery (75%). Only a third (35%) of vets overall felt clients were aware of AMR. Vets working in small animal practice reported more often (68%) that their clients were not aware of the issue than those who work with large animals, like cattle or horses (34%).’⁸

The 2023 working group for the veterinary Antibiotic Amnesty also debated the validity and merit of using the word ‘Amnesty’ aligned to this campaign. Given that community pharmacies had already established the use of the word ‘Amnesty’ as part of their ongoing pharmacy campaign, it was felt appropriate to continue to use the same narrative to ensure a cohesive approach to the messaging across the human and veterinary campaigns. It was also recognised that whilst the November Amnesty campaign gives specific and timely focus to the AMR topic, given it is a month in a significant amount of AMR activity takes place, it is important to ensure that pet owners know and understand that returning out of date/unused antibiotics can, and **should** happen at any time of the year.

⁷ [NHS England — Midlands » People in the Midlands are being encouraged to join in an Antibiotic Amnesty to help reduce antimicrobial resistance](#)

⁸ [Vets fear they could lose ability to treat infections due to antibiotic resistance, survey shows | British Veterinary Association \(bva.co.uk\)](#)

Previous research showed that a third of people hold onto their own unused antibiotics for potential future reuse (either for themselves or for friends and family). This behaviour is associated with a serious risk of adverse effects since antibiotics may be tried in inappropriate situations, can delay the administration of proper care or may interact negatively with other medications that are required. Pet owners may similarly store unused antibiotics for their pets for future reuse (due to recurrence of similar clinical signs in the same or another pet in the household). Re-using antibiotics in the same or other pets poses a greater risk of AMR spreading or emerging compared to responsible use due to under-dosing, wrong course length, inappropriate medication or inappropriate administration. The fact that veterinary antibiotics must be paid for may further exacerbate this hoarding approach.

An **Antibiotic Amnesty** is a campaign to encourage members of the public to return unused or unwanted antibiotics to appropriate sites for safe disposal. During the campaign, messages about the potential harms of storing unused/unwanted antibiotics in their homes, the risks of sharing them or taking them at a later date, and the harmful environmental impact of disposing of them via domestic waste or into sewage are directed at the public and delivered by healthcare professionals and health promotion campaigns.

The Antibiotic Amnesty stakeholders continue to recognise that driving greater awareness among pet owners about AMR should hopefully translate into safer disposal practices and thus a reduced threat from AMR. It has been shown that when provided with the correct information, over 75% of members of the public disposed of their antibiotics appropriately (Vellinga *et al.*, 2014⁹).

The 2023 RCVS Practice Standards Scheme includes provisions that encourage veterinarians to facilitate the return of all unused pharmaceuticals (not just antibiotics) for appropriate disposal. This is a positive step, but it still needs ongoing focus and communication efforts by practices to owners in order to achieve significant returns.

⁹ [Public practice regarding disposal of unused medicines in Ireland - ScienceDirect](#)



Figure 1: Veterinary Organisations involved in Antibiotic Amnesty 2023. N.B. Many other organisations also supported the campaign.

The 2023 Antibiotic Amnesty

Veterinary practices were once again invited to participate in the amnesty and to facilitate pet owners returning any unused antibiotics prescribed for their pets.

For 2023, an enhanced set of communications assets for practices to use were produced and publicised. The publicity for the campaign started much earlier than in the previous year’s campaign; this was in response to practice feedback from 2022 which indicated that practices wanted to take part but had a low awareness of how to get involved. In last year’s practice survey, the 40 practices that did not take part were asked what could be done to gain their involvement next year, 32 (80%) provided feedback and nearly all said that they needed more notice and/or more support; this feedback helped shape the much earlier start to the campaign communications as well as adapting the communications to help provide more support.

Considering the above feedback, one of the biggest changes for the 2023 campaign was the ability for practices to ‘sign-up’ via the RUMA CA&E website to receive ongoing campaign information and updates. This enabled regular practice communications to be issued about the Amnesty to help keep practices engaged, provide support, and update them on latest developments such as when new resources were made available for download. This resulted in 302 email sign-ups to receive details about the Antibiotic Amnesty campaign from veterinary practices and organisations. Over the

campaign period, 15 email communications were issued to practices containing amnesty campaign information. The amnesty campaign page on the RUMA CA&E website was visited by 1,985 individual users between July 1st 2023 and Dec 31st 2023. This page was visited 3,214 times by those users (1.62 views per user), and they completed a total of 14,792 functions on that page (such as clicking links, downloading documents etc), with 725 items downloaded from the campaign toolkit.

A much-enhanced range of assets was also offered in the months before World Antibiotic Awareness Week (18-24th November 2023). The amnesty toolkit contained a suite of downloadable assets to help practices and veterinary organisations promote the campaign to the profession, public, and pet owners via press, social media messages, website banners, and newsletters and included posters, client handouts, an animated film and factsheets, a client quiz, plus a choice of 16 social media graphics. Resources were made available to all veterinary practices from the RUMA CAE ([vet antibiotic amnesty – RUMA CA&E \(rumacae.org.uk\)](https://www.rumacae.org.uk)) and RCVS Knowledge ([Antibiotic Amnesty Campaign 2023 - RCVS Knowledge](https://www.rcvs-knowledge.org/antibiotic-amnesty-campaign-2023)) websites.

Practices were encouraged to have a dedicated antibiotic collection box for the month of November and to record the number of returned complete and part packs of antibiotics. A practice survey to capture the amnesty results was again hosted by the BSAVA and incentivised, with everyone who submitted information entering a prize draw for some prizes from the BSAVA and Webinar Vet.

Promotion of the amnesty focused on a range of communication activities across earned, shared and owned media channels. These were used by all stakeholder organisations to promote the amnesty to as wide an audience as possible.

Antibiotic Amnesty Promotion

Earned channels (Press)

Press communications were issued by participating organisations about the amnesty starting from July 2023. This included targeting not only veterinary media, but also pet press as well as consumer media titles. This work also included driving the creation of several podcasts about the amnesty. The earned media work generated around 15 articles about the amnesty, much of which was also reflected on the title's social media channels. Key titles covering the amnesty included *Companion*, *Vet Times*, *Vet Record*, *Veterinary Practice*, *Veterinary Edge* and *Pet Business World*, *MRCVS online*, *VNJ*, *OTC*. *The Daily Star* also ran a piece on the amnesty (circa 25 million website visits per month) and BBC Radio Shropshire (65k audience) also did an interview with a participating veterinary practice. Of note is that *The Daily Star* audience is twice as likely as the national average to own a

dog or cat, and one in five readers also donate regularly to animal charities¹⁰, which means this was an ideal title (and target audience) for the campaign to be featured in. Securing more consumer media coverage would be beneficial for future campaigns to help enhance pet owner awareness and engagement with the campaign.

Stakeholder engagement and communications – owned channels

Driving this campaign as a One Health initiative is fundamental. To that end, reciprocal digital links across pharmacy and veterinary organisations supporting and driving the campaign is important. As an example, The Royal Pharmaceutical Society¹¹ signposted to the Veterinary antibiotic amnesty and the RUMA CA&E website reciprocated by signposting to the community pharmacy campaign page¹². The same reciprocal messaging approach was taken in the media releases issued about the campaign.

All veterinary campaign partners shared frequent updates and content across their internal newsletters, websites and social platforms about the campaign. The 2023 promotional activity saw an increase in the level of campaign message dissemination and frequency of it, from all campaign stakeholders. This involved campaign branding in internal comms such as newsletters and across stakeholder social media channels as well as in some cases, key campaign tactics being developed and delivered by stakeholders such as the development of specific amnesty blogs, podcasts and articles for use across internal communications channels. The collaborative, integrated and sustained efforts across all stakeholder communications channels to drive visibility of the campaign, is seen as a key contributing factor in the level of practices and veterinary organisations subscribing to receive campaign information.

There was also a focus given to enhancing promotion using podcasts. 2023 saw the recording of three distinct amnesty related podcasts which were delivered thanks to the support of Webinar Vet¹³, RCVS Knowledge¹⁴ and The Consult Room¹⁵.

Across social media platforms, stakeholder organisations shared an increased volume of posts about the campaign over a much longer period of time. Circa 55 + posts were shared which is an uplift on the 2022 campaign during which there were around 27 social media posts.

¹⁰ [Changing pawceptions of the Daily Star \(campaignlive.co.uk\)](https://campaignlive.co.uk)

¹¹ [Antibiotic Amnesty \(rpharms.com\)](https://rpharms.com)

¹² [vet antibioticamnesty – RUMA CA&E \(rumacae.org.uk\)](https://rumacae.org.uk)

¹³ [The Antibiotic Amnesty Campaign 2023 | Veterinary Videos & Podcasts | The Webinar Vet](#)

¹⁴ [Antibiotic Amnesty podcast transcript - RCVS Knowledge](#)

¹⁵ <https://podcasters.spotify.com/pod/show/theconsultroom/episodes/Are-We-Heading-Towards-an-Antibiotics-Apocalypse-e2atmlp/a-aiivr2p>

It is important to note that across earned media, owned channels and social media we can only provide a broad snapshot of activity based on the feedback received from stakeholders. We know that there has been even more communications activity that has been undertaken by individual practices in their newsletters and social media channels, in numerous stakeholder newsletters and in other media titles that may not have been trackable.

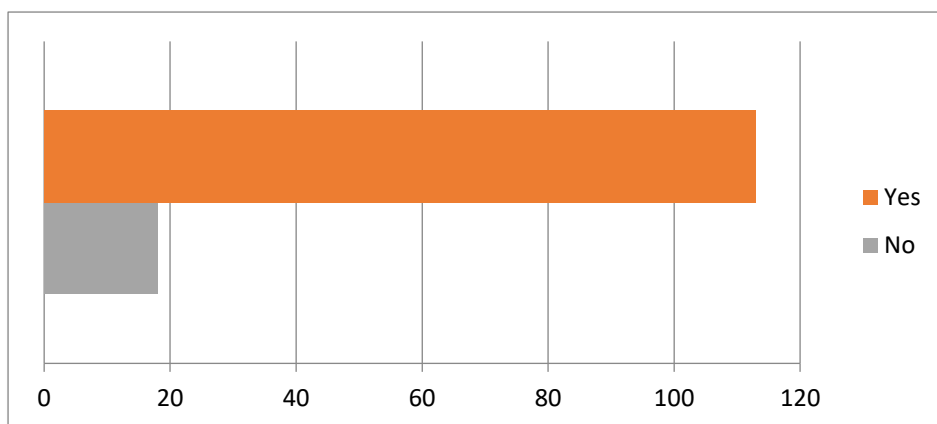
What is known from the website traffic to the RUMA CA&E Antibiotic Amnesty campaign page is that there were 725 downloads of the resources and a top-level Google Search also reveals that a number of individual practices utilised the campaign messaging and assets on their own websites and social channels during November which again demonstrates an increased communications profile during 2023.

RUMA CA&E was also invited to present a webinar at the 2023 RUMA Agriculture One Health conference in November. This was an opportunity for RUMA CA&E to not only share an overview of its work to date, including the journey undertaken to define national metrics for measuring antibiotic use in dogs and cats, but it also provided a platform to talk specifically about the Antibiotic Amnesty to an online audience of circa 100 at the live webinar and thereafter, the recorded session is available to view¹⁶.

Practice survey

Overall, 131 practices submitted data for this survey with 113 of those practices stating that they were actively engaged in the amnesty (figure 1). The practices that did not take part were transferred to later questions.

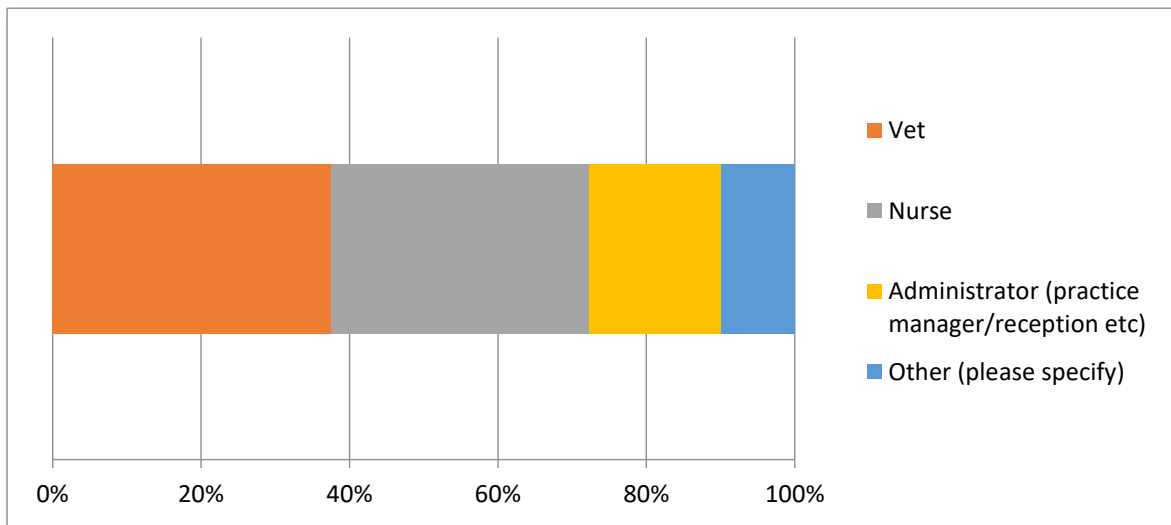
Figure 1 Responses to the question “Did your practice try to take part in the Antibiotic Amnesty 2023?”



¹⁶ [RUMA Agriculture - YouTube](#)

The majority of respondents to the survey were vets or nurses.

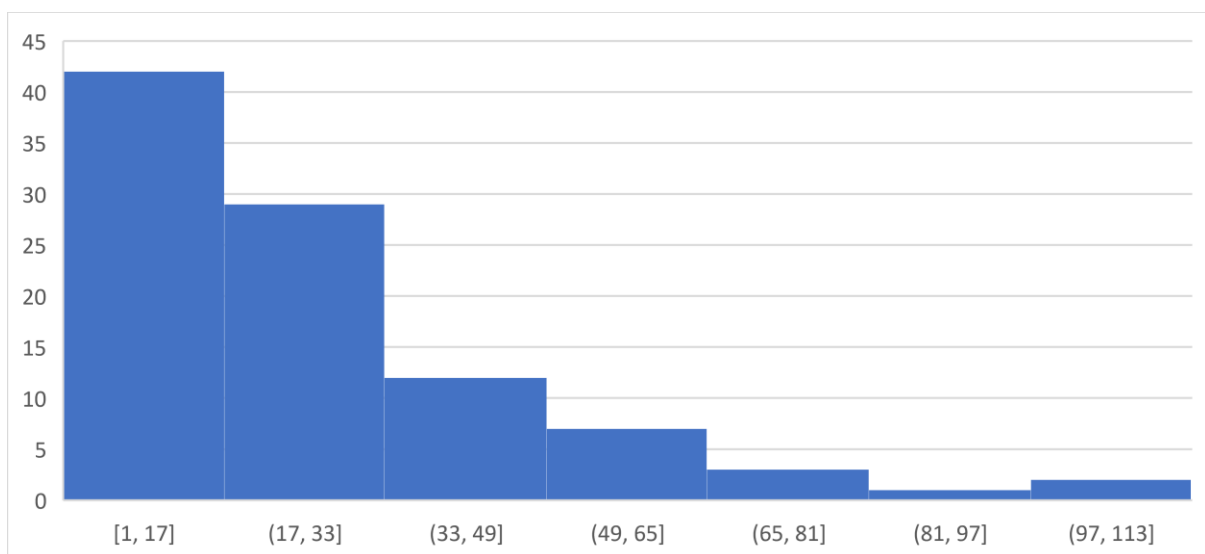
Figure 2 Responses to the question “What is your role within the practice?”



Of the 113 practices who stated that they took part in the amnesty, 97 (90%) stated the role of the person completing the survey in the practice (figure 2). Of these 38 stated that they were vets and 35 were nurses.

Most of the participating practices were small (1 to 17 employees) to medium sized (18 to 35 employees).

Figure 3 Responses to the question “how many vets, nurses and receptionists in total work in your practice?”



Which organisation are you or are people in your practice a member of?

Last year the majority of respondents were members of BSAVA (around 95%) and while BSAVA membership is still the dominant membership organisation amongst respondents, there has been an increase in responses from those that are members of other organisations such as BVA and BVNA, which is likely reflective of the increased sustained publicity that has been delivered via these organisations and the campaign stakeholders overall.

Figure 6 (A) 2023

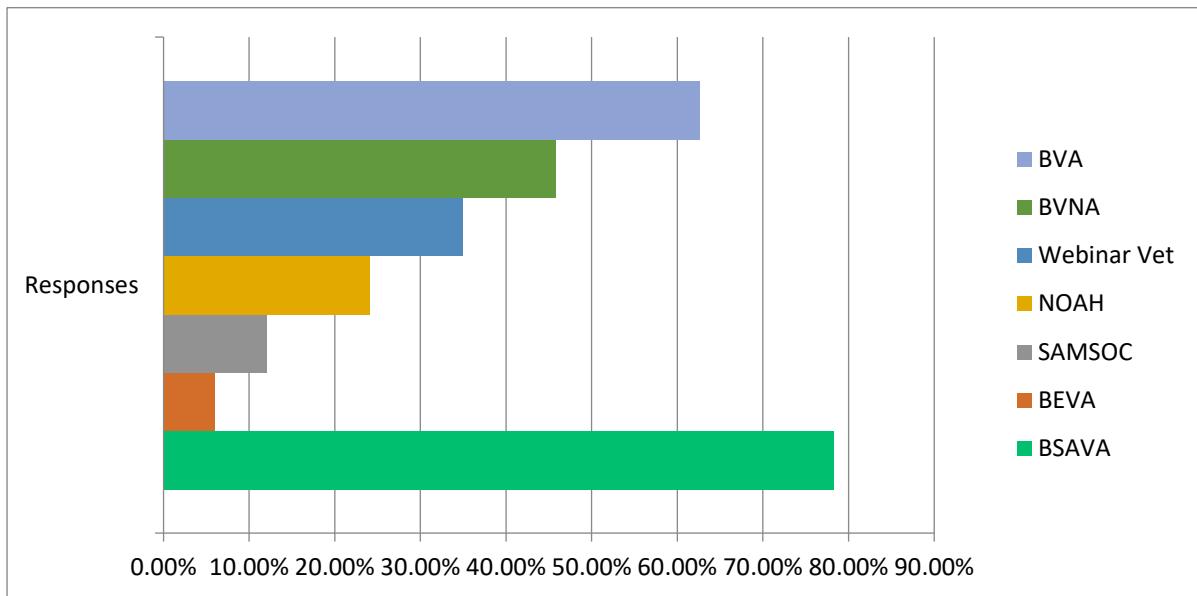


Figure 6 (B) 2022 (for comparison)



What was returned?

Practices reported a total of 2458 (compared to 787 in 2022) antibiotic tablets returned during the amnesty as well as a further 119 topical preparations (i.e. antibiotic drops or ointments) compared to 53 in 2022 and 160 oral suspensions and 11 injections (compared to 17 antibiotic injections in 2022). Many practices did not report how much was returned so this is probably an underestimate. This means more than 3 times (200% increase) the number of tablets, and double (100% increase) the number of topicals were returned in 2023 compared to 2022. It should be noted that these increased came from only a 70% increase in the number of practices. So those practices that took part in 2023 managed to get more (on average) antibiotics returned than in 2022.

Figure 4 Responses to the question “How many antibiotics were returned to your practice as part of this amnesty?”

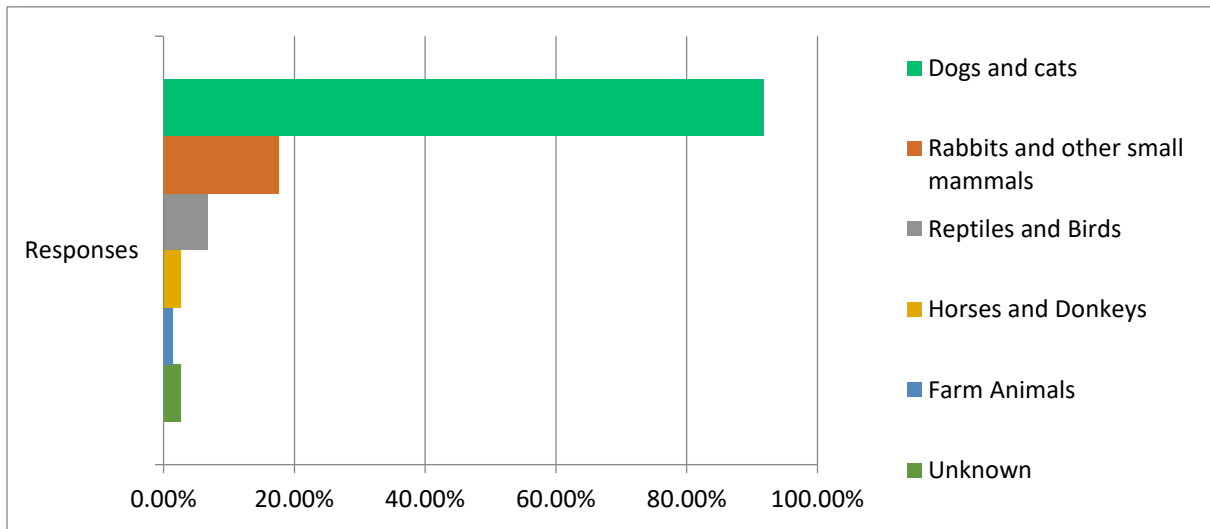
Formulation	Number
Tablets	2458
Topicals	119
Oral suspensions	160
Injections	11
Other /Unknown	Topical anti-parasiticides and many others**

**Probind, Frontline, Moxiclear, Otodine, Dermacton, Loxicom, Vetoryl, Vivitonin, Veloxa A, Eye Drops, Powders, Paste (syringe)

What species were these originally intended for?

The vast majority (92%) (versus 84% in 2022) of returned antibiotics had originally been prescribed for cats and dogs, although preparations intended for rabbits, reptiles, birds, horses and donkeys and some farm animals were also returned.

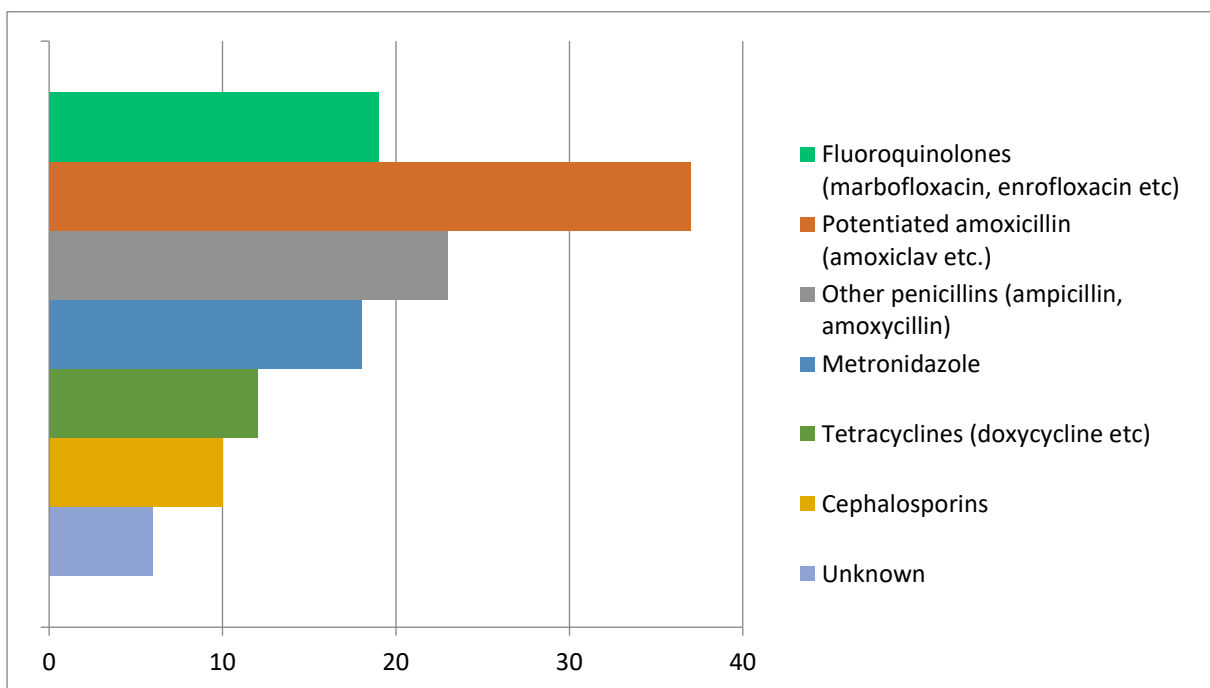
Figure 5 Response to the question "For which groups of species were these antibiotics originally intended?"



What types of antibiotics were returned?

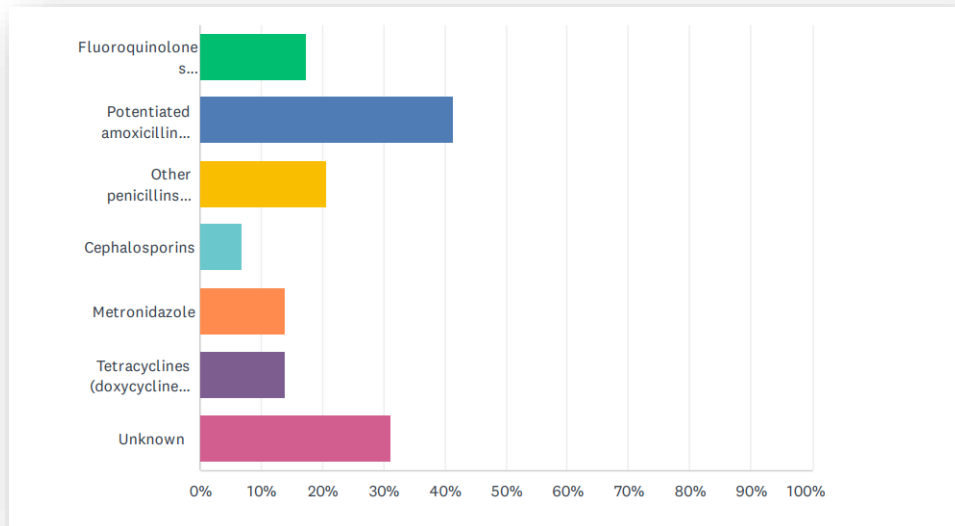
The types of antibiotic are summarised below (figure 7). This spread of antibiotics is similar to that used in small animal practice which suggests that one class was not specifically favoured for return over another. The removal of these medications from the community and the assurance that they will be disposed of correctly represents a successful outcome of this project.

Figure 7 (A) 2023 Responses to the question "What types of antibiotics were returned?"



The data from 2022 included a lot of ‘unknown’ antibiotics handed in. By comparison the data from 2023 suggested that practices were more diligent this year in recording what they received back from their clients.

Figure 7 (B) 2022 (for comparison)



Pharmacy campaign insights for reference

NHS Midlands – 2023:

- 97 community pharmacies expressed interest in participating, in advance of the campaign starting
- 69 pharmacies returned data at the end of the campaign
- Amnesty conversations were held with 2,321 patients/members of the public
- 116 full packs and 256 part packs of antibiotics were returned

No data is currently available from the Scottish Pharmacy campaign at present.

Conclusions

It is clear that the 2023 Veterinary Antibiotic Amnesty has proved successful and achieved its key objectives of driving an increased amount of returned antibiotics compared to the 2022 pilot. The 2023 campaign was supported by a more sustained, proactive, and cohesive communications strategy.

The subscription rate to the campaign from practices and veterinary organisations, saw a significant uplift year on year and given that not all practices will have completed the feedback survey, it is hoped that the true figures both of participation and returned antibiotics are much higher than reported in this evaluation.

The veterinary community once again worked collaboratively and with enthusiasm to embrace the Antibiotic Amnesty initiative helping to secure the safe disposal of antibiotics that could otherwise have been disposed of inappropriately.

The additional resources and assets for the campaign proved popular with the veterinary community and generated much interest and support.

The campaign will run again in 2024 and will apply the latest learnings to further optimise reach and impact.

Acknowledgements

- RUMA CA&E – for its project management and funding of the campaign
- The Antibiotic Amnesty Operations Group who played a key role in the decision-making process throughout the campaign
- The Antibiotic Communications Group who delivered a strategic communications plan to enhance the reach and awareness of the campaign
- All stakeholder organisations who helped co-ordinate the campaign and disseminate information across their networks and organisational communications channels
- Dr Conor Jamieson MRPharmS, Regional Antimicrobial Stewardship Lead Midlands Region, NHS England and Rakhi Aggarwal, Senior Prescribing Adviser, Medicines Management and Optimisation, NHS Birmingham and Solihull
- Fergus Allerton, Ian Ramsey and Mary Bawn – core project management team for the Antibiotic Amnesty