

UK ruminant antibiotic stewardship roadmap report

**Promoting and evidencing responsible
antibiotic stewardship in the UK
ruminant sector**

Stakeholder perspectives, priorities and
the way forward

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About this report

This report brings together the findings from mixed method, multi-discipline, cross-sector research into antibiotic stewardship and data collection in the UK ruminant sector, which informed the development of a roadmap. The intended aim is to support the sector to agree a shared way forward: to promote and demonstrate responsible antibiotic use at farm level, safeguard animal health and welfare, protect the reputation of UK ruminant farming, ensure ongoing veterinary access to antibiotics and to help achieve continued access to the EU export market.

Research and delivery

The research was led by the Veterinary Epidemiology, Economics and Public Health group at the Royal Veterinary College, as part of the AMAST (AMR in Agrifood Systems Transdisciplinary) Network, and delivered in partnership with RCVS Knowledge. The evidence generated by the research, alongside inputs from stakeholders at the ruminant antibiotic stewardship roadmap summit held in June 2026, formed the basis of the roadmap, which was developed by the leads and research team, and refined by the steering group. The roadmap is additionally supported by the Sheep and Cattle Antibiotic Guardian Groups, the British Cattle Veterinary Association, the Sheep Veterinary Society and RUMA-Agri (Responsible use of Medicines in Agriculture Alliance).

(RCVS Knowledge is a charity with a mission to advance the quality of veterinary care for the benefit of animals, the public and society).

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Preface

The UK ruminant sector has a strong story to tell.

Over the past decade, farmers, veterinarians and the wider livestock industry have worked together to ensure responsible antibiotic use. That progress has been achieved voluntarily, through collaboration and a shared commitment to responsible stewardship. It represents a significant achievement for the sector and demonstrates what can be accomplished when stakeholders work towards a common goal.

Yet the context in which that progress sits is changing. The global challenge of antimicrobial resistance continues to grow, while expectations from consumers, policymakers and trading partners are evolving. Evidence and accountability are increasingly important indicators of sector credibility, alongside health, welfare and production outcomes. In this environment, being able to demonstrate responsible antibiotic stewardship is becoming just as important as delivering it.

Whilst stewardship activity is taking place across the sector, and antibiotic use remains relatively low in many systems, we have struggled to evidence this consistently through robust national data and coordinated reporting. As a result, the sector risks being defined by what it cannot demonstrate rather than by what it has achieved. Standing still is not an option.

Recognising this challenge, stakeholders from across the UK ruminant sector came together to consider what the next chapter of antimicrobial stewardship should look like. Underpinned by rigorous mixed-methods research, this work revealed a sector that shares a common destination. Participants recognised the need for stronger national evidence, greater farmer-veterinarian collaboration and improved coordination across the supply chain. They also recognised that no single organisation, nation or sector can deliver this alone.

The report that follows brings together the evidence gathered through this process and the conclusions that emerged from it. Together, they have informed a roadmap designed to strengthen and accelerate antimicrobial stewardship across the UK ruminant sector.

Its purpose is straightforward: to help the sector both prove and improve responsible antibiotic use while protecting animal health and welfare, maintaining public confidence and safeguarding market access.

We would like to thank everyone who contributed to this work. Farmers, veterinarians, industry representatives, policymakers, researchers and many others generously shared their expertise and experience. This roadmap is stronger because it has been shaped by those who understand the realities of delivering change on the ground.

Most importantly, this is not the roadmap of any one organisation. It is a roadmap created by the sector, for the sector. The challenge now is not to decide what needs to happen, but to make it happen. Success will depend on leadership, shared responsibility and a willingness to work together in pursuit of a common goal. The opportunity is in front of us. The responsibility to seize it belongs to all of us.

Fiona Lovatt

Mark Jelley

David Black

Words of support



Using antibiotics responsibly is something UK livestock farmers take extremely seriously. This roadmap demonstrates our sector's continued commitment to safeguarding animal health and welfare while reducing reliance on antibiotics wherever possible. Through collaboration across the supply chain, we can build on the significant progress already made and ensure antibiotics remain effective tools for treating disease when animals genuinely need them."

Clare Wise - Sheep and beef farmer, Chair NFU Livestock Board



Cattle and sheep farming in Northern Ireland generated more than £2.2 billion at the farm gate last year, and that value depends on the confidence of our markets. Under the Windsor Framework, we sit where UK and EU veterinary medicines rules meet. That means any approach to measuring antibiotic use must work for UK reporting and satisfy our EU trading partners. The UK ruminant antibiotic stewardship roadmap offers a real opportunity to achieve this. AHWNI warmly welcomes the roadmap and the clear direction it gives towards evidencing responsible antibiotic use through robust data collection. We look forward to helping ensure it works for Northern Ireland's farmers and vets."

Sam Strain - Chief Executive Animal Health & Welfare NI



Scotland's farmers have been working hard for many years to use antibiotics responsibly and this ruminant ABS roadmap is a great addition to the process. Scotch Beef and Scotch Lamb are premium products in huge demand both at home and around the world and the data provided by this initiative will help us prove the sustainability credentials of Scottish farming which our customers find so desirable. As a livestock farmer myself I think this is a really important project which will demonstrate that our sector deserves its strong reputation for high animal welfare."

Kate Rowell – Beef and sheep farmer, vet, Chair of Quality Meat Scotland



From a Welsh Government perspective, there is a lot in the roadmap that we really like. It's important for us to collaborate and look for solutions that work across the UK, but we like the flexibility for the devolved nations"

Richard Pizzey - Veterinary Advisor, Office of the Chief Veterinary Officer, Welsh Government



This roadmap is a timely and significant piece of work, marking an important step forward for the UK ruminant sector which has already demonstrated what can be achieved through collaboration. However, further work is needed to ensure responsible antibiotic use can be properly evidenced. RUMA Agriculture fully supports the roadmap's ambitions and encourages stakeholders across the supply chain to work together to deliver the actions identified.

"We look forward to supporting the collaborative action needed to strengthen stewardship, maintain confidence in the UK ruminant livestock sector and safeguard future market opportunities. The focus must now be on translating the roadmap's recommendations into meaningful action."

James Russell - Chair, RUMA Agriculture

Acknowledgements

We would like to extend our sincere thanks to the more than 560 individuals who generously contributed their time, expertise and perspectives through surveys, interviews, focus groups, the UK ruminant antibiotic stewardship (ABS) roadmap summit in June 2026, and the ruminant roadmap steering group. Your insights, experience and commitment have been instrumental in shaping this work and ensuring that it reflects the priorities, challenges and opportunities across the sector.

We are also grateful to the partnership of the AMAST Network and to its Flexible Fund initiative, supported by UK Research and Innovation (UKRI) which funded this research. Their support recognises the vital role of antimicrobial stewardship in protecting animal health and welfare, reducing antimicrobial resistance, maintaining public confidence and industry reputation, safeguarding market access for red meat and dairy products, and helping to preserve the effectiveness of veterinary medicines for future generations.

This roadmap is the result of a truly collaborative effort, and we thank everyone who contributed to its development. Without the commitment, partnership and support of our stakeholders and funders, this work would not have been possible.

Executive summary

The UK ruminant antibiotic stewardship (ABS) roadmap has been shaped through an extensive programme of research led by RCVS Knowledge, in partnership with the ruminant ABS roadmap steering group and the AMAST Network. Bringing together expertise from research, veterinary practice, farming, industry, government and policy, the aim has been to ensure that the roadmap is grounded in evidence informed by real-world experience and is designed to deliver meaningful change across the UK's ruminant sector. While the sector has made substantial progress in improving antibiotic use (ABU), the ability to demonstrate this consistently through robust national evidence remains a significant challenge.

The research explored how ABU data are currently recorded and used, and what is needed to strengthen ABS while safeguarding animal health and welfare and market access. Combining evidence review with extensive stakeholder engagement, the work included discussions with sector experts, a nationwide survey, and a programme of interviews and focus groups involving farmers, veterinarians, industry representatives and policymakers.

The process identified challenges around data ownership, confidentiality, leadership and implementation, while also revealing a strong appetite for practical solutions that support responsible ABU and deliver value to farmers, veterinarians and the wider supply chain.

The findings were presented at the UK ruminant ABS roadmap summit, held on 30 June 2026, where leaders and representatives from across the sector came together to turn evidence into action. Discussions focused on five key questions:

- how to unite the sector across the UK;
- how to make data collection practical and useful;
- who should lead and support implementation;
- how concerns around data sharing can be addressed; and
- how responsible antimicrobial use can best be demonstrated.

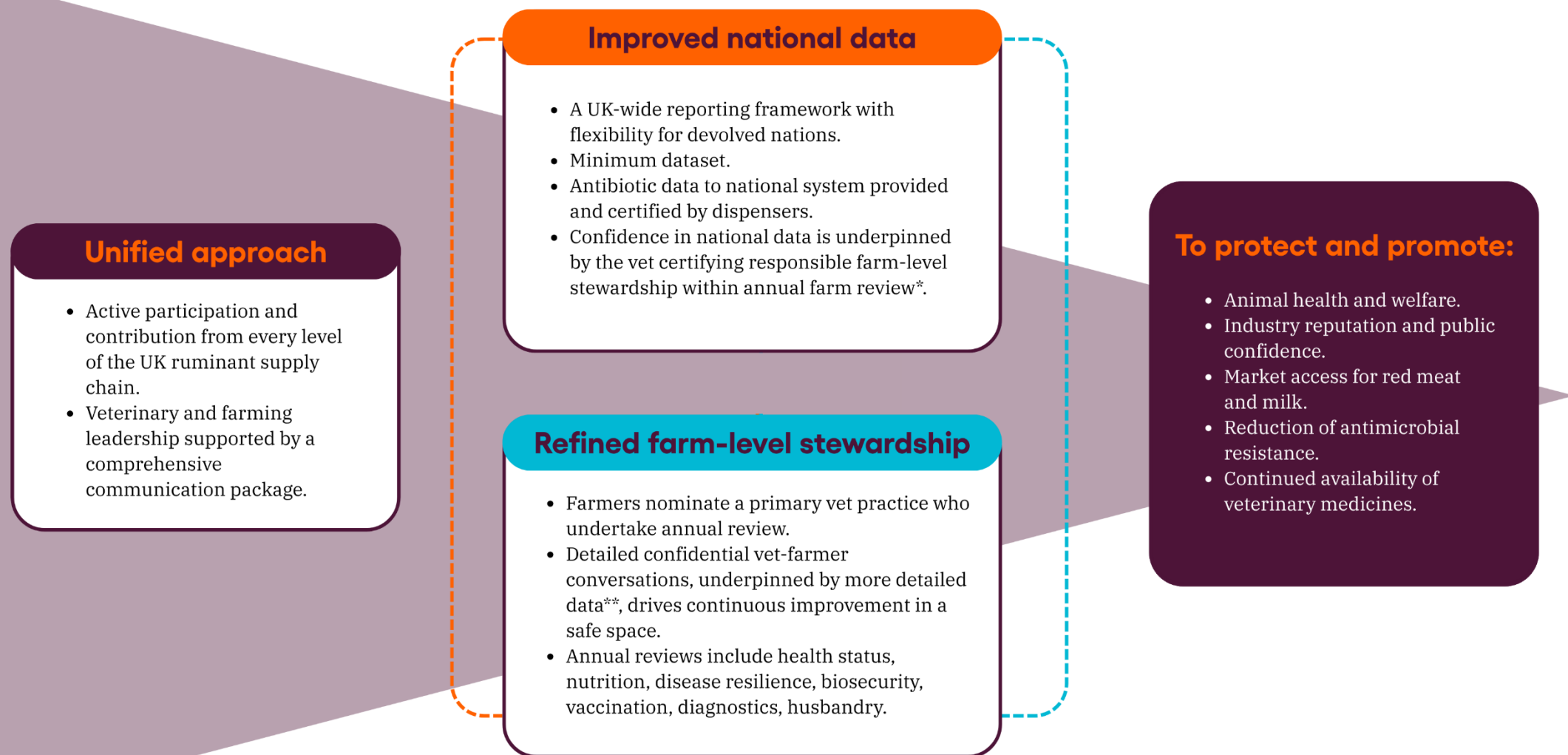
The level of engagement throughout the research and summit reflected a growing recognition that the time is right for a coordinated approach. By bringing together diverse perspectives and expertise, the process built a shared understanding of both the challenges and the opportunities ahead, ensuring that the resulting roadmap is evidence-based and fit for purpose.

The roadmap sets out a clear direction for the future. Key recommendations include the development of a UK-wide minimal dataset for national reporting, supported by anonymised ABU data supplied by dispensing veterinary practices and pharmacies. At farm level, annual veterinary-led reviews are proposed to support continuous improvement through trusted conversations around disease prevention, biosecurity, vaccination, diagnostics and husbandry.

Central to the roadmap is the principle that responsible ABU is a shared commitment. While veterinarians will play a leading role in evidencing and supporting stewardship, lasting success will depend on active participation from every part of the ruminant supply chain. Farmers, veterinarians, industry, processors, retailers, policymakers and regulators all have a role to play in maintaining animal health and welfare and protecting public trust and the future sustainability of the sector.

This report presents the evidence gathered through this research, the insights shared by stakeholders across the UK, and the collective actions identified to help deliver the next chapter of antibiotic stewardship in the ruminant sector.

The roadmap, set out in the following pages and in section eight, includes details on what needs to happen, which actions should be taken, which organisations or groups of stakeholders should lead on these, indicative timeframes and what success looks like.

Fig. 1 - Ruminant roadmap summary

* See the ruminant roadmap pathway diagram

** See the data and medicines workflow

National ABU data collection, reporting and governance

Establishing a mandatory, nationally coordinated system for collecting, validating and reporting farm-level antibiotic use data across all UK ruminant sectors, supported by appropriate funding and governance, would provide a consistent and reliable evidence base for national monitoring and benchmarking.

What needs to happen	Identified actions	Who	Time	What does success look like
Every vet/practice/ 'authorised specialist veterinary medicine retailer' is responsible for reporting dispensed medicine/antibiotic data linked to enterprise identifiers – this could be either directly from the practice management system (PMS) at practice-level or group-level or via intermediary data management system.	To be made mandatory via Veterinary Medicines Regulations (VMRs) with enforcement and associated RCVS (Royal College of Veterinary Surgeons) action.	Veterinary Medicines Directorate (VMD) working with Department for Environment, Food and Rural Affairs (DEFRA), national Chief Veterinary Officers (CVOs) and RCVS	Start immediately, enforce as soon as systems are in place, continue indefinitely	Reporting of practice or 'authorised specialist veterinary medicine retailer' -derived farm-level medicine/antibiotics dispensed is mandated and enforced
	Each dispenser certifies that they have reported all medicines/antibiotics dispensed.	Vet practices/ authorised specialist veterinary medicine retailer		UK-wide framework with flexibility for devolved nations
Each livestock enterprise, regardless of size, must have a nominated primary vet practice who undertakes annual vet-farm review and uploads livestock numbers (where not captured via the British Cattle Movement Service (BCMS)).	Enforcement (arranged in whatever way appropriate for devolved nations).	DEFRA - e.g. via Pathway and devolved equivalents, farmers		Ruminant Antimicrobial Use (AMU) data reporting is embedded within government policy, and the National Action Plans, UK Veterinary Antimicrobial Resistance and Sales Surveillance (VARSS) and Responsible Use of

Each enterprise must share unique identifier when purchasing medicines/antibiotics.	Primary vets certify that they have received collated data (D3) and undertaken the annual review (which includes a conversation about the overall medicine/antibiotic use).	Primary vets and farm enterprises		Medicines in Agriculture Alliance (RUMA Agriculture) TTF Report
Create “ <i>Medicine Hub 2.0</i> ” (an independent repository where data is collated and processed as in figure 2).	Identify the minimum data requirements for: - Input from practice and ‘authorised specialist veterinary medicine retailer’ systems. - Output of national consolidated aggregated data. - Collated enterprise-level figure to go back to primary vet. - Anonymised benchmarking data to add context to vet-farm review. It should - include all Prescription Only Medicine – Veterinarian (POM-Vs) at the outset (all antibiotics as an absolute minimum)	A technical working group of the Ruminant Roadmap steering group which is UK-wide, cross-ruminant, including representatives of all stakeholders	Short term	Data and system requirements are clearly defined Data flow is working as on Fig 2. The ruminant roadmap pathway diagram

	- work for other veterinary medicines in the future (at which point it should include Suitably Qualified Person (SQP) retailers). - Operate in real time as much as possible (e.g. monthly uploads)			
	Deliver and operationalise the system identified above.	Tendered data system provider/s or Agriculture and Horticulture Development Board (AHDB), (to be decided)	Medium term	
Secure funding and support for implementation.	Government to lead on securing a system for set-up and ongoing costs.	VMD working with DEFRA and national CVOs with input from relevant stakeholders. Potential contributors could include government, livestock sectors, levy bodies, veterinary and pharmaceutical organisations, processors, retailers, assurance	Begin immediately, continue indefinitely	Adequate funding available to deliver required systems

		schemes and other beneficiaries of the data.		
All AMU data to be validated at enterprise level.	All vet practices/ 'authorised specialist veterinary medicine retailers' are responsible for reporting dispensing data linked to enterprise identifier (D1, D2).	All vet practices/ 'authorised specialist veterinary medicine retailers' supplying medicines to farmers	As soon as systems are in place, continue indefinitely	Quantifiable level of validation for national reporting
	" <i>Medicine Hub 2.0</i> " is responsible for supplying D3 collated figure back to primary vet.	" <i>Medicine Hub 2.0</i> "		
	Primary vet is responsible for supplying livestock numbers to " <i>Medicine Hub 2.0</i> " on annual basis and discussing D3 at the annual review. The vet provides certification to indicate that the annual review has taken place and that the collated figure (D3) was discussed and agreed to be correct by the farmer.	Primary vets and farmers		

Stewardship, benchmarking and data-driven improvement

Antibiotic use data will support continuous improvement in farm-level stewardship by enabling farmers and veterinarians to make evidence-based decisions and demonstrate the benefits of preventative health approaches. The data should also strengthen benchmarking and facilitate meaningful farmer–vet discussions on responsible use.

What needs to happen	Identified actions	Who	Time	What does success look like
Ongoing improvements in antimicrobial use and stewardship at a farm level and identification of other ways to demonstrate responsible use.	All farms will undertake active health planning with their primary vet practice, which will include actions to improve antimicrobial stewardship. Including: - Nutrition - Breeding - Vaccine use - Anthelmintic use - Pain relief - Disease resilience - Biosecurity The farmer nominated primary practice will be responsible for active health planning, emergency care, annual review and supplying livestock numbers to “<i>Medicine Hub 2.0</i>” on annual basis.	Farmer and primary vet practice	As soon as systems are in place, continue indefinitely	Reduction in Antimicrobial Resistance (AMR) in food production systems Increased evidence of preventative medicine

	The farm level AMU figure (D3) is specifically used to drive stewardship conversations between the vet and farmer at the annual farm review. The anonymised comparison data published by “ <i>Medicine Hub 2.0</i> ” provides the context against which this figure can be benchmarked.	“ <i>Medicine Hub 2.0</i> ”		There is clear accountability for medicine use on farm as established through nominated primary practice
	Improve and increase participation in training programmes for vets, farmers and students on safe and responsible medicines use (including residues). This should be accredited and include regular revalidation.	Education and CPD providers to provide good training. Pharmaceutical manufacturers to engage with support/via pack QR codes.		Increased number of vets and farmers completing training
	Improve engagement in AMR surveillance programmes.	Partnership between VMD, Food Standards Agency (FSA), veterinary and agricultural leaders.		Increased engagement in AMR surveillance programmes

Market access, transparency and external assurance

Leveraging antibiotic use data and stewardship outcomes to demonstrate responsible use to customers, regulators and the wider public will help maintain market confidence, support export opportunities and showcase the livestock sector's commitment to antibiotic stewardship.

What needs to happen	Identified actions	Who	Time	What does success look like
Demonstrate the value to farmers and vets of improved data collection for: 1. National reporting and benchmarking 2. Access to export market and utilising the fifth quarter 3. Underpinning the farmer-vet conversation 4. Evidence-informed decision-making 5. Return on investment of preventative medicine	Create a cohesive industry communications plan and collaborate across industry to implement this Use data and case examples to demonstrate benefits.	RUMA Agriculture with veterinary and industry associations including levy boards, meat processors and trade bodies	Start immediately, continue indefinitely.	Increased engagement with data collection, reporting and benchmarking systems, with evidence that farmers and vets are using data to support herd/flock health planning and antimicrobial stewardship.
Demonstrate responsible ABU externally.	Create a cohesive industry comms plan and collaborate across industry to implement this.	RUMA Agriculture with veterinary and industry associations including levy boards	Start immediately, continue indefinitely	Consumer confidence is maintained or improved

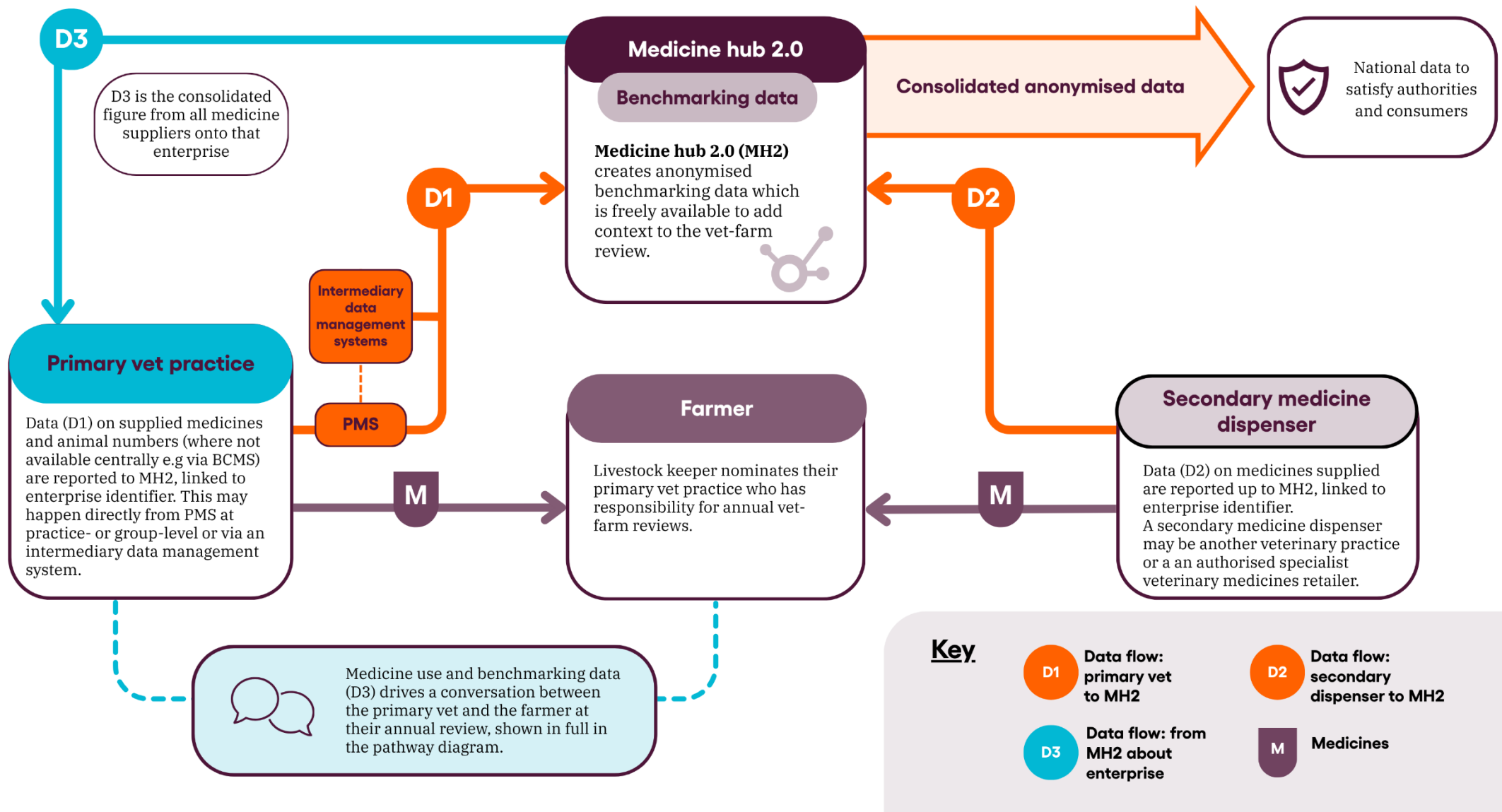
Fig. 2 Ruminant roadmap data and medicines workflow

Fig. 3 Ruminant roadmap pathway for reporting and stewardship

- 1** Each livestock enterprise, regardless of size, nominates a primary vet practice who undertakes annual vet-farm review and is responsible for emergency vet care on farm.
- 2** Primary vet practices supply data (D1) on medicines and livestock numbers (where not available centrally via BCMS) to Medicine Hub 2.0, linked to enterprise identifier. This may happen directly from PMS at practice- or group-level or via an intermediary data management system.
- 3** Other medicine dispenser/s supply data (D2) on medicines to Medicine Hub 2.0, linked to enterprise identifier. Other medicine dispensers may include other veterinary practices or a pharmacies.
- 4** Primary vet practice arranges annual farm review and checks Medicine Hub 2.0 for collated figure (D3) linked to enterprise identifier that is already calculated and based on the above. This informs the conversation between the primary vet and farmer.
- 5** Separately Medicine Hub 2.0 uses all collated data to calculate the consolidated anonymised figures and to publish anonymised benchmarking data which is made freely available for all.

**Each enterprise must:**

- Have a nominated vet practice.
- Have an annual vet-farm review.
- Keep their primary vet up to date with livestock numbers.
- Share their unique enterprise identifier every time medicines are dispensed.

Every vet/practice/authorised specialist veterinary medicines retailer is responsible for uploading dispensed antibiotic data linked to enterprise identifiers. This could be either directly from PMS at practice-level or group-level or via an intermediary data management system.

Primary vet practices are responsible for uploading livestock numbers (where not available centrally e.g via BCMS). They are also responsible for annual reviews and emergency vet care on farm.

Medicine Hub 2.0 is responsible for:

- Calculating the national consolidated anonymised figures.
- Making the collated antibiotic figure for each enterprise available to the primary vet practice to inform the annual vet-farm review.
- Publicising anonymised benchmarking data.

1. Why the focus on antibiotic data collection and stewardship now?

Protecting the effectiveness of antibiotics is a responsibility that spans both human and animal health. The overarching driver is ensuring antibiotics remain effective at treating bacterial infections in people. Within a One Health framework, responsible use in animals is a key means of achieving this. But responsible use also protects animal health and welfare, safeguards the effectiveness of the medicines the farming sector depends on, and underpins the reputation of UK farming, essential to trade.

This year, 2026, marks a decade since the final report of the O'Neill Commission¹ which, alongside the advocacy of the then Chief Medical Officer, Prof. Dame Sally Davies, drew sustained global attention to rising antimicrobial resistance (AMR). Recent analysis estimates that in 2021, 4.71 million deaths in people were associated with bacterial AMR, with 1.14 million of those deaths attributable to AMR² indicating that AMR is a current global health crisis. The decade since the O'Neill review has seen substantial UK progress, but the global trajectory has not eased. The Food and Agriculture Organization of the United Nations warns that AMR in livestock is becoming a significant risk to food systems, agriculture and farm economics, projecting that global ABU in livestock could rise by ~30% by 2040 as demand for animal-source foods expands³. In the United States, the Food and Drug Administration is under pressure to withdraw approvals for routine preventative use of medically important antibiotics in food-producing animals. The direction of external scrutiny is clear, and it is intensifying.

The UK livestock sector has reduced ABU in food-producing animals by 57% since 2014 through extensive voluntary, cross-sector collaboration. Whilst this is a substantial achievement reflecting years of commitment, professionalism and change, the sector must now be able to demonstrate responsible ABU clearly, confidently and consistently. As David Black MRCVS, the current President of the British Cattle Veterinary Association (BCVA), has framed it, *“the sector has reached a burning platform – not because it is failing, but because it is no longer sufficient simply to do the right thing”*. Public trust, government confidence, market access and consumer support increasingly depend on evidence, transparency and accountability. If the sector cannot show that antibiotics are being used responsibly, then the social licence of vets and farmers to make professional, evidence-based decisions and have continued access to the full range of tools needed to protect animal health and welfare is at risk.

Three main drivers are now converging and point in the same direction. **Trade:** under the EU Veterinary Medicines Regulations, national ABU reporting became mandatory for cattle in 2024 and applies to sheep from 2027; alignment with European reporting would support free and frictionless trade, underpinning the value of UK products. **Reputation and social licence:** without a credible, evidenced position on ABU, the sector risks losing its market, its social licence to farm, and its access to the medicines it depends on. **Regulation:** UK policy discussions, in particular the England Animal Health and Welfare Pathway, increasingly anticipate farm-level data being a mandatory requirement.

The ruminant sector's challenge now is that progress on reducing ABU has largely plateaued since the early reductions of the late 2010s, and centrally collating usage data to provide a national figure through current systems has not progressed significantly enough since development, particularly in the beef and sheep sectors. The roadmap therefore aims to bring all parts of the ruminant sector together to identify how to further promote and demonstrate responsible ABS at UK ruminant farm-level to drive progress and enhance animal health and welfare, and co-design how best to collate and report sufficient evidence of ABU at UK national level to satisfy both customers and authorities.

¹ <https://amr-review.org/>

² Naghavi et al. Global burden of bacterial AMR 1990–2021: a systematic analysis with forecasts to 2050. [10.1016/S0140-6736\(24\)01867-1](https://doi.org/10.1016/S0140-6736(24)01867-1)

³ Acosta et al. The future of antimicrobial use in livestock – The economic cost of action or inaction. 2026.Rome, FAO. <https://doi.org/10.4060/cd9571en>

2. Methodology

This research was designed to explore how antibiotic data collection in the ruminant sector is best collated and reported to give sufficient evidence of antibiotic usage in the UK, and to identify ways to best promote and demonstrate ABS. It explored how farmers are currently recording their ABU data, who they are sourcing their antibiotics from, the awareness of the current national data collection systems amongst all stakeholders, what type of data should be collated, who should do the collating and reporting, and how we can best evidence ABS. The barriers and facilitators behind data collation and reporting and ABS were identified, as well as the actions that need to occur.

The research took a mixed methods approach, combining quantitative (questionnaire) and qualitative (open survey questions, focus groups and interviews) methods to capture a wide range of viewpoints and opinions from all persons involved in the ruminant sector, from farmers and veterinarians to those involved in academia, the supply chain and regulation.

The research process included input from five core components:



Published literature

To inform the research framework, the research team identified and reviewed key sources of literature (annex 1) and had informal discussions with key informants from the ruminant sector. Key literature consisted primarily of peer-reviewed journal articles, and published reports from industry and regulatory bodies, such as RUMA and the Veterinary Medicines Directorate. Informal discussions with key informants involved in the ABU data collation and reporting from the ruminant roadmap steering group helped guide the development of the survey and the key questions to be answered.

Survey for ruminant sector stakeholders

The survey was developed by the research team, in conjunction with the leads of the ruminant roadmap, with feedback from the steering group. The leads of the ruminant roadmap were Fiona Lovatt (farm veterinarian, Sheep Antibiotic Guardian Group, RCVS Knowledge), Mark Jelley (beef farmer, Cattle Antibiotic Guardian Group) and David Black (farm veterinarian, British Cattle Veterinary Association). The steering group (found in annex 2) helped maximise the diversity of viewpoints on the research topic from all stakeholders across the ruminant sector.

This survey was for all ruminant farmers, veterinarians involved in the ruminant sector and other stakeholders involved in ABU data collating and reporting and ABS in the ruminant sector. The survey comprised three sections: one for farmers, one for veterinarians and one for other stakeholders. Quantitative data were collected through either single select or multi-select, multiple choice, and Likert questions, and open-text questions captured qualitative data. The survey was piloted with a subset of the target population, identified through the ruminant roadmap steering group. Feedback was provided on the flow and question wording, informing refinement prior to the survey launch.

The survey was promoted through RCVS Knowledge and ruminant roadmap steering group channels, and included a press release, social media posts, and adverts. Inclusion criteria were for respondents to be farmers, vets or others involved in or interested in ABU in the ruminant sector who were resident in the UK. Exclusion criteria were being younger than 18 years at time of completion.

The survey was launched in December 2025 through the Royal Veterinary College's (RVC) JISC account and was active for seven weeks. The survey achieved 379 responses. To monitor demographic representativeness for veterinarians and farmers, RCVS data on number of practicing veterinarians in each of the devolved nations, and data from the Animal Health and Plant Agency (APHA) TB surveillance report on the number of cattle farms in each of the devolved nations, were used.

The final sample comprised 199 farmers (53%), of which 79 (40% of the farmers) had a mixed enterprise, 119 veterinarians (31%) and 61 other stakeholders (16%).

The questionnaire can be found in annex 3 of this report.

Focus groups

All focus groups were held online and were arranged through existing contacts within the ruminant roadmap steering group, aligned with existing farmer or vet meetings where possible. For farmers, there were two focus groups, one for cattle farmers and one for sheep farmers. Mixed enterprise farmers were eligible to participate in both. For veterinarians, there were five focus groups. These focus groups were targeted to ensure cross-species and cross-border perspectives were heard. Three separate focus groups were held with key opinion holders from the three main large veterinary practice groups: IVC Evidensia, CVS(UK) Ltd, and VetPartners, and two focus groups were held with vets working in independent practice, which included members of the XLVet group. This grouping was designed to reduce the risk of commercial sensitivities and encourage open discussion. One focus group was held with persons involved in data processing, and one with the Medicine Hub Industry Liaison Group.

All focus groups explored themes emerging from the survey and facilitated further open discussion about ABU data collating and reporting and ABS. The guidelines for the focus groups can be found in annex 4 of this report.

Semi-structured interviews

Four online interviews were conducted. One with a representative from the Association of Independent Meat Suppliers (AIMS), one from the Veterinary Medicines Directorate (VMD), one from Department of the Environment, Food and Rural Affairs (Defra) and one from Dairy UK, a processor-led organisation representing farmer led cooperatives and private dairy companies. Interviews were purposively selected to help ensure all parts of the ruminant sector had been represented, and their viewpoints heard.

Interviews followed a semi-structured guide, with open discussion encouraged to help further the understanding of data collation and stewardship.

UK ruminant ABS roadmap summit

The summit was held on 30 June 2026, where the aim was focussed on translating the initial research findings into actions to create the necessary change and solutions. The summit was an invitation only event, with a wide range of stakeholders from across the ruminant sector attending. The initial research findings were presented and discussed, and participants were asked to create actions based on key questions that had emerged from the research (see data analysis), to improve on data collation and ABS. A list of the invited organisations is included in annex 5 of this report.

Data analysis

Data analysis was performed in Microsoft Excel. Categorical variables relating to participant demographics, ABU data collection and collation methods, and enterprise type were described using the number and percentage. Qualitative data from the survey, interviews and focus groups were reviewed independently of each other by the primary researcher. Open text responses from the survey were coded in an inductive, data-driven manner, using one-to-two words or short phrases to describe the sentiment being conveyed by participants. Ongoing notes were made of the impression and thoughts conveyed from the data. Codes and notes were reviewed over an iterative process and grouped into themes using a reflexive thematic analysis approach. Interview and focus group data were initially coded anonymously using an AI platform (Claude Opus 4.8). All coding and subsequent theme development were then reviewed and refined by the primary researcher.

The themes emerging from the survey responses were shared with the research team and collectively grouped into five overarching themes. The focus group themes were then mapped onto these. The proposed groupings were shared with the ruminant roadmap steering group for feedback and then refined into five key questions for the summit by the research team and leads.

These five key research questions were presented to stakeholders at the summit to develop actions. Two tables of delegates were assigned to each question. The discussions and actions were captured by trained facilitators and scribes and were intentionally structured to get cross-industry views and discussions while addressing the questions identified by the previous research. The discussions were tabulated to create a timeline for actions to be completed, the reasons behind such actions and the persons or sector responsible to deliver on these actions. These contributions and actions formed the basis of the roadmap, which was developed by the leads and research team, and refined by the steering group.

Ethics and funding

The research team at the Royal Veterinary College is supported by the AMAST Network, funded by United Kingdom Research and Innovation (UKRI), a non-departmental public body sponsored by the UK Department for Science, Innovation and Technology. The study has been approved by the Social Science Research Ethical Review Board at the Royal Veterinary College (URN SR2025-01861012).

3. Survey participant demographics

Most of the survey participants were farmers and veterinarians, as shown in Table 1.

Table 1: Survey participants by primary occupation

Primary occupation	n	%
Farmer	199	52.5
Veterinarian	119	31.4
Other	23	6.1
Industry – Processor	14	3.7
Governance	11	2.9
Academia – research / education	10	2.6
Industry – Retailer	3	0.8
Total	379	100

Of the farmer respondents, 79 (40%) farmed a mixed ruminant enterprise with the most common combination being beef and sheep (n = 64, 32%). Governance covered roles in farm assurance, levy bodies, farm industry associations and Government, and Other consisted of those working as farm or vet affiliated consultants.

Where respondents were based

Farmers and veterinarians were predominantly based in England, although there was representation from all the devolved nations as shown in Figure 1:

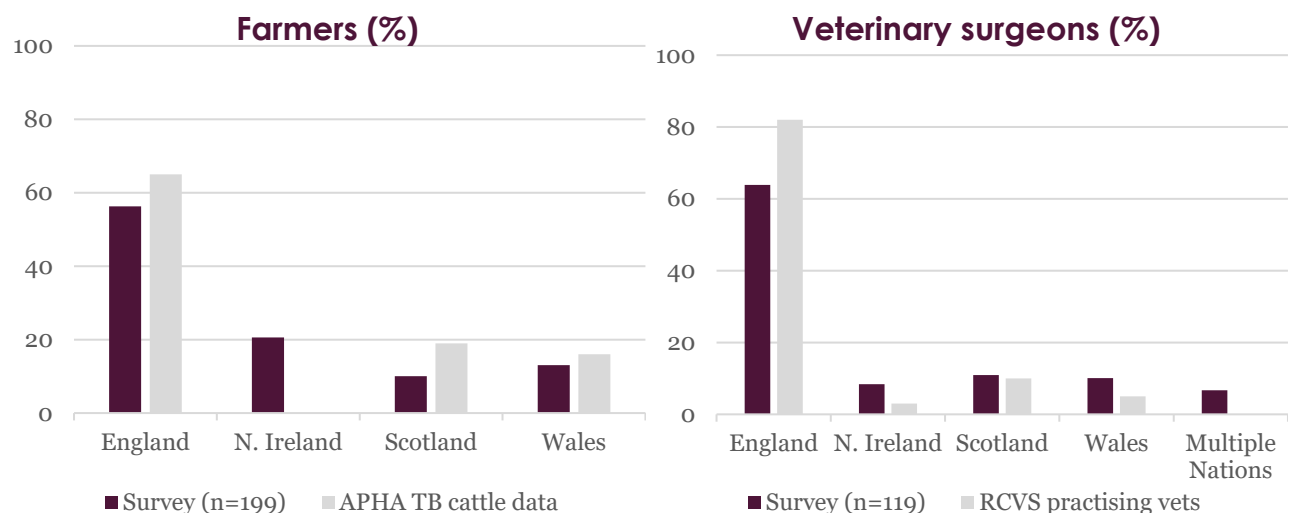


Figure 1: Distribution of farmer and veterinary respondents by nation, compared with external reference data. Northern Ireland is not included in the APHA TB cattle surveillance figures.

The 119 veterinary respondents predominantly worked across all ruminant livestock sectors: 107 (90%) reported having farming clients across dairy, beef and sheep, with a further eight (6.7%) working across two. Only three respondents worked with a single sector.

The annual ABU figure

There were 284 enterprises within the farmer respondents when accounting for mixed enterprise farms. When farmers were asked ‘do you or your vet calculate a figure that represents the annual antibiotic use for cattle/sheep on your farm?’, 41 (89%) of those with a dairy enterprise responded that they do have an annual usage figure, compared to 65 (59%) of those with beef, and 72 (57%) of sheep enterprises. Where there was an annual ABU figure, it was most often calculated from the vet purchase records rather than solely from the farm’s medicine records, with 17% of farmers using both farm medicine record and vet purchase records for calculations (Figure 2). Most farmers discussed their annual ABU with their vet on an annual basis only. However, around three quarters of farmers across all three ruminant sectors who have an annual figure agreed that knowing this helped with health and welfare decisions of their livestock (Figure 3).

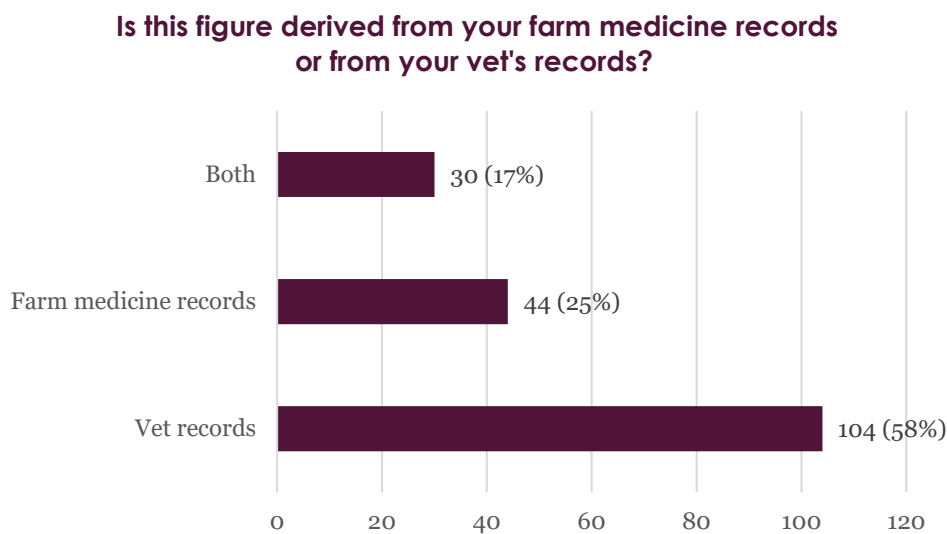


Figure 2. Farmers with an annual ABU figure, and how it is derived

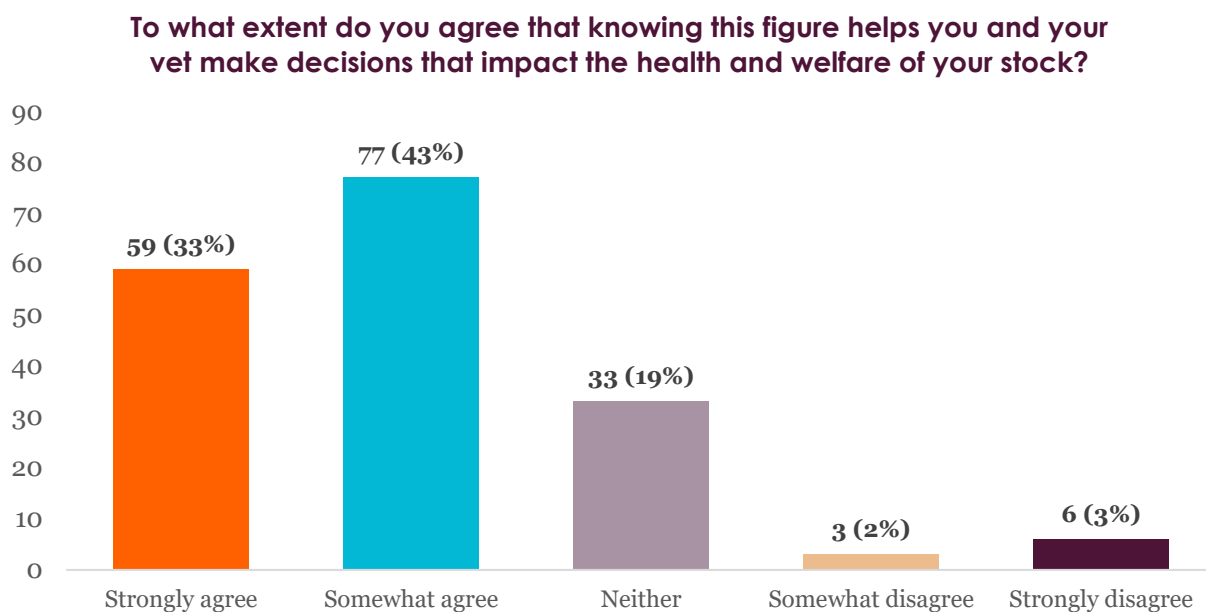


Figure 3. Farmers with an annual ABU figure, and agreement on how it aids decision making on farm

On-farm recording and purchasing

When farmers were asked “*how are you currently recording your on-farm antibiotic use data?*” There was an even split between paper and digital, with very few farms using both (Figure 4). There was less variation in purchasing behaviour, with 175 farmers (88%) stating they bought antibiotics from a single veterinary practice only, with online pharmacies and multiple practices accounting for the remainder.

Among the 92 mixed enterprise farmers who answered the question ‘*If you are a mixed enterprise, are your purchases and/or usage recorded separately for each enterprise?*’, 58 (63%) recorded purchases or usage separately for each enterprise, 28 (30%) did not, and six (7%) were unsure. Vets reported similar: of 118 who answered, ‘*for mixed enterprise farmers, do you ensure antibiotics sales are recorded against the correct enterprise?*’, 86 (73%) said they ensured sales were recorded against the correct enterprise for all or most farm clients and, while nine (8%) said they did not do so at all (Figure 5).

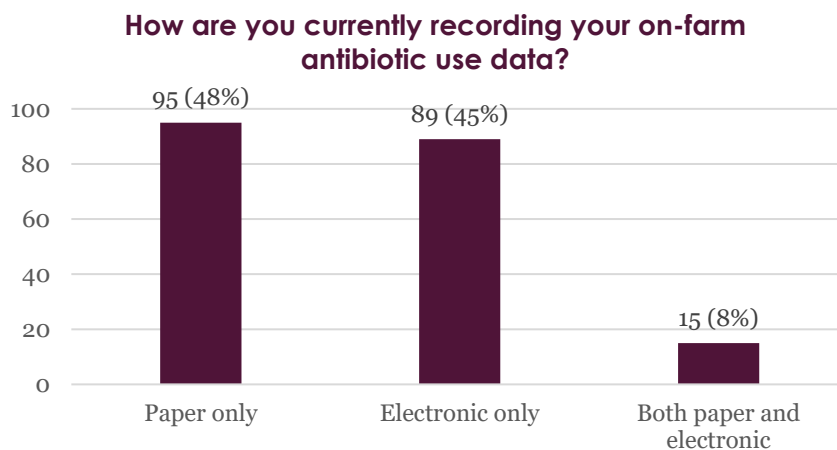


Figure 4. Methods of antibiotic use data recording on farms

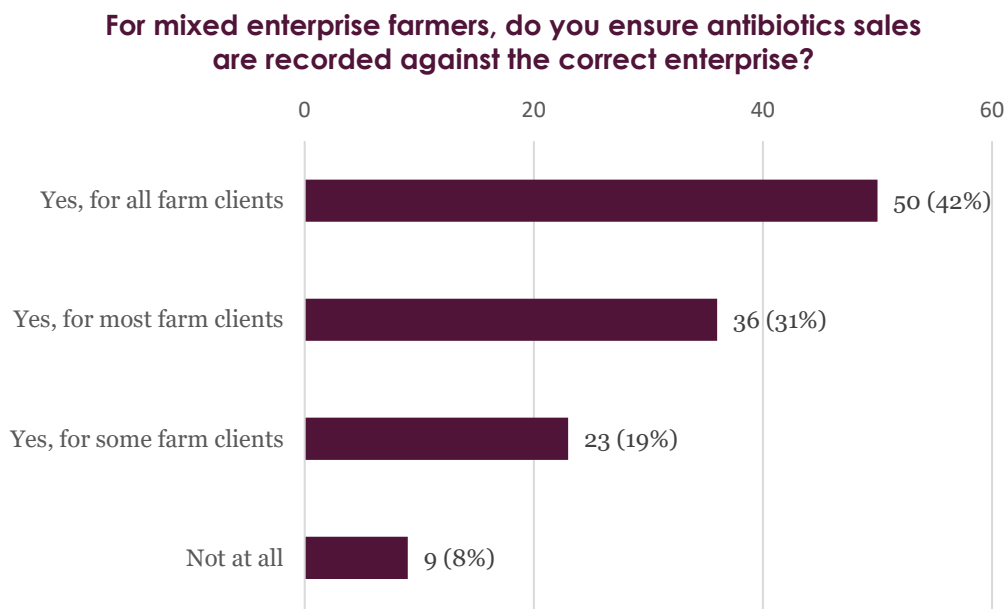
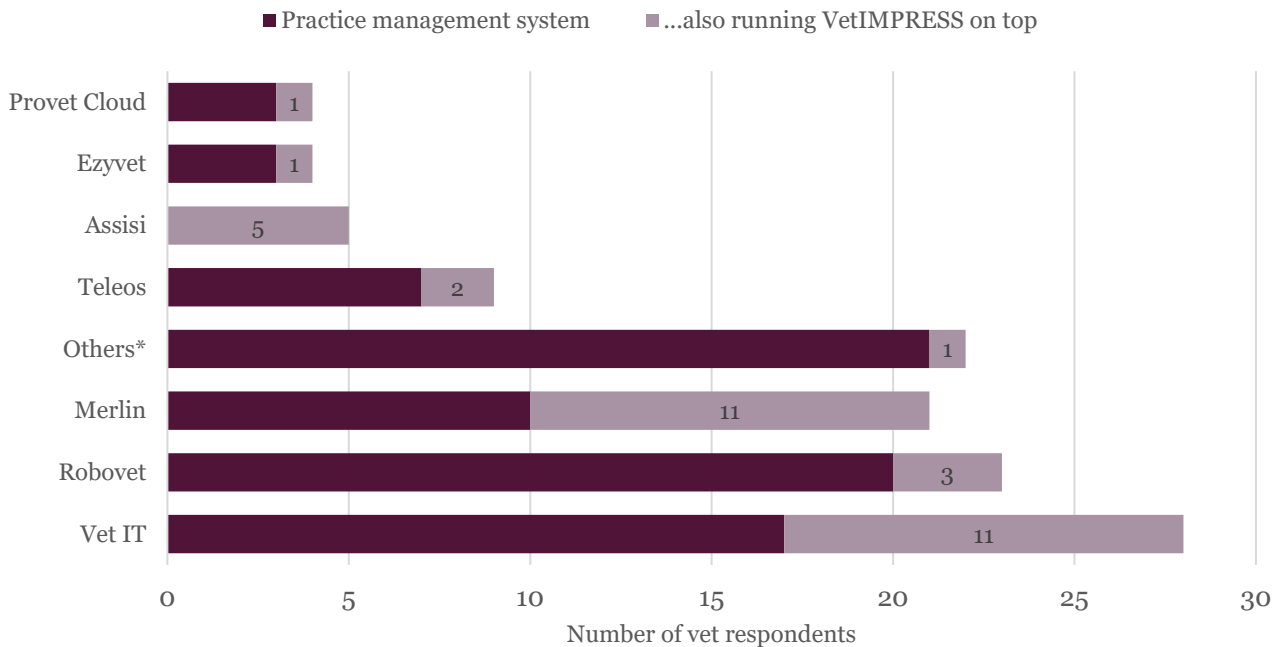


Figure 5. Accuracy of antibiotic use data recording against mixed enterprises by veterinary practices

Practice management systems

Multiple practice management systems were used across veterinary respondents (Figure 6). VetIMPRESS, a data processor, was the most frequently named product (37 respondents), with 35 of these using it as a layer on top of an underlying practice management system, most commonly Vet IT or Merlin.



*Others include single user systems

Figure 6. Veterinary respondents' answers to 'what computer systems do you use for farm clients in the practice? (please tick all that apply)

4. What are the barriers to and facilitators of antibiotic data collection and stewardship?

In this section, the barriers and facilitators identified from all stakeholders across the research findings are outlined and structured around the five key questions that framed the summit. The barriers include the perspectives from farmers and vets who are on the frontline of data collection and stewardship, together with the discussion generated when the initial research findings were put to all stakeholders at the national summit. The mechanisms, models and conditions that participants identified as capable of addressing these barriers were the main focus of the summit discussions.

I. How do we unite the sector and the UK?

The research indicated a degree of fragmentation of approaches to ABS, with many organisations pushing this forward in different ways, and each nation taking its own approach. The survey and focus group responses indicated that stakeholders agree that sharing antibiotic usage data is for the greater good. However, at the same time, vets expressed feelings of being undervalued and underappreciated with no incentive or benefit to sharing data. Equally, some farmers struggle to see the benefits to their business, especially when they perceive themselves to be low users of antibiotics. These themes were brought together under the first of the five key research questions presented to stakeholders at the summit to develop actions: “how do we unite the sector and the UK?” The following section outlines the barriers to unification identified through the research and summit discussions, followed by the facilitators identified alongside these, and actions proposed at the summit.

Barriers

One of the central barriers to antibiotic data collection in the ruminant sector is fragmentation. Numerous organisations, from milk buyers to retailers, are pushing forward data collection and collation, and each of the devolved nations have their own approaches, specific to them, for example in Wales. Therefore, this creates duplication, and a sense that no single, coordinated effort exists.

**“There are too many different organisations involved currently doing their own thing, it gets confusing.”
(Veterinarian, survey response)**

Although there was general agreement that collating and sharing antibiotic data is for the ‘greater good’, this shared willingness has not translated into aligned action. Vets often feel undervalued and time poor, seeing little incentive with collating and sharing data, whilst many beef and sheep farmers who perceive themselves as low users struggle to see what they personally gain, indicating that the benefit to low users remains unproven or unknown with regards to trade and the important export market that they are directly or indirectly involved with.

Fragmentation is not confined to data collection systems and the devolved nations; it is also structural within the sectors themselves. Most dairy farmers are under contractual obligations to provide their ABU data, whereas beef and sheep farmers are not. The beef and sheep sectors are also inherently more fragmented than dairy. Rather than supplying milk buyers or retailers directly, many beef and sheep farmers sell farm to farm, or through markets, so livestock passes through many hands before reaching its eventual destination in the food chain, meaning there is no single contractual relationship through which data can be captured.

“Just collecting antibiotic data at a store finisher level [is not] a true reflection... it's not picking up a lot of what's going on in those breeding flocks.” (Sheep farmer)

Summit discussions identified a dynamic not captured in the initial research that there is a reluctance among some participants for their nation's data to be used by the administrations of other nations, and a sense that devolved administrations have at times worked against one another rather than together.

Funding flowing from devolved governments reinforce national rather than UK-wide approaches. Delegates also noted that animals move across internal borders continuously, so nation-level data collection creates both gaps and duplication.

A distinct point raised at the summit was that consumers and export customers do not see devolved borders. Both tables discussing this question at the summit reported that Scotch beef, Welsh lamb and the Northern Irish brands compete for domestic attention where a single UK-level identity would carry more weight in export markets. Dairy adds a further disconnect in operating across GB but not Northern Ireland. Delegates argued the sector needs a UK-wide image, data set and marketing position rather than regional ones, while recognising that regional brands carry real commercial value to those who hold them.

A candid reflection at the summit was that the sector got off to the wrong start roughly a decade ago. Early misinformation about what a national database was intended to do became entangled with medicine data, and too many ambitions (such as electronic identification, adding value to medicine data and national reporting) were pursued simultaneously with the result that the whole proposition was poorly presented and, in the words of one delegate, “it scared the horses”. The sector is therefore working against a reputational overhang as well as a technical problem. The Medicine Hub was repeatedly cited in this context as a significant investment that has so far not delivered.

All the research made it clear that farmers are under considerable pressure from multiple directions, and that carbon footprinting is currently a larger and more insistent demand on their time and attention than antibiotic use data.

“Everything takes time and we're already working seven days a week to the detriment of family and our own personal happiness.” (Beef and sheep farmer, survey response)

Any additional ask therefore competes for a very limited share of farmer attention, and summit delegates warned repeatedly against bombarding farmers with further requirements.

A discussion point that emerged at the focus groups was that farm assurance is a weakening and contested lever. Farm assurance no longer holds the same value to farmers as previously, where stock and produce from non-assured farmers can fetch the same price as those from assured farms. With the additional administrative burden of being assured, unless there is a contractual requirement to do so, farmers are not incentivised.

“There is such a buoyant export and ethnic market where you can get as much money for your lambs being non-assured.” (ILG focus group)

“If there's no market advantage and people can sell their stock outside, then it's just another nail in the coffin.” (Sheep farmer)

In addition, Red Tractor has removed a substantial proportion of its audit content in an attempt to retain participation, and that assurance has come to be seen as a bare minimum rather than a source of added value. A structural limitation was emphasised where beef animals need only be assured for the final 90 days of life and sheep for less, so assurance does not follow an animal through the multiple holdings it may pass through. Scotland was highlighted as the significant exception, with a high proportion of Scottish beef whole-life assured and adherence attributed in part to a genuine financial incentive through premium routes. Linking ABU data collection to farm assurance was considered by some as a non-viable long-term strategy, and that loading further requirements onto assurance would accelerate departures. However, others cautioned against abandoning a mechanism that demonstrably works in parts of the UK.

For antibiotic stewardship, the same fragmentation dilutes the collective message and makes it harder to demonstrate progress as a united UK ruminant sector. The stewardship responsibility also lands unevenly, with most beef and sheep farmers already using minimal antibiotics and struggling to see the benefit of engaging further, while vets can feel undervalued and disincentivised. The sector's low users

are therefore the hardest to bring into a united effort. However, this framing was challenged at the summit by the question of whether the beef and sheep sectors are using the right metrics, suggesting that beef and sheep confidence in being low users may reflect the measure rather than the reality, and that a per-animal or whole-of-life figure could look materially different.

Facilitators

Delegates at the summit were asked to discuss how we can demonstrate the benefits of ABU data collation, and unite efforts to reduce duplication, make the best use of resources, and remove the barriers that are slowing progress.

The strongest unifying facilitator is the shared sense of purpose. Those consulted broadly agreed that sharing ABU data is for the greater good, viewing it as a professional responsibility, a route to reducing AMR and a means of making collective progress. Wales was universally cited as the success model, its progress attributed to two transferable factors — sustained government funding and a trusted, producer-led delivery body — that together made participation feel almost frictionless.

**‘...trust to the Welsh organisation... with Welsh lamb and beef because it’s a producer-led organisation.’
(Veterinarian)**

This suggests that a central coordinating body could unite the wider effort through reducing duplication and aligning the four nations, being funded and structured so that no sector or nation is asked to do more than the others. A key enabling insight on farm assurance is that the recording requirement could be decoupled from Red Tractor (whose coverage is falling) and attached instead to the annual veterinary or medicines visit that many food-chain farms already have, so that non-assured farms are not excluded and no single scheme carries the whole burden. Importantly, demonstrating the benefit to low users through contextualised benchmarking that shows beef and sheep farmers what they gain is seen as the way to convert principled agreement into active participation.

The Sanitary and Phytosanitary (SPS) agreement emerged as the single most powerful convening lever. This was the most consistently identified facilitator at the summit and was not prominent in the earlier research. Delegates viewed a SPS agreement with the EU as both a driver and an opportunity. It creates a requirement that applies UK-wide rather than nation by nation, it provides an external rationale that removes the need for any domestic party to be the one making demands, and it offers a natural moment for regulatory reform and compulsory data capture. Several delegates argued it would be a serious, missed opportunity not to use it. Northern Ireland's existing alignment with EU regulation was noted as strengthening the case for all four nations moving together.

Agreement between the four Chief Veterinary Officers was proposed as the practical unlocking step. Rather than a new coordinating body, one part of the discussion proposed the most direct available route to clarity: the Chief Veterinary Officers of the four nations agreeing between them what data is required (farm level, species level, national) and what is needed for SPS alignment. Success was defined simply as very clearly defined data requirements, and the timeframe as immediate. This has the advantage of using existing authority rather than creating new structures.

A strong and repeated summit position was that the sector should replicate the Welsh model in the other nations rather than design something new. Delegates set out the detail of why this model worked: it was vet-led from the bottom up but supported by government through the Arwain DGC project; the government funded analysis of the data and publication of the yearly reports. Academic support was brought in to validate the approach, and it subsequently became embedded in farm assurance. A substantial majority of Medicine Hub data was reported to originate from Wales. Delegates noted that some Welsh practices have extended the approach to non-assured farms at their own cost, and one reported they would likely continue to fund it if government support were withdrawn, indicating that the model has been embedded rather than merely been purchased.

Summit delegates argued for producing aggregated data at UK level, on the grounds that consumers, retailers and export customers do not see devolved borders, and that the sector should be asking the nations to contribute to a UK figure rather than presenting four. This was coupled with a call to keep the effort pre-competitive.

Approximately 40% of an animal by weight is offal and other fifth-quarter product, which is very largely exported, and which carries additional margin. Losing access to those export markets by not being able to demonstrate responsible ABU would impact directly on producer profitability. Delegates proposed a communications exercise, working with processors and meat trade bodies, to apportion value to the fifth quarter and demonstrate to farmers what it contributes to their bottom line, thus making the trade argument concrete rather than abstract, and giving beef and sheep farmers a self-interested reason to participate.

A clear and widely supported facilitator was to stop leading with the message of reducing antibiotics. Delegates with delivery experience reported that the reduction narrative gained no traction, and that framing the work around improving productivity, animal health and welfare with lower and appropriate antibiotic use following consequently engaged farmers who had previously disengaged. This framing also links naturally to farm economics and to environmental measures such as carbon, allowing the antibiotic message to travel alongside the demand that currently commands more farmer attention rather than competing with it.

Delegates proposed a structured review of outputs from demonstration and monitor farms, levy bodies, consultancies and knowledge exchange organisations across the four nations, to identify and communicate what demonstrably works. This could include low-cost interventions such as improved ventilation and environmental monitoring that reduce disease and therefore antibiotic use without capital investment. This was seen as a short-term action that could begin once the data requirements are clarified.

A practical facilitator identified at the summit is that corporate veterinary groups operate across national boundaries, so collecting at practice level rather than farm level offers a route to UK-wide data that does not require four administrations to build compatible systems first.

For stewardship, the sector already has a common goal of responsible use for the greater good and has a compelling collective story since UK beef and sheep farmers are on the whole perceived as low users. Wales again offers the transferable model of sustained funding and a trusted, producer-led body that has created the conditions in which good stewardship could be supported and demonstrated at scale. Uniting the sectors and nations behind a single, well-resourced effort, with the benefit to low users clearly demonstrated through contextualised benchmarking, could turn this shared principle into consistent stewardship on the ground.

II. How can we make data recording practical, feasible and useful?

The research showed a clear desire for an easy-to-use universal system for antibiotic recording (usage or sales), to improve current systems integration and interoperability, and for clear guidelines on best practice and antibiotic usage requirements. The important role of practice management systems was a common theme emerging from the survey and focus groups, and further evidence is needed to identify how they can feasibly feed into data recording and collation. This was summarised under the second key question: “How can we make data recording practical, feasible and useful?”

The following section outlines the barriers to data collation and recording, from data infrastructure to time and financial resourcing, followed by the facilitators identified alongside these, and actions proposed at the summit.

Barriers

The biggest barrier is that too many systems collect different antibiotic use data, and in different ways, making recording and collating data complex for vets and farmers. This is driving a clear demand for a universal, easy-to-use interoperable system with clear guidance on what data is needed and by whom. Infrastructure and knowledge gaps compound this within the farming community; recording method ranges from being paper (48%) to electronic (45%) to both (7%) in this survey. Digital literacy can be a challenge, requirements are unclear, and many farmers admitted that their records are not accurate enough. Mixed enterprises present a persistent, practical problem, where cross species bottle-sharing, informal redistribution between farms and inaccurate livestock numbers make it difficult to know which species the antibiotics were used on, so vet sales data can misattribute use unless corrected at the point of reconciliation. There is also a purchase-use mismatch (a bottle bought is not always a bottle given), alongside questions about how much ABU data is useful and what level of granularity is needed.

“If we go down the road of trying to get too much very accurate information, we’ll end up with none at all.” (Sheep farmer)

“We always fall into that trap of collecting way more [data] than we can ever possibly have as utility in government policy or clinical conversation.” (Veterinarian)

Underlying all of this are the questions surrounding time and funding. Data collation and reporting carry a cost, proprietary extraction software can be hard to justify once funding is removed, and it remains unresolved as to who allocates the time and bears the cost of taking on this job. Finally, opaque antibiotic supply chains through secondary practices or travelling sales vets doing on farm prescription checks mean the primary vets records may not reflect all antibiotics sold and used on farm.

Many participants felt that practice management systems were designed for companion animal practice and retrofitted for farm use. They do not distinguish enterprise at the point of prescription, the name recorded against a prescription is frequently the receptionist rather than the prescribing vet, and there is no consistently applied prescription protocol, with recording culture varying practice by practice with some recording to an individual animal, others to a farm enterprise. It was highlighted by several stakeholders that this is not fundamentally a technology problem. The constraint is the absence of any requirement or standard governing how vets record, and the absence of a common language allowing systems to map to one another. A related gap was identified in product coding, with a call for unified coding to the level of active ingredient, and the observation that Special Import Certificates (SICs) are not currently captured by the VMD.

Across all research findings, and summit discussions, it was noted that veterinary practices hold a reliable record of what was dispensed but no reliable record of the animal population it was dispensed to. This raises the question of how many animals are actually on a farm, without which a usage figure cannot be calculated.

Collating and reviewing the data is a clear burden for vets. Time was estimated at 20 to 30 minutes per farm, and it was reported that some practices already decline to submit data unless they are paid to do so.

(The main challenge is) “the time and energy required in the absence of any payment or sufficient client demand” (Veterinarian, survey response).

The principal cost was identified as data aggregation rather than data capture. Mapping out clearly who pays what was strongly emphasised by vets, with farmers paying for the mandatory veterinary visit, and practices paying for practice management system upgrades. An important distinction was drawn between start-up cost, for which government pump-priming was widely expected, and the financial source of the

ongoing running cost. For dairy there is a commercial lever through milk buyer audit and pricing models to compel participation, whereas for beef and sheep, there is not.

The finding that 48% of farmers still record on paper surprised several delegates. It was pointed out that Defra figures show approximately 98% of movement, birth and death records are submitted digitally, which suggests the barrier is not digital literacy but the absence of a driver and a suitable tool. A stark illustration was offered from Northern Ireland, where of some 11,000 farms in the beef and lamb quality assurance scheme, only around 400 use digital farm management systems.

Evidence of supply chain opacity was described across the research activities. In addition to second practices and travelling sales vets, which were widely mentioned by vets in the survey, summit delegates identified online pharmacy prescriptions as a visibility gap. Non-prescription products such as wormers sit outside the system entirely, despite the same habit and information problems applying to them.

An observed barrier to the use of existing visits to support data reporting was that they are not currently aligned in an annual farm cycle. The farm assurance visit operates on an 18-month cycle while health planning is annual, so bolting medicine review onto an existing visit is not as straightforward as it first appears. Veterinary Advice Note (VAN) visits were described as relatively meaningless and a box-ticking exercise by some, while farms not requiring a VAN, for example those selling through their own butcher's shop, may still rarely see a vet at all.

Discussion around the existing Medicine Hub focused on how this centralised data collection platform has had limited uptake due to its dependence on the farmer or the vet entering data manually, with the consequent problems of engagement and accuracy. In dairy, progress was reported to have come only when responsibility shifted to the processor i.e. the commercial driver. The system itself was described as expensive, clunky and difficult to use, but lessons could be learnt from this for the rebuild, upgrade or design of a new system.

For antibiotic stewardship, good prescribing decisions depend on good information, and this information needs to be captured by practice management systems so there is an ongoing record of farmer–vet conversations around medicine prescribing and the herd health situation. Yet this information is often not captured, or not captured reliably, so the clinical picture needed to target treatment and demonstrate appropriate use is not always there. This was further reinforced at the summit, where examples were given of when the prescriber recorded is not the prescribing vet and no clinical rationale is attached, meaning that neither prescription accountability nor appropriate use can subsequently be demonstrated.

"[Good] clinical notes, so courses are prescribed for specific species and conditions. Client software could also include this more robustly? So these are automatic questions asked when prescribing and dispensing" **(Veterinarian, survey response)**

"Evidence of prescribing conversations recorded and recording on farm" **(Veterinarian, survey response)**

Facilitators

The central facilitator is the strong, cross-sector appetite for a single, easy-to-use, universal recording system with improved integration and interoperability and clear guidance on requirements to replace the current patchwork of incompatible systems. The most practical enabler identified is vet-held sales or purchase data because farmers cannot under-report what they have demonstrably bought, and because standard prescribing and dispensing procedures mean that in most cases the practice already holds a complete record as a by-product of normal business, i.e. this data is captured with no extra effort from the farmer.

“I can't fabricate how much I've purchased from the vet. It's them that's put those data in.” (Sheep farmer)

The Welsh annual-review model is the proven mechanism for making it accurate whereby the vet reconciles species allocation with the farmer before uploading, turning the farmer's role into low-burden verification and resolving the mixed-enterprise allocation problem. There was agreement at the summit that practice management systems feeding data automatically to a central hub via APIs and/or third parties would remove burden from both vet and farmer. On funding, several workable routes were proposed including levy, government funding, or folding the task into an existing (possibly mandated) vet visit so it adds no marginal cost. A shared principle was that the producer should not be charged for providing data that others request.

"Don't let perfection get in the way of progress." This phrase was recorded at multiple tables and became one of the summit's organising principles, as well as a developed theme from the survey and focus group findings. This principle was applied to mixed enterprise allocation, where delegates, including the VMD, concluded that implementation should not be delayed by imperfect species attribution, particularly for smaller enterprises, and that a pragmatic approach to anonymisation was preferable to waiting for a perfect solution. The same approach was taken to coverage, with delegates agreeing that using and incrementally improving existing data is better than presenting no data at all. This represents a meaningful shift from the earlier research, where the theme of perfection, in particular with vets, and the difficulty of achieving accurate allocation was treated as a substantive obstacle.

Rather than debating what could be collected, delegates converged on defining the minimum data required; for example, annual, farm-level (CPH) prescription data, split by species or enterprise, with an agreed numerator and denominator and a unified template at enterprise level. One table proposed simplifying reporting categories to cattle and sheep rather than dairy, beef and sheep separately, on the grounds that dairy calf data is materially harder to calculate and that two reporting categories would reduce burden without meaningful loss. Establishing this specification first and then telling practice management systems providers what they must deliver, was seen as the correct sequence, i.e. setting the target, then building the system to meet it.

The clearest and most widely shared action from the summit was that veterinary practices should report antibiotic prescribing annually, in a format that can be captured across practice management systems and aggregated into a national picture, split by farmed species or enterprise and by farm to give the denominator. Discussions suggested that practices would need to distinguish enterprises at the point of sale or prescription, and year-on-year comparison would smooth seasonal variation. The supporting actions identified were; configuring practice management systems to deliver both farm-level and national data; the VMD insisting on congruity of data and leading by example; and reform of the Veterinary Surgeons Act and associated secondary legislation to clarify what is expected in recording treatments to animals under a vet's care.

A specific design proposal from the summit that would resolve the burden problem without removing professional oversight was that recording, processing and uploading should be automated, with the vet retaining a simple decision to confirm or withhold the upload. This keeps the vet accountable for the data while removing the manual work that currently makes the task unattractive.

Delegates identified that interoperability requires unified product coding to the level of active ingredient, and a common data language allowing systems to map to one another. Importantly, several delegates argued that every practice does not need the same software, only that collection and aggregation are standardised across whatever systems are in use.

Regarding the barrier of accurate denominator data, rather than asking farmers for animal numbers, delegates identified existing sources that could supply reliable population data, such as the British Cattle Movement Service, TB testing records, the Animal Health and Welfare Pathway, the VMD's list of CPH

numbers, the annual sheep survey, and the Livestock Information Programme, with the Livestock Information Service being rolled out and mandatory for sheep.

There was a strong consensus across the research that the data task should be folded into existing veterinary contact such as health planning visits, VAN visits and farm assurance visits, with the objective of being time-neutral or timesaving rather than additive.

“It should be part of that mandated veterinary visit. I’m quite sure of that.” (Sheep farmer)

This was coupled with the recommendation that one veterinary visit per year should be required of every farm keeping food-producing species, which both creates the occasion for the data and addresses the farms that currently have little or no veterinary contact.

Summit delegates were clear that government pump-priming is needed for system development and practice management systems adaptation, following the Welsh and Irish precedents, and equally clear that this is a separate question from who funds ongoing operation. Partial mapping of the running cost was achieved whereby farmers meet the cost of the mandatory veterinary visit and practices meet the cost of practice management systems upgrades, with costs borne by practices potentially recouped through visit charges.

For the barrier of opaque supply chains, a workable proposal was that farmers should nominate their supplier or suppliers for each species, and that vets should be correspondingly accountable for prescribing to animals under their care, supported by better systems for reporting and investigating illegal supply. Rather than eliminating multiple prescribers, which delegates regarded as legitimate and unlikely to be prevented, the aim would be visibility, so that any vet prescribing has sight of the full dispensing history.

Two examples of international models which could offer transferable mechanisms were raised. New Zealand’s statutory medicine consultations were described as allowing prescribing patterns to be flagged automatically and trigger investigation, without relying on a vet or farmer to notice. From human medicine in Australia, delegates cited the Chief Medical Officer writing directly to the highest-prescribing 20% of general practitioners, which produced a substantial reduction, and asked whether the same targeted, non-punitive approach could be applied to veterinary practices. Both are low-cost interventions that work with the data rather than requiring more of it.

Where the earlier research identified the absence of benefit to low users as a barrier, the Summit proposed routes to address it. These were state support for what is explicitly a public good, agreement with farmers on value added to their product in return for the data, and market access driven by processors, retailers, markets and assurance schemes, as the mechanism most likely to be felt at farm level.

Delegates were clear that goats must be included, requiring a species group and a decision on whether they are reported with dairy or with sheep, with published goat data as the measure of success. Separately, training front-of-house practice staff who dispense medicines was proposed as a straightforward means of ensuring species data is captured accurately at the point it is handed over to the client.

For stewardship, the facilitators that make recording easier also strengthen stewardship, because good stewardship depends on good information. Vet-held sales data reconciled at the annual visit gives the vet an accurate, ready-made picture to interpret, freeing the health-planning conversation to focus on improvement rather than data entry. Vets were clear that their most effective visits are those where the data already exists and they can move straight to interpretation.

“There’s nothing worse than spending the majority of your health planning visit collecting the data and filling [it] in... my most effective meetings are when... the small farms have actually filled in all the data for you.” (Veterinarian)

Capturing not just antibiotic use but vaccination, diagnostics and health planning would make the drivers of low use visible and give vets and farmers positive evidence of the prevention work that constitutes good stewardship.

III. Who leads? Who mandates? Who enforces?

An insight from the focus groups and interviews was that change happens faster and more comfortably when the rule originates outside the clinical environment, i.e. through a scheme or regulator, or commercial driver, so the vet can position themselves alongside the farmer rather than as the imposer. This was summarised under the third key question: “Who leads? Who mandates? Who enforces?”. In this section the barriers around governance and leadership of data collection and reporting are outlined, followed by the facilitators identified alongside these, and actions proposed at the summit.

Barriers

A key barrier is uncertainty over whether harmonised data collation can be achieved at all without regulation. Communication and voluntary approaches were widely felt to have plateaued and to reach only the already willing, while the reputational risk sits with those who choose not to engage, leading several participants towards legislation.

“We have fired a lot of bullets on the communications front and it hasn't really touched the surface.” (ILG focus group)

“It will be the minority that will produce the sensationalist headlines... that will then lead to our prescribing behaviour being legislated.” (Veterinarian)

“The people who are the reputational risk are not giving up their Thursday evening at 7:00 to discuss antimicrobial stewardship.” (Veterinarian)

Yet mandating carries its own barriers and potential unintended outcomes. A purely voluntary ‘carrot’ approach is undermined by competition, since a farmer refused a product can simply obtain it elsewhere, but legislation does not guarantee data either as some countries that have mandated reporting are still struggling to achieve coverage. A pragmatic process that emerged through the vet focus groups was to reach 70–80% through commercial and aggregator routes, then mandate the remainder. But this leaves open who should regulate (and enforce) and what would incentivise engagement, and once again, how to manage this within the structurally fragmented beef and sheep sectors. Crucially, any system must protect the trusted vet–farmer relationship. Change happens more comfortably when the rule originates outside the consulting room so that the vet stands alongside the farmer rather than as the enforcer, while resolving where accountability lies and ensuring the reasons for prescribing are genuinely understood.

“[A way forward would be] trying to avoid vets being the police over collating antibiotic use data but having that data sourced by a third party... so it's there on farm, ready for you to have the conversations.” (Veterinarian)

“We really want to take burdens away from farmers... that [information] can be fed in centrally through APIs.” (ILG focus group member)

Summit discussion added an important qualification to this, that the trusted relationship cannot simply be assumed. Delegates noted that vets may not always be trusted where they are seen to be enforcing what government wants, that vets in a practice may change frequently, and that a meaningful proportion of farmers, particularly in Northern Ireland, are not having an annual review with a vet at all, so there is no relationship through which stewardship can operate.

The question of “Who leads? Who mandates? Who enforces?” was seen as a bit of a “chicken-and-egg” problem - does legislation come first, or a system fit to receive the data? The dominant view was that mandating collection into a mechanism that is not yet fit for purpose would fail at the first hurdle and jeopardise what has already been achieved. Yet the counter-position equally clearly expressed was that until there is compulsion, nothing will change, and that investment will not be forthcoming without a requirement to justify it.

Alongside the earlier research finding, delegates drew on the Republic of Ireland's experience, where vets were required to supply data linked to practice management systems. The mandate gained little traction until legislation was introduced and some funding was made available to adapt systems, with vets otherwise expected to absorb the work as part of normal practice. A recurring concern was that government legislation would be a blunt instrument that would not achieve what a coordinated industry approach could.

The devolved mechanics are genuinely complicated and present an important barrier. The Animal Health and Welfare Pathway operates in England only; the VMD's remit covers GB; Northern Ireland operates under EU regulation and will be required to align with any SPS arrangement; and the question of who pays has a different answer in each nation. Delegates raised the risk of double counting for Northern Ireland and noted the difficulty of legislating UK-wide without either undermining or holding back nations that are already performing better.

A point made forcefully at the summit as well as in focus group discussions was that people only conceal use or resort to illegitimate supply if they fear a consequence, and that the fear in question is not fear of penalty for failing to report but fear of penalty for using antibiotics at all. Concerns were voiced that context and clinical justification could be overlooked in the interest of driving a number down. An unintended consequence flagged in relation to restricting farmer administration of medicines was that this could lead farmers to adopt a wait-and-see approach or avoid veterinary involvement for financial reasons, leading to poorer welfare outcomes and alienation of farmers who feel a capability is being taken away from them.

Vets were consistently clear that they do not wish to act as police, and that although they can ask whether measures are in place they are reluctant to enforce them.

“We need to be careful to maintain that trusted position on farm. And we don't want to come across as the policeman of the state in antimicrobial use... if we somehow damage that relationship between vets and farmers in the UK... I think we lose our position.” (Veterinarian)

Farmers, for their part, valued the relationship as the place where context and honesty live, and were comfortable with the vet uploading reconciled data precisely because of that trusted relationship. However, one farmer cautioned that a vet who merely signs off a figure to tick the assurance box, without the improvement conversation, adds little (Sheep farmer). Industry and devolved-nation representatives likewise warned against underestimating the vet–farmer relationship as the mechanism through which these changes are delivered (ILG focus group discussions).

On a separate point regarding vet enforcement, concerns were raised regarding ‘travelling sales vets’ prescribing to animals not under their care. One vet described losing a substantial calf-rearing client after declining to supply preventative antibiotics for all incoming animals; the client moved to another prescriber, and although the matter was reported to the RCVS, no action followed. This was a significant source of frustration. It was also noted that no licence is required to farm, or to administer antibiotics and this was contrasted explicitly with the certification required to apply pesticides.

Summit delegates reported no strong steer from government about what industry is required to do, describing the sector as slightly adrift, and simultaneously sensed that government is waiting for industry to produce a voluntary solution. A related observation was that stakeholder organisations are themselves reluctant to call for a mandate for fear of upsetting their farmer members. Each party is therefore waiting for another to move, which is itself a barrier to progress.

Facilitators

A key facilitator is the recognition that change happens faster, and with more cooperation, when rules originate outside the consulting room, e.g. through a scheme, regulator, or commercial driver, allowing trust to be maintained in the farmer-vet relationship. This was evidenced when participants highlighted that use of highest priority critically important antibiotics (HP-CIAs) largely disappeared once assurance schemes restricted the use of them, after years of variable progress when vets were responsible for this alone.

“When it was down to vets to drive [category B antibiotics] down, it was very variable... And then [the scheme] basically banned them and they pretty much disappeared.” (Veterinarian)

“It's easy if the rules come from somewhere else... It's not for us to have to try and police it then, is it?” (Veterinarian)

The most striking shift between the research and the summit is the extent of agreement that compulsion is necessary. Across the tables addressing this question, and echoed in feedback from others, the position was that voluntary approaches have been pursued for approximately a decade, have delivered some progress that has now stalled, and cannot be expected to close the remaining gap. The conclusion was reached reluctantly rather than enthusiastically and was consistently paired with two conditions: that government leadership and funding, at least to pump-prime, must accompany it, and that the system must be capable of receiving the data before the requirement is enforced.

A clear and repeated principle offered to answer the question of who should be mandated was that veterinary surgeons have the right to prescribe, and the privilege to dispense and that these carry responsibilities that do not end at the point of prescription or dispensing. On this basis, supplying data for national collection can reasonably be regarded as a professional responsibility (or “part of the job”) rather than an additional imposition, provided vets are given the tools to do it. Summit delegates also noted that it is considerably easier to mandate vets than farmers, and that the data already exists in practice systems, making the veterinary route both more practical and more reliable.

Two viable models were articulated at the summit. Firstly, a government-led model, whereby government mandates and enforces collection of aggregated, anonymised UK data as a minimum viable product sufficient to satisfy trade requirements including SPS. Secondly, an industry-led approach with government support, whereby industry stakeholders determine what the standard should be and government provides the enforcement, with data collected at species level as a workable middle ground and no exemption by farm size. The first option would be simpler and faster, while the second option was assessed as harder to implement but considerably more impactful, because it carries sector ownership.

Building on the industry-led approach, delegates proposed a specific governance arrangement drawn from existing precedents: a stakeholder forum, with a suggested composition of RUMA, levy bodies and farming organisations, develops the mandated scheme, acts as the liaison and buffer between farmers and government, and delivers the message, with government providing the final push and the enforcement. This addresses the concern that schemes are frequently written by people who do not understand farming, and the equally real concern that stakeholder bodies are reluctant to be seen demanding mandates of their own members. The Johne's Action Group and BVD eradication schemes were cited as domestic precedents, and the Netherlands Veterinary Medicines Institute (SDa) as an international one where stakeholders deliver the scheme under a government framework.

A related proposal was that the farmer and vet co-develop the farm health plan as routine, and that the plan includes a declaration to submit data to a trusted, identified data holder under agreed and anonymous terms. This keeps the arrangement within the trusted relationship, makes the data-sharing decision explicit and consensual, and gives the farmer visibility of what is being shared.

Delegates proposed framing the ask not as a burden but as the counterpart to a privileged position. Access to prescription medicines is a privilege that carries responsibility, and it is a privilege that could be lost.

Farmer case studies delivered through farming organisations were identified as the mechanism to spread the message and demonstrate best practice, with the message that nobody wins unless everyone wins.

More ambitiously, and with real support at one table, was the proposition that using antibiotics should require certified training, on the explicit model of pesticide certification. Delegates noted that pesticide CPD was resisted when introduced and is now unremarkable, and that vets and suitably qualified persons are well placed to deliver equivalent training in antibiotic use.

Practical conditions for making compulsion work were identified. These were: a genuine consultation period with time for the devolved nations; a published government response setting out the statutory instruments; simple legislation communicated well; and allowance for variation between nations while holding to the same end goal on the same timeline. Critically, delegates emphasised communicating that consequences would be attached to *not reporting*, not to *using antibiotics* so that a farmer with a disease outbreak and a clinical justification would have nothing to fear. Government funding to support adaptation of practice management systems was identified as a precondition rather than an inducement.

For stewardship, protecting the trusted vet–farmer relationship remains the most important facilitator, since participants identified it as the real engine of behaviour change. Designing systems so that data flows automatically and rules originate outside the consulting room lets the vet remain the trusted advisor alongside the farmer, which is precisely the position from which they can influence prescribing. In addition, discussions highlighted that the relationship must be built where it does not currently exist. A mandated annual visit is a stewardship facilitator as much as a data one, because it creates the occasion for the conversation on farms that currently have no regular veterinary contact.

IV. How do we address fears of data sharing?

Throughout the research there is a consistent message of distrust over government regulation, the supply chain, and media misinterpretation of data as barriers to farmers sharing data. This is combined with a fear that farmers are losing control over their business and will face penalties for high usage, which may be misinterpreted without context. This was summarised under the fourth key question: “How do we address fears of data sharing?” The following section outlines the barriers these fears present, followed by the facilitators identified alongside these, and actions proposed at the summit.

Barriers

Reluctance to share data was framed less as opposition in principle than as unresolved questions about how data will be used, by whom and at what expense. The word ‘data’ appears to trigger alarm amongst farmers especially, with concerns expressed that data provided is monetised further up the supply chain, without any benefit being returned to the producer:

“Why should... a supermarket, a retailer, the rest of the supply chain financially benefit from my data?”
(Sheep farmer)

A distinct fear is misinterpretation and judgement, that ABU figures presented without context, for example, a regional spike due to seasonal weather conditions, could be misread by the public or used as a ‘stick to beat farmers with’, as put by a cattle farmer. Farmers want to be worked with and supported, not measured against one another. Ownership and control of data remains an unsettled area: who owns the data, at what level of granularity or identification does ownership change, and how will data be used? On anonymity, a workable consensus emerged from the focus groups that anonymised, aggregated data is acceptable, and sufficient for a national figure, whereas identifiable farm-level data raises GDPR, commercial-confidentiality and competitive concerns, and is a longer term, trust dependent ambition. Agreement, therefore, needs to be reached on what data are genuinely essential to protect animal health and welfare, reassure customers, secure export markets and satisfy government. If farmers are not

confident that their data won't be misinterpreted, these data sharing fears could continue to limit what is collectable, and in a voluntary capacity. On a technical note, Summit delegates identified that where data arrives from several providers without a common unique identifier, records cannot be de-duplicated, so the choice appears to be between anonymity and accuracy. This is a solvable problem but currently, an unresolved one.

Summit delegates identified that a specific concern may be that some farmers simply do not know their own usage figure, and the anxiety is therefore about what will be revealed rather than about the principle of sharing.

“Some may not be collecting the right data currently (they may not know what they need to record or may struggle to do so).” (Sheep farmer, survey response)

This was seen as best addressed through the vet, and as an argument for reassurance being delivered before any requirement lands. Another distinct fear articulated at the summit is that once a figure has been established, it will be expected to fall year on year regardless of circumstance, and that justification and context will be less important than driving the number down. This overlaps with the perception that data which begins as anonymous has a history of later becoming something that individual farms are judged on.

Many stakeholders at the Summit cautioned that benchmarking is a frightening and overwhelming concept for many farmers, who hear it as being measured and judged, and that the sector may have over-used the term. Terminology was identified as mattering considerably here, with suggestions that benchmarking is useful for local vet–farmer discussion and rarely needed beyond that. The importance of that vet-farmer relationship came up repeatedly in the research, where the vet was consistently identified as the most trusted figure. Processors, by contrast, were described by some farming representatives as being viewed with considerable suspicion, and retailers were regarded sceptically as drivers of any initiative. At the same time, processor and retailer representatives at the summit stated plainly that they do not want to hold or handle the data and have no interest in farm-level detail. They want a reliable national figure they can use, and there was a stated concern that if the sector does not produce one, retailers may begin to push for it on their own terms.

A recurring summit theme was that there has never been a sustained, considered and comprehensive communications strategy across the ruminant sector on this subject, only pockets of activity, some of which has eroded trust rather than built it. Summit discussions noted that a data-sharing protocol already exists but is not known about or understood by farmers and vets, that there is too much mixed messaging and too many knowledge gaps, and that the assumption everyone already understands the case is unfounded. A specific framing error identified was that of presenting the requirement as something the sector must do for the EU, rather than something it needs to do for itself.

For antibiotic stewardship, trust is the precondition for the essential and open vet–farmer conversation, because that conversation depends on farmers feeling supported rather than judged. Where farmers fear how a figure will be read, the conversation becomes defensive and the opportunity for behaviour change is lost.

Facilitators

Summit delegates were asked to discuss ways to reassure farmers on how their data will be handled, who will have access to it, and the importance of anonymity. The workable consensus is that anonymised, aggregated data is broadly acceptable and sufficient for a national figure now, with identifiable farm-level data viewed as a longer-term, trust-dependent ambition. Confidence is built where the data source is trusted and duplication minimised. The VMD confirmed anonymised data is sufficient for the national picture on that basis and participants noted the pig sector's acceptance of identifiable data shows the barrier is not insurmountable over time. Trust is further enabled by the vet–farmer relationship itself,

with farmers stating in the survey that they were comfortable with the vet uploading reconciled data precisely because of that trusted relationship.

“We would like the vets to upload our data based on the prescription, but only after that annual discussion where we correct a few things.” (Sheep farmer)

The overarching enabler is transparency about ownership and use, answering plainly who owns the data, how it will be used and when it is anonymised, combined with a framing that data is used to work *with* farmers rather than as “a stick to beat them with,” which is what gives farmers and vets the confidence to share. The Welsh model was seen to demonstrate that stewardship advances furthest where effort is aligned, resourced and delivered through a body farmers already trust, and these conditions now need to be replicated across the other nations.

The single clearest facilitator from the summit is a message the sector has not yet delivered consistently: farm-level detail stays local, for the conversation between vet and farmer, and what travels upwards is anonymised and aggregated. Delegates observed that government has no interest in farm-level oversight and should say so plainly. Making this distinction concrete and, as one table suggested, simply showing farmers what is and is not shared, was identified as the most direct way to allay fear, since much of the anxiety concerns a level of exposure that is not actually proposed. On anonymity versus accuracy, summit delegates identified that using a single common identifier such as the CPH number allows records from different providers to be de-duplicated before anonymisation, resolving what otherwise appears to be a trade-off between the two.

The most developed governance proposal at the summit addressed the observation that no one is in charge. The proposed solution was to identify a single empowered owner organisation accountable for driving the strategy forward, a multi-stakeholder steering group spanning industry, government and the devolved nations appointed to co-design it, and working groups beneath the steering group organised around functional pillars (data, IT, communications, and vet–farmer engagement) reporting back to it. Indicative timings were three months to appoint the steering group and six to twelve months to a published, endorsed strategy. The strategic plan would be signed off by all stakeholders but owned by one organisation, so that accountability is unambiguous.

Summit delegates were consistent that messaging must be clear, simple, concise, repeated at every opportunity and sustained over time, covering what is being asked, why it matters, the role each stakeholder plays, and the consequences of failing to produce a national picture. The burning platform framing was endorsed: profitability, trade, reputation and continued access to medicines. Delegates also noted that an existing data-sharing protocol needs to be updated and, more importantly, publicised, since it is not currently known about.

Since the vet is the most trusted figure in the chain, summit delegates proposed giving vets a farm-level framework for discussing responsible use and explaining the role farm data plays in building a national picture. A lead or primary vet within each practice was suggested as a champion who would work with colleagues to deliver consistent messaging, and delegates emphasised the importance of accessible terminology at farm level.

A specific proposal was to reassure farmers that they are low users with nothing to fear. This message should be delivered through the vet and supported by case studies and influential voices from within the farming and veterinary communities. Delegates saw more power in peer testimony than in institutional communication. Given the anxiety the term benchmarking generates, delegates proposed positioning benchmarking as a local conversation tool used against like-for-like enterprises and against a farm's own past performance, rather than as a national ranking. Alongside this, delegates argued for actively driving pride in data sharing, with the explicit message that this is not about zero use. Where antibiotics are needed the industry supports their use, provided it is responsible.

Delegates accepted that farmers use multiple practices for legitimate reasons including cash flow, loyalty and price, and that attempting to prevent this is unlikely to succeed. It was proposed that the way to stop this from being a barrier is to make dispensing history visible rather than restricting supply.

“Rules that vets must be informed about clients buying from elsewhere”. (Veterinarian, survey response)

This could be via a mechanism, potentially through RCVS practice standards or legislation, which makes the full dispensing history visible to any prescribing vet, so that clinical decisions are made with the complete picture and there is no consequence to the farmer for disclosing it.

Summit delegates identified concrete consequences of inaction that farmers would recognise such as inability to be farm assured, and inability to sell into particular markets. It was proposed that we should learn from other sector’s and countries’ successes and failures as a way of avoiding repeated mistakes.

For stewardship, trust is the facilitator that unlocks the candid conversation, because that depends on farmers feeling safe rather than judged. Framing data as a support tool to be worked through together, not as a means of punishing them or driving competition between farms, is what keeps farmers engaged in the conversations that change prescribing behaviour. Where that confidence exists, the trusted relationship can do its work, and stewardship improves as a result.

V. What are the ways we can demonstrate responsible use?

A strong cross-cutting view emerging from the research is that stewardship should be evidenced by more than a usage figure; by demonstrating prevention, behaviour change and active animal health management, as well as being able to show that the reasons for prescribing particular medicines are clear and understood, from both the farmer and vet perspectives.

This both tells a fuller story and addresses the plateau in usage reduction, since further progress requires reducing the need to treat rather than simply treating less. This was summarised under the final key question: “What are the ways we can demonstrate responsible use?” In this section, the barriers to demonstrating responsible use are outlined, followed by the facilitators identified alongside these, and actions proposed at the summit.

Barriers

A barrier to demonstrating responsible use through data alone is that most beef and sheep farmers use minimal antibiotics and see little value in knowing their annual figure, so ‘the number’ carries limited meaning for them without context. This points to a need for contextualised benchmarking linked to conditions, systems and season rather than a single national target. Demonstrating prescription accountability and that farmers are acting on veterinary advice depends on records that capture the clinical rationale and vet–farmer discussion, which are not consistently documented. A further barrier is that prevention is happening but goes largely unrecorded. Assurance forms capture antibiotic use without capturing the vaccination, diagnostics and health-planning that can explain low use, so responsible stewardship is under-evidenced. Separately, farmers believe sharing data could give consumers confidence and counter media miscommunication, but they sit at the start of the supply chain with little consumer contact, leaving it unclear who is responsible for demonstrating it and how, beyond assurance scheme labelling such as Red Tractor.

“By being open and by being prepared to share data... so that anonymised data can be made more readily available through more broad stream media”. (Sheep farmer, survey response)

“Most farms can't do this directly; they produce a commodity product and don't have direct contact with the end user. It has to be done through farm assurance bodies etc” (Dairy farmer, survey response)

The national metric measures use; it is meaningful for trade, for regulators and for demonstrating to the public that the sector is acting, but it has little meaning for an individual farmer. Whether use was responsible is determined in the conversation between vet and farmer about a particular farm in a particular year. It was strongly emphasised that these two concepts must be separated deliberately, and that failing to do so may generate farmer anxiety because it implies the national figure will be applied as a judgement at farm level.

A key barrier to demonstrating responsible use is that there is no agreed definition of this. This point was emphasised at more than one table at the summit. Responsible use cannot be demonstrated without an agreed definition of what it means, and no such definition currently exists. Related to this, delegates noted the absence of any agreed goal or target, i.e. what the sector is aiming for, what "good enough" looks like, and whether the objective is alignment with the EU or something else.

A significant gap identified at the summit is that the outcome the sector is ultimately being judged on is resistance, not usage, and ruminant AMR surveillance is very new relative to the established monitoring in pigs and poultry. Delegates also noted that vets do not currently have access to local resistance data to inform prescribing decisions, which limits both good practice and the ability to justify it. Residues were raised as a further measurable dimension that is reported but not widely seen.

Where training schemes such as Farm Vet Champions were discussed as evidence of stewardship, commentary throughout all research highlighted the length of time taken to complete them, which vets do not have. This acts as a barrier limiting the use of continuing professional development as evidence.

The veterinary business model is also seen as a structural constraint. There has been a perception from some that the lower margin that vaccines carry compared with antibiotics does not incentivise vets to make more effort to "sell" them.

"The margins that practices can make on vaccines are smaller than the margins they've been able to historically make [on] antibiotic[s]. So there has been no incentive for that." (Veterinarian)

Medicine sales were estimated to constitute approximately 60% of practice income against 40% from services, so decoupling is a substantial commercial proposition rather than an adjustment. Practical concerns were also raised. Practices will always need medicines including antibiotics on hand, particularly in rural areas where multiple out-of-hours calls in a single night are routine.

Diagnostic testing is a route to both reduce and justify use but remains difficult to promote where a negative result can be perceived as wasted money.

"If you don't get a good result from it, then the clients [will] see that as a total waste of money, and they'll never do it again." (Veterinarian)

A funding gap was identified as a drawback, with some discussion over pharmaceutical funding being encouraged.

Practical constraints on the annual visit were flagged by summit delegates, who reported that VAN visits are allotted 20 minutes but in practice take around 45 minutes, typically conducted while walking the farm. These are valued as an opportunity to see what is actually happening but cannot absorb further tasks without more time. A specific concern was raised that an increase in VAN visits, alongside falling sheep farm assurance, is reducing, not increasing, the time available for medicine collation and discussion of previous treatments.

It remains unclear who is demonstrating what, to whom. The summit sharpened rather than resolved this. Government was described as not currently asking for this evidence; retailers were reported to want only assurance that the supply chain uses medicines responsibly, not farm-level detail, and processors were reported to be reluctant to take a role. The audience for the demonstration of responsible ABU is therefore assumed rather than established, which makes it difficult to specify what would satisfy it.

Facilitators

The facilitator here is a clear, positive narrative. Farmers believe that sharing data could give consumers confidence, evidence that the sector uses antibiotics responsibly and only when indicated, and provide a fightback against media miscommunication. This would be a good story that could strengthen “Brand Britain” and support trade and marketing of UK produce. Contextualised benchmarking is the enabling tool, useful not as a national target but because it prompts the vet–farmer conversation, surfaces outliers and demonstrates prescription accountability. Collecting vaccination, diagnostic and health-planning data alongside antibiotic data was proposed as a way to make prevention visible and evidence responsible use more fully.

The national metric should be separated from the on-farm conversation about responsible use, deliberately and by design. This was the summit's clearest recommendation on this question, and it directly addresses the barrier of these metrics being conflated. National targets should not be used in health planning. The figures used in the vet–farmer conversation should be local, contextualised and anonymously benchmarked against comparable enterprises, so that farmers can understand their position relative to peers without being measured against a national standard that does not reflect their circumstances. The national figure serves trade, regulators and public confidence, while the local figure serves improvement. Delegates argued that stating this separation explicitly is itself a significant part of addressing farmer worry.

The summit generated a substantial and specific list of what else could evidence responsible use. This includes national vaccine uptake data published alongside antibiotic data, surveillance data supported by vets encouraging farmers to submit carcasses, residue failure rates with targets set and monitored, particularly in beef and sheep, the existence of an active health plan on each farm, and completion of vet and farmer training. Delegates also proposed the simplest possible measures such as basic published figures on how many farms are assured, have health plans and undertake CPD. Such measures could be used to build a basket of evidence rather than relying on a single number.

A neat and low-burden proposal was to add a box to the veterinary attestation confirming that a farm meets the principles of responsible use, and that a conversation about responsible antibiotic use has taken place. This uses a document that already exists and is already completed and creates a record without creating a new process. Summit delegates proposed a standardised health plan or minimum responsible use plan, a formulary, and access for the health-planning vet to local resistance data to inform decision-making. This would give vets the tools to prescribe well and to demonstrate this.

A proposal from summit delegates was to use training as measurable evidence, delivered in formats people will use. This would involve data on training already undertaken by vets and farmers, publishing figures on levels of training and ongoing CPD, integrating minimum medicines CPD into RCVS requirements, evidencing antimicrobial stewardship teaching in the UK veterinary curriculum, and requiring stewardship training to access certain grants or markets. On delivery, the consistent message was that format is the constraint. Short podcasts that vets can listen to between calls were proposed repeatedly, with BVD CPD⁴ cited as the model to replicate that was quick, straightforward and certificated on completion. Training for front-of-house practice staff who dispense medicines was included, both for stewardship and for data quality.

Pen-side tests were identified as the practical route to increasing diagnostic uptake, on the grounds that speed and low cost address the objection that a negative result is wasted money. Development of rapid diagnostics was proposed as a medium-term action with pharmaceutical companies, with cheap diagnostics in routine use as the measure of success.

Summit delegates were clear that the aspiration for UK ruminant produce to be trusted, envied and in demand cannot rest on communication alone. It requires visible enforcement of prescribing rules,

⁴ For example: <https://www.bcva.org.uk/cpd/bvdv-and-bvdfree-scheme-training>

prosecution of clearly illegal activity, veterinary reporting of breaches of the under-care requirement, and transparent annual publication of the number of cases reported and acted upon. The argument made was that this is not primarily about stopping the small number of bad actors, but about others looking at the UK and concluding that it knows what it is doing and does it properly.

A closing summit theme was that every actor in the supply chain should take responsibility for their own actions, with markedly less blame directed at others. Processors were identified as having a role in promoting the reasons for data collection to their farmers, with at least one major processor at the summit indicating willingness to do so, and delegates proposed decoupling the ruminant narrative from the pig and poultry sectors, whose structures and progress are not comparable.

For stewardship, the core facilitator remains the priority of the conversation over the number. The usage figure earns its value as a conversation starter that prompts enquiry into a farm's practices and reveals habits that can be changed. Vets pointed to the powerful lever of targeting the right product to the right condition through that conversation, which can reduce use without reducing care. They also pointed to the health review as the natural venue for the conversation, with several suggesting a compulsory review would create a consistent opportunity to break entrenched habits, including any brand-name confusion that may mask what is actually being used. Making prevention, behaviour change and active health management visible tells a fuller stewardship story and addresses the plateau in reduction by evidencing efforts to reduce the need to treat rather than simply treating less.

5. Limitations of the evidence base

A key limitation of the research is that stakeholder perspectives may not be fully representative. The evidence is drawn from surveys, focus groups, interviews and summit discussions involving stakeholders with an interest in antimicrobial stewardship and data collection. As such, participants may be more engaged with the topic than the wider farming and veterinary population, potentially resulting in an overrepresentation of views from those already invested in finding solutions.

It is important to recognise that qualitative findings reflect perceptions rather than measured outcomes. Many findings reported here are based on stakeholder experiences, opinions and perceptions. While these provide valuable insight into the barriers and facilitators, they do not necessarily demonstrate the actual scale or prevalence of the issues identified. For example, concerns about data sharing, trust, benchmarking or regulatory burden may be strongly held but have not been quantitatively assessed.

In both the focus groups and the summit discussions, there is potential for responses to be influenced by dominant voices. While the summit created opportunities for consensus-building, it could also be influenced by particularly vocal individuals, organisations or sectors. Some recommendations may therefore reflect areas of strongest stakeholder advocacy rather than those supported by objective evidence.

The dairy sector faces different requirements for ABU data collection than the beef and sheep sectors. Consequently, stakeholder discussions may have been influenced by experiences from sectors where reporting systems already exist, and some proposed solutions may not transfer easily to more fragmented beef and sheep production systems. Similarly, perspectives from different UK nations may not have been represented equally. However, analysis of the demographics of the survey responses indicated that the UK nations were relatively well represented for both farmers and vets.

6. Conclusions

The research shows a sector that agrees on the destination but has not yet agreed the exact route. There is genuine consensus that responsible ABU should be demonstrated, and that vet-held data reconciled with animal numbers at an annual visit is the most credible foundation for this.

The standout conclusions from the research and the summit are as follows:

1. **The number serves the conversation, not the target.** It is the vet–farmer conversation, not the number in isolation, that changes practice. An ABU figure has little value in isolation, but its worth lies almost entirely in the contextual discussion it prompts between vet and farmer. It is the conversation starter, not the end point.
2. **Vets see themselves as trusted advisors and advocates, not enforcers.** The role of the vet is advisory, and being cast as the ‘policeman of the state’ for ABU would undermine the very trust that lets them support and influence farmers. Vets walk a delicate tightrope between being a private business, a regulated professional with welfare obligations, and a confidant to the farmer. The trusted vet–farmer relationship is the real engine of behaviour change and should be protected.
3. **Transparency on supply of antibiotics is an important enabler.** For vets to be accountable for antibiotic stewardship on farms under their care, they need to have sight of the full dispensing history and be supported by better systems for reporting and investigating illegal supply. The aim should be visibility, rather than eliminating multiple prescribers that might be legitimate and are unlikely to be prevented.

The unresolved questions from the research were about design and delivery: who is responsible for funding, how to reach the beef and sheep farmers who are not already engaged, how far and how fast to move from anonymised to identifiable data, and how to record the prevention activity that tells the sector’s real story.

These are decisions the sector has taken together, now reflected in the roadmap that follows. Acting in a coordinated way across vets, farmers, industry, processors, regulators and the four nations will safeguard animal health and welfare, protect the reputation and social licence of UK ruminant farming, and keep the medicines and markets the sector depends on. The recommendations in this report are offered as a starting point for that shared plan of action.

7. Recommendations

Here, we set out our recommendations, informed by the insights of around 560 people (see figure 7 below) from the veterinary and ruminant sector who contributed to this research, and shaped by input from the national summit.

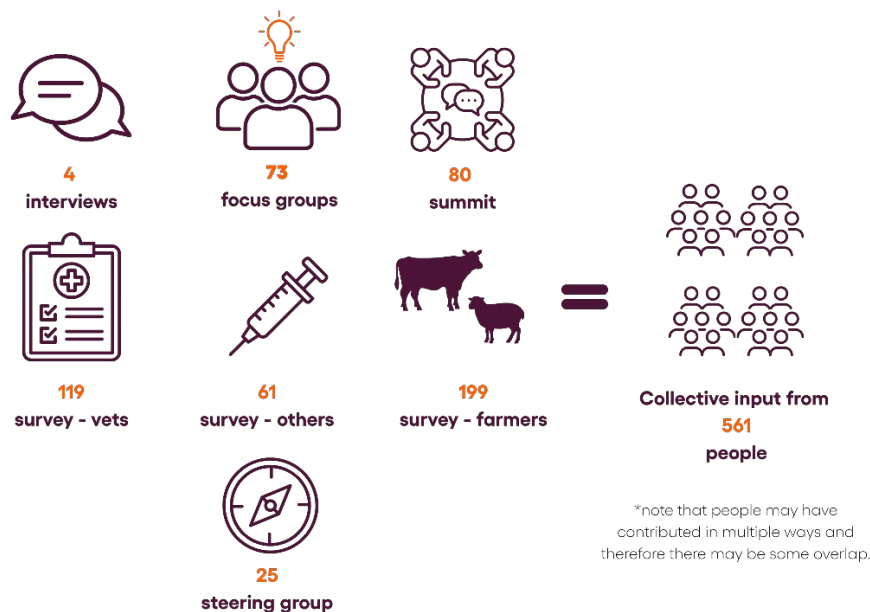


Figure 7 Developing the evidence base

For each recommendation, we indicate which organisations and groups of people are best placed to take each recommendation forward. We also suggest specific actions that could be taken, set out what success would look like, and propose potential timeframes for implementation.

Definitions of the suggested timeframes and of the groupings of individuals and organisations that could take each recommendation forward are given at the end of this section.

A shared commitment to antibiotic use data collection and stewardship

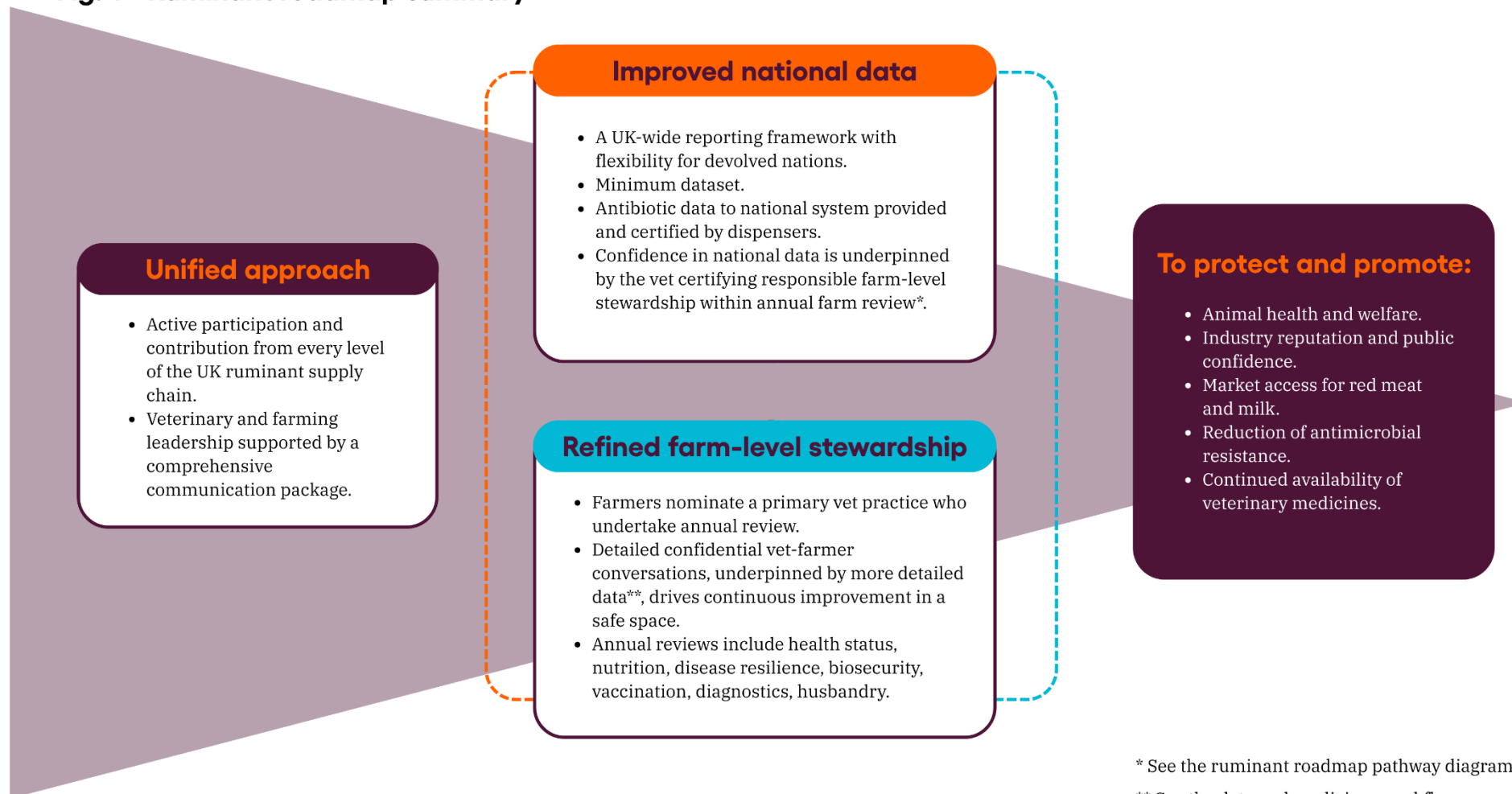
Achieving comprehensive and meaningful ABU data collection across the UK ruminant sector will require coordinated action from a wide range of organisations and individuals. Everyone involved in livestock health and production has a role to play. Veterinary surgeons, pharmacists and other animal health professionals can champion accurate and timely ABU data recording and reporting, while supporting farmers and colleagues in overcoming barriers to participation. Farmers can engage with ABU data verification and use ABU information to inform herd and flock health planning, stewardship activities and business decisions. All individuals and organisations with an interest in livestock health, ABS and food production should reflect on how they can support the collection, validation and use of high-quality ABU data, while identifying and addressing factors that may hinder progress.

We encourage all stakeholders to act on the recommendations outlined in this report. Delivering a robust and sustainable ABU data collection system will require the collective efforts of farmers, veterinarians, pharmacists, industry bodies, supply chains and government, working together to create the conditions for effective data capture, reporting and use across all ruminant sectors.

Success will depend on a shared vision for ABU data collection and stewardship, a clear understanding of the benefits and desired outcomes, and an agreed approach to measuring progress. By working collaboratively, the sector can ensure that ABU data supports evidence-based decision-making, continuous improvement in ABS, transparent reporting and demonstration of responsible use, helping to maintain public confidence and market access while safeguarding the effectiveness of antimicrobials for the future.

8. The UK Ruminant Antibiotic Stewardship Roadmap

Fig. 1 – Ruminant roadmap summary



* See the ruminant roadmap pathway diagram

** See the data and medicines workflow

National ABU data collection, reporting and governance

Establishing a mandatory, nationally coordinated system for collecting, validating and reporting farm-level antibiotic use data across all UK ruminant sectors, supported by appropriate funding and governance, would provide a consistent and reliable evidence base for national monitoring and benchmarking.

What needs to happen	Identified actions	Who	Time	What does success look like
Every vet/practice/ 'authorised specialist veterinary medicine retailer' is responsible for reporting dispensed medicine/antibiotic data linked to enterprise identifiers – this could be either directly from the practice management system (PMS) at practice-level or group-level or via intermediary data management system.	To be made mandatory via Veterinary Medicines Regulations (VMRs) with enforcement and associated RCVS (Royal College of Veterinary Surgeons) action.	Veterinary Medicines Directorate (VMD) working with Department for Environment, Food and Rural Affairs (DEFRA), national Chief Veterinary Officers (CVOs) and RCVS	Start immediately, enforce as soon as systems are in place, continue indefinitely	Reporting of practice or 'authorised specialist veterinary medicine retailer' -derived farm-level medicine/antibiotics dispensed is mandated and enforced UK-wide framework with flexibility for devolved nations Ruminant Antimicrobial Use (AMU) data reporting is embedded within government policy, and the National Action Plans, UK
	Each dispenser certifies that they have reported all medicines/antibiotics dispensed.	Vet practices/ authorised specialist veterinary medicine retailer		
Each livestock enterprise, regardless of size, must have a nominated primary vet practice who undertakes annual vet-	Enforcement (arranged in whatever way appropriate for devolved nations).	DEFRA - e.g. via Pathway and devolved equivalents, farmers		

farm review and uploads livestock numbers (where not captured via the British Cattle Movement Service (BCMS)). Each enterprise must share unique identifier when purchasing medicines/antibiotics.	Primary vets certify that they have received collated data (D3) and undertaken the annual review (which includes a conversation about the overall medicine/antibiotic use).	Primary vets and farm enterprises		Veterinary Antimicrobial Resistance and Sales Surveillance (VARSS) and Responsible Use of Medicines in Agriculture Alliance (RUMA Agriculture) TTF Report
Create “<i>Medicine Hub 2.0</i>” (an independent repository where data is collated and processed as in figure 2).	Identify the minimum data requirements for: - Input from practice and ‘authorised specialist veterinary medicine retailer’ systems. - Output of national consolidated aggregated data. - Collated enterprise-level figure to go back to primary vet. - Anonymised benchmarking data to add context to vet-farm review. It should - include all Prescription Only Medicine – Veterinarian (POM-Vs) at the outset (all	A technical working group of the Ruminant Roadmap steering group which is UK-wide, cross-ruminant, including representatives of all stakeholders	Short term	Data and system requirements are clearly defined Data flow is working as on Fig 2. The ruminant roadmap pathway diagram

	antibiotics as an absolute minimum) - work for other veterinary medicines in the future (at which point it should include Suitably Qualified Person (SQP) retailers). - Operate in real time as much as possible (e.g. monthly uploads)			
	Deliver and operationalise the system identified above.	Tendered data system provider/s or Agriculture and Horticulture Development Board (AHDB), (to be decided)	Medium term	
Secure funding and support for implementation.	Government to lead on securing a system for set-up and ongoing costs.	VMD working with DEFRA and national CVOs with input from relevant stakeholders. Potential contributors could include government, livestock sectors, levy bodies, veterinary and pharmaceutical	Begin immediately, continue indefinitely	Adequate funding available to deliver required systems

		organisations, processors, retailers, assurance schemes and other beneficiaries of the data.		
All AMU data to be validated at enterprise level.	All vet practices/ 'authorised specialist veterinary medicine retailers' are responsible for reporting dispensing data linked to enterprise identifier (D1, D2).	All vet practices/ 'authorised specialist veterinary medicine retailers' supplying medicines to farmers	As soon as systems are in place, continue indefinitely	Quantifiable level of validation for national reporting
	" <i>Medicine Hub 2.0</i> " is responsible for supplying D3 collated figure back to primary vet.	" <i>Medicine Hub 2.0</i> "		
	Primary vet is responsible for supplying livestock numbers to " <i>Medicine Hub 2.0</i> " on annual basis and discussing D3 at the annual review. The vet provides certification to indicate that the annual review has taken place and that the collated figure (D3) was discussed and agreed to be correct by the farmer.	Primary vets and farmers		

Stewardship, benchmarking and data-driven improvement

Antibiotic use data will support continuous improvement in farm-level stewardship by enabling farmers and veterinarians to make evidence-based decisions and demonstrate the benefits of preventative health approaches. The data should also strengthen benchmarking and facilitate meaningful farmer–vet discussions on responsible use.

What needs to happen	Identified actions	Who	Time	What does success look like
Ongoing improvements in antimicrobial use and stewardship at a farm level and identification of other ways to demonstrate responsible use.	All farms will undertake active health planning with their primary vet practice, which will include actions to improve antimicrobial stewardship. Including: - Nutrition - Breeding - Vaccine use - Anthelmintic use - Pain relief - Disease resilience - Biosecurity The farmer nominated primary practice will be responsible for active health planning, emergency care, annual review and supplying livestock numbers to “<i>Medicine Hub 2.0</i>” on annual basis.	Farmer and primary vet practice	As soon as systems are in place, continue indefinitely	Reduction in Antimicrobial Resistance (AMR) in food production systems Increased evidence of preventative medicine

	The farm level AMU figure (D3) is specifically used to drive stewardship conversations between the vet and farmer at the annual farm review. The anonymised comparison data published by “ <i>Medicine Hub 2.0</i> ” provides the context against which this figure can be benchmarked.	“ <i>Medicine Hub 2.0</i> ”		There is clear accountability for medicine use on farm as established through nominated primary practice
	Improve and increase participation in training programmes for vets, farmers and students on safe and responsible medicines use (including residues). This should be accredited and include regular revalidation.	Education and CPD providers to provide good training. Pharmaceutical manufacturers to engage with support/via pack QR codes.		Increased number of vets and farmers completing training
	Improve engagement in AMR surveillance programmes.	Partnership between VMD, Food Standards Agency (FSA), veterinary and agricultural leaders.		Increased engagement in AMR surveillance programmes

Market access, transparency and external assurance

Leveraging antibiotic use data and stewardship outcomes to demonstrate responsible use to customers, regulators and the wider public will help maintain market confidence, support export opportunities and showcase the livestock sector's commitment to antibiotic stewardship.

What needs to happen	Identified actions	Who	Time	What does success look like
Demonstrate the value to farmers and vets of improved data collection for: 6. National reporting and benchmarking 7. Access to export market and utilising the fifth quarter 8. Underpinning the farmer-vet conversation 9. Evidence-informed decision-making 10. Return on investment of preventative medicine	Create a cohesive industry communications plan and collaborate across industry to implement this Use data and case examples to demonstrate benefits.	RUMA Agriculture with veterinary and industry associations including levy boards, meat processors and trade bodies	Start immediately, continue indefinitely.	Increased engagement with data collection, reporting and benchmarking systems, with evidence that farmers and vets are using data to support herd/flock health planning and antimicrobial stewardship.
Demonstrate responsible ABU externally.	Create a cohesive industry comms plan and collaborate across industry to implement this.	RUMA Agriculture with veterinary and industry associations including levy boards	Start immediately, continue indefinitely	Consumer confidence is maintained or improved

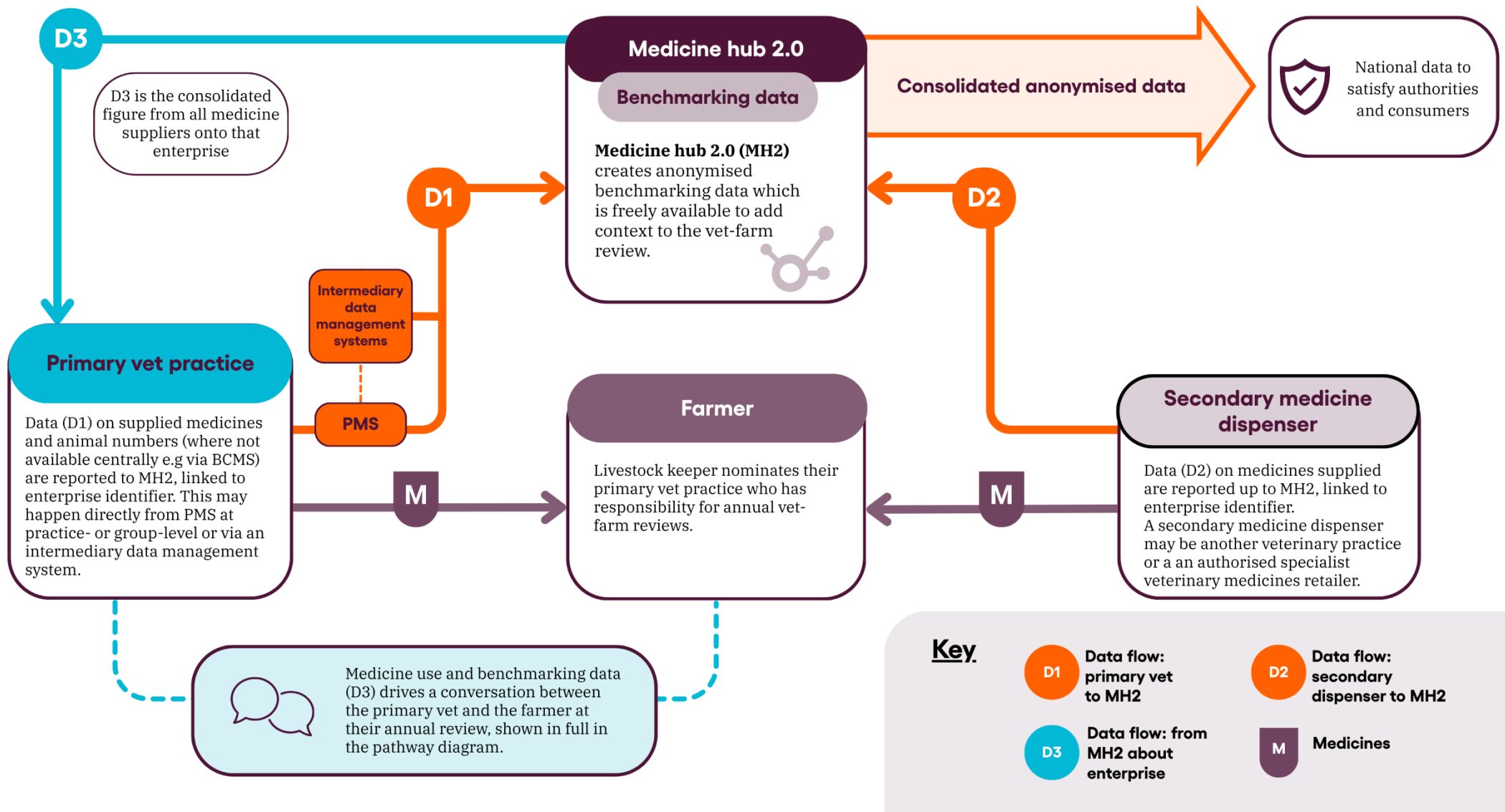
Fig. 2 Ruminant roadmap data and medicines workflow

Fig. 3 Ruminant roadmap pathway for reporting and stewardship

- 1** Each livestock enterprise, regardless of size, nominates a primary vet practice who undertakes annual vet-farm review and is responsible for emergency vet care on farm.
- 2** Primary vet practices supply data (D1) on medicines and livestock numbers (where not available centrally via BCMS) to Medicine Hub 2.0, linked to enterprise identifier. This may happen directly from PMS at practice- or group-level or via an intermediary data management system.
- 3** Other medicine dispenser/s supply data (D2) on medicines to Medicine Hub 2.0, linked to enterprise identifier. Other medicine dispensers may include other veterinary practices or a pharmacies.
- 4** Primary vet practice arranges annual farm review and checks Medicine Hub 2.0 for collated figure (D3) linked to enterprise identifier that is already calculated and based on the above. This informs the conversation between the primary vet and farmer.
- 5** Separately Medicine Hub 2.0 uses all collated data to calculate the consolidated anonymised figures and to publish anonymised benchmarking data which is made freely available for all.

**Each enterprise must:**

- Have a nominated vet practice.
- Have an annual vet-farm review.
- Keep their primary vet up to date with livestock numbers.
- Share their unique enterprise identifier every time medicines are dispensed.

Every vet/practice/authorised specialist veterinary medicines retailer is responsible for uploading dispensed antibiotic data linked to enterprise identifiers. This could be either directly from PMS at practice-level or group-level or via an intermediary data management system.

Primary vet practices are responsible for uploading livestock numbers (where not available centrally e.g via BCMS). They are also responsible for annual reviews and emergency vet care on farm.

Medicine Hub 2.0 is responsible for:

- Calculating the national consolidated anonymised figures.
- Making the collated antibiotic figure for each enterprise available to the primary vet practice to inform the annual vet-farm review.
- Publicising anonymised benchmarking data.

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Annex 2: Ruminant roadmap steering group 2026

Project team

Fiona Lovatt (co-chair)	Vet, Chair of the Sheep Antibiotic Guardian Group RCVS Knowledge Farm Clinical Lead for Medicines
Mark Jelley (co-chair)	Beef & arable farmer, AHDB Beef & Lamb Sector Council, Chair of the Cattle Antibiotic Guardian Group
David Black (co-chair)	Vet, President of British Cattle Veterinary Association (BCVA)
Lucy Brunton (research team)	Royal Veterinary College (RVC), AMAST Network
Camilla Strang (research team)	Royal Veterinary College (RVC), AMAST Network
Ashley Doorly (programme lead)	RCVS Knowledge
Jen Marsan-Stott (programme support)	RCVS Knowledge
Sadie Constable (communications and marketing lead)	RCVS Knowledge

Ruminant roadmap steering group members

Chris Lloyd	Responsible Use of Medicines in Agriculture Alliance (RUMA Agriculture)
Mary Bawn	Responsible Use of Medicines in Agriculture Alliance (RUMA Agriculture), Director of communications
Fraser Broadfoot	Veterinary Medicines Directorate (VMD)
Amy Jackson	Secretary of Food Industry Initiative on Antimicrobial Resistance (FIIA)
Gavin Morris	Group Primary Technical, Animal Welfare and Veterinary Manager for Dunbia, President, Veterinary Public Health Association
Gwenllian Rees	Lecturer, Aberystwyth University, President British Veterinary Association
Dewi Hughes	Program manager, Arwain DGC; Head of Animal Health Services – Mentera
Emma Patterson Taylor Patricia Rojas	Scottish Agricultural Organisation Society (SAOS)
Mandy Nevel Ray Keatinge	Head of Animal Health and Welfare and Head of Livestock Science Data Projects, Agriculture and Horticulture Development Board (AHDB)
Sam Strain Sharon Verner	Animal Health and Welfare Northern Ireland (AHWNI)
Charlotte Doidge	University of Nottingham
Matthew Gilmour	Chief Scientific Officer, Quadram Institute Bioscience, AMAST Network
Mahmoud Eltholth	Lecturer, Royal Holloway, University of London, AMAST Network
Lisa Marchioretto	Quadram Institute Bioscience, AMAST Network

Annex 3: Survey questionnaire

UK ruminant antibiotic stewardship roadmap

Information and consent

Our goals are to:

- Understand how farmers/farms show and promote their responsible use of antibiotics
- Find out what else can be done to make this even easier

Who is eligible to take part?

We are keen to hear from any farmers, vets or others involved in or interested in antimicrobial use in the ruminants sector who are resident in the UK and over the age of 18 years.

We are from the AntiMicrobial Resistance in Agrifood Systems Transdisciplinary (AMAST) Network, working together with the veterinary charity RCVS Knowledge, and the sheep and cattle antibiotic guardian groups, and researchers from the Royal Veterinary College. We want to understand what is needed to improve how antibiotics are used, and how farm-level antibiotic use data (either vet or farmer collected) is recorded, analysed, monitored and shared on UK farms with sheep and cattle.

As a thank you for your time, and subject to eligibility, we would like to offer you the chance to win one of two prizes upon completion of the survey. The prizes available are:

- £100 voucher for use at your local agriculture store
- £100 voucher towards the BCVA or SVS conference

What is the purpose of this survey?

The information we gather through this survey will help us shape a practical plan (called the Ruminant Roadmap) to improve how things are currently done so that we can continue to protect animal health and welfare and protect our important export market.

What will taking part involve?

Taking part will involve completing this brief online questionnaire, which should take between 10 – 20 minutes. We will ask you some questions about antibiotic usage data relevant to your role, and how you think the industry can best demonstrate that it is using antibiotics responsibly. We will also ask for your approximate location and occupation, to help us evaluate the reach and representativeness of this survey. Further information on GDPR and providing consent are described below.

Is it an anonymous study?

Your questionnaire responses will be anonymous. If you choose to enter the prize draw, or register your interest in taking part in an interview following the survey, we will ask you for your contact details. This information will be stored separately from your questionnaire responses, to keep the responses anonymous. The contact details will not be used for any other reason.

How will my confidential data be managed?

If you choose to provide your contact details, they will be managed in accordance with the General Data Protection Regulation (GDPR). Only Dr Camilla Strang and Dr Lucy Brunton as the researcher and project lead (both from the Royal Veterinary College) will have access to these. They will be stored securely in an encrypted drive and will be destroyed as soon as the interview has been completed.

What if I change my mind about taking part?

Your participation is entirely voluntary and declining to participate will not disadvantage you in anyway. You may exit the questionnaire at any point before submitting your responses. However, it will not be possible to withdraw your responses once submitted, as they are anonymous.

What will happen to the results of the study?

The information you provide will be used to produce reports and publications to describe the challenges and benefits of recording, analysing, monitoring and sharing farm-level antibiotic use data on farms. This will help ensure that the UK Ruminant ABS Roadmap is based on evidence that is actionable and likely to create lasting change. The reports will be shared internally between the research team and made publicly available through published reports. Anonymous data, which cannot be traced to any individual, may be made freely available for future research and learning via a research data storage facility.

What are the possible risks of taking part?

There are no foreseeable risks or discomforts associated with this study. We expect the questions to be straightforward as they relate to your current practices and your opinions on how we can improve the use of antibiotic data.

How is the project being funded?

The research team at the Royal Veterinary College is supported by the AMAST Network, funded by United Kingdom Research and Innovation (UKRI), a non-departmental public body sponsored by the UK Department for Science, Innovation and Technology. The study has been approved by the Social Science Research Ethical Review Board at the Royal Veterinary College (URN SR2025-01861012).

If you have any questions or require more information, please contact Camilla Strang at cstrang@rvc.ac.uk.

Thank you for reading this information sheet and for considering taking part in this research.

Consent

- I am over 18 years of age
- I have read and understood the information provided and had the opportunity to ask questions.
- I give consent for the information I provide in this survey to be used to produce reports describing the challenges and benefits of antimicrobial use data recording on farms.
- I give permission for the anonymous data, which cannot be traced to me as an individual, to be deposited in a research data storage facility and made available in association with subsequent publications, so it can be used for future research and learning.

I agree to the statements above and give my consent to take part in this study.

- ☐ I agree
☐ I do not agree

Participant demographics

Which country do you operate in?

- England
- Wales
- Scotland
- Northern Ireland
- None of the above

What is your primary occupation

- Farmer
- Vet
- Industry - Processor
- Industry - Retailer
- Governance (Farm assurance, Levy body, Farm Industry Association, Government)
- Academia - research/education
- Other (please specify)

Dairy Farmers

Do you have dairy cows on your farm?

- ☐ Yes
- No

In a typical year, how many dairy cows do you usually have on your farm at any one time?

Do you or your vet calculate a figure that represents your herd's annual antibiotic use? (this figure can include a calendar year or year to date figures)

- Yes
- No

Is this figure derived from your farm medicine records or from your vet's records?

- My farm medicine records
- My vet purchase records
- Other (please specify)

Do you include medicines used for your farm's youngstock in this figure?

- Yes
- No

How frequently do you discuss this figure with your vet?

- Annually
- Several times a year
- A few times a year
- Rarely
- Not at all

To what extent do you agree that knowing this figure helps you and your vet make decisions that impact the health and welfare of your stock?

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Please could you explain your answer to the previous question? For example, is there a time when reviewing this has changed what you do on farm?

Is your antibiotic usage figure uploaded to or calculated via a national centralised system?

Examples include but not limited to Medicine Hub, WLBP ABU calculator, Scottish ABUPilot system or STAMP.

- Yes
- No
- Don't know

Is your antibiotic usage figure uploaded to or calculated via dairy consultants (e.g. FarmAssist, Kingshay, Kite, FarmMetrics)?

- Yes
- No
- Don't know

Is your antibiotic data shared with the company who buys your milk and/or any company(s) that retail your milk?

- ☐ Yes
- No
- Don't know

What is the benefit to you of knowing this figure for your dairy cattle?

What would be the benefit to you of knowing this figure for your dairy cattle?

Beef Farmers

Do you have a beef enterprise on your farm?

- Yes
- No

In a typical year, how many suckler cows do you usually have on your farm at any one time?

In a typical year, how many total other beef cattle do you usually have on your farm at any one time?

Do you or your vet calculate a figure that represents the annual antibiotic use for your beef enterprise?
This figure can include a calendar year or year to date figures.

- Yes
- No

Is this figure derived from your farm medicine records or from your vet's records?

- My farm medicine records
- My vet purchase records
- Other (please specify)

How frequently do you discuss this figure with your vet?

- Annually
- Several times a year
- A few times a year
- Rarely
- Not at all

To what extent do you agree that knowing this figure helps you and your vet make decisions that impact the health and welfare of your stock?

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Please could you explain your answer to the previous question. For example, is there a time when reviewing this has changed what you do on farm?

Is your antibiotic usage figure uploaded to or calculated via a national centralised system?

Examples include but not limited to Medicine Hub, WLBP ABU Calculator, Scottish ABUPilot system or STAMP.

- Yes
- No
- Don't know

Do you share this figure with the people who buy your meat or livestock?

- ☐ Yes
- No
- Don't know

What is the benefit to you of knowing this figure for your beef enterprise?

What would be the benefit to you of knowing this figure for your beef enterprise?

Sheep Farmers

Do you have sheep on your farm?

- Yes
- No

In a typical year, how many breeding ewes do you usually have on your farm?

Do you or your vet calculate a figure that represents the annual antibiotic use for sheep on your farm?
(this figure can include a calendar year or year to date figures).

- Yes
- No

Is this figure derived from your farm medicine records or from your vet's records?

- My farm medicine records
- My vet purchase records
- Other (please specify)

How frequently do you discuss this figure with your vet?

- Annually
- Several times a year
- A few times a year
- Rarely
- Not at all

To what extent do you agree that knowing this figure helps you and your vet make decisions that impact the health and welfare of your stock?

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Please could you explain your answer to the previous question. For example, is there a time when reviewing this has changed what you do on farm?

Is your annual antibiotic usage figure uploaded to or calculated via a centralised system?

Examples include but not limited to Medicine Hub, WLBP ABU calculator, Scottish ABUPilot system or STAMP

- Yes
- No
- Don't know

Do you share this figure with the people who buy your meat or livestock?

- ☐ Yes
- No
- Don't know

What is the benefit to you of knowing this figure for your sheep enterprise?

What would be the benefit to you of knowing this figure for your sheep enterprise?

All farmers

How are you currently recording your on-farm antibiotic use data? Please tick all that apply.

- Paper
- Electronic
- Other (please specify)

Which system do you use to record your on-farm antibiotic use data?

Considering your whole farm, where do you purchase antibiotics from?

- Single vet practice
- Multiple vet practices
- Online pharmacy
- Other (please specify)

If you are a mixed enterprise, are your purchases and/or usage recorded separately for each enterprise?

- N/a - not a mixed enterprise
- Yes, separate/linked vet account
- Yes, separate medicine book on farm
- Yes, both vet and medicine book
- Not sure
- No

In your opinion, what benefits could farmers derive from sharing their antibiotic use data so as to establish average use per sector nationally?

What do you think are the current barriers to farmers sharing data to get a national figure?

Who do you think should have access to anonymised farmer antibiotic use data?

- Farm assurance body
- Meat or milk processor
- Authorities (DEFRA, VMD)
- Vet
- Retailer
- Farmer
- Industry disease control co-ordinators (e.g. AHWNI in NI, APHA)
- Other (please specify)

How do you think farmers can best demonstrate to consumers and authorities that antibiotics are being used responsibly?

Vets – Dairy cattle

Approximately what number of your clients have dairy cows?

For roughly what percentage of your dairy clients is there a figure that represents their annual antibiotic usage? (this figure can include a calendar year or year to date figures)

Do you calculate this figure at the practice using vet sales or prescription data?

- ☐ Yes
No

Do you discuss this figure at least annually with your client(s)?

- Yes
For some farmers
None at all

Is this figure calculated by or uploaded to a national centralised system? e.g. MedicineHub, STAMP, WLBP ABU calculator, Scottish ABU Pilot system?

- Always
For most
A few
None at all
Don't know

Is this figure calculated by a data management platform? e.g. VetImpress, Kingshay, FarmAssist, Kite Consulting, FarmMetrics

- Always
For most
A few
None at all
Don't know
Other (please specify)

Vets – Beef

Approximately what number of your clients have a beef enterprise?

For roughly what percentage of your beef clients is there a figure that represents their annual antibiotic use?

Do you calculate this figure at the practice using vet sales or prescription data?

- Yes
No

Do you discuss this figure at least annually with your clients?

- Yes
For some farmers
Not at all

Is this figure calculated by or uploaded to a centralised system? e.g. Medicine Hub, WLBPAU calculator, Scottish ABU Pilot system, or STAMP

- ☐ Always
- For most
- A few
- None at all
- Don't know
- Other (please specify)

Vets – Sheep

Approximately what number of your clients have sheep?

For roughly what percentage of your sheep clients is there a figure that represents their annual antibiotic use?

Do you calculate this figure at the practice using vet sales or prescription data?

- Yes
- No

Do you discuss this figure at least annually with your client?

- Yes
- For some farmers
- Not at all

Is this figure uploaded to a centralised system? e.g. Medicine Hub or WLBPAU calculator, Scottish ABU Pilot system, STAMP

- Always
- For most
- A few
- None at all
- Don't know
- Other (please specify)

Vets – General questions

For mixed enterprise farmers, do you ensure antibiotics sales are recorded against the correct enterprise?

- Yes, for all farm clients
- Yes, for most farm clients
- Yes, for some farm clients
- Not at all

What computer systems do you use for farm clients in the practice? (please tick all that apply)

- Teleos
- Robovet
- VetIMPRESS
- Merlin
- Ezyvet
- Vet IT
- DigiFarm
- Provet Cloud
- Assisi
- Other (please specify)

What do you think are the main challenges to deriving robust farm level antibiotic use figures for farm enterprises?

What would make calculating or accessing species-specific antibiotic use data easier for the practice?

Who do you think should have access to anonymised vet antibiotic sales data?

- ☐ Farm assurance bodies
- Meat or milk processors
- Authorities (DEFRA, VMD)
- Retailers
- Vet
- None
- Government
- Other (please specify)

In your opinion, what is the motivation for vets to share their antibiotic sales data for the purposes of understanding sector level antibiotic use at a national level?

What do you think are the current barriers to this?

How do you think vets can best demonstrate to consumers and authorities that antibiotics are being prescribed responsibly?

Other stakeholder questions

In your role, do you require antimicrobial use data from cattle and/or sheep farmers/suppliers?

- Yes
- No

Why do you want this data?

How is this data provided to you?

What is your opinion about how antibiotic usage data is currently collected for ruminants in the UK?

What is or could be the benefit of this data to you or the ruminant sector in general?

From your perspective, how can ruminant antibiotic use data collection and sharing be improved?

In your opinion, who should be responsible for ruminant antibiotic use data collection?

How do you think industry, farmers and vets can best demonstrate that antibiotics are being used responsibly in UK cattle and sheep?

Annex 4: Guidelines for the focus groups

Information sheet and consent form – focus group workshop

Introduction

We are a research team from RCVS Knowledge and the AntiMicrobial Resistance in Agrifood Systems Transdisciplinary (AMAST) Network. Our aims are:

- to provide evidence to identify how we can further promote and demonstrate responsible antibiotic stewardship (ABS) at UK ruminant farm-level to drive progress and enhance animal health and welfare
- to co-design how best to collate and report sufficient evidence of antibiotic usage (ABU) at UK national level to satisfy both customers and authorities.

This evidence will support the co-creation of the UK Ruminant ABS Roadmap.

What is the purpose of the workshop?

The purpose of this workshop is to help us to identify what is expected at farm level to demonstrate responsible stewardship of antibiotics, what are the barriers and motivators for ABU data collection, and what needs to change to ensure that this happens.

What will taking part involve?

The workshop will involve a guided group discussion for around one hour. You will be provided with paper and pens to help capture your discussion. We hope this exercise will be informative and useful for yourself and your business. Please read the information below before deciding whether to take part.

Is it an anonymous study?

Any information you contribute during the workshop will be anonymised so that after the workshop you cannot be identified from this data. We will be making notes of the things said during the discussion. We will also be taking some photos of the notes made by the group.

Confidentiality and data storage

The research team promises to respect your privacy and confidentiality. We will not tell anyone that you participated in this group discussion, and your identity will not be linked back to what you said. However, we cannot guarantee other people in the discussion will not repeat what is said outside of this room. Everyone here must agree to use their common sense, courtesy and respect for each other after this group meeting in what has been said. The information we talk about will be shared as anonymised data with the research team. Anonymous data, which cannot be traced to any individual, may be made freely available for future research and learning via the RVC Research data storage facility, and in association with subsequent publications.

What if I change my mind about taking part?

Participation in the study is entirely voluntary and declining to participate will not disadvantage you in any way. During the workshop if you wish to withdraw from the study then you can let one of the research team members know, or can contact Camilla Strang (email address) and we will destroy any information that you have provided. After the workshop is completed, all data will be anonymised, and it will not be possible to destroy information you have provided.

What will happen to the results of the study?

The information you provide will be used to produce reports and publications to describe the challenges and benefits of antibiotic use data recording on farms. This will help ensure that the ruminant roadmap for ABS is based on evidence that is actionable and likely to create lasting change. The reports will be shared internally between the research team and made publicly available through published reports and manuscripts in journals.

What are the possible risks of taking part?

There are no foreseeable risks or discomforts associated with this study; we don't expect anything that we discuss here to be controversial.

How is the project being funded?

The research team is supported by the AntiMicrobial Resistance in Agrifood Systems Transdisciplinary (AMAST) Network, funded by United Kingdom Research and Innovation (UKRI), a non-departmental public body sponsored by the UK Department for Science, Innovation and Technology.

Ground rules for the participatory assessment

1. Everyone's views are important so when someone is speaking please give them time to speak until they are finished.
2. Please feel free to speak your opinion. We don't all have to agree but need to respect each other's opinion during the discussion.
3. We would like to have the opinions of everyone so for the sake of this discussion, we are all equal, and no one knows more than another.
4. Please use common sense, courtesy and respect for each other during and after the workshop.

If you have any questions or require more information, please feel free to ask one of the research team members, or contact Camilla Strang at (email address). Similarly, if you have a complaint about this study or would you like to withdraw, please contact one of the research team members, or contact Camilla Strang at (email address).

Beef farmers focus group discussion guide

1. Beef farming in the UK and ABU data collection

Objective: To understand group demographics and how ABU data are currently collected at the farm.

Start with some easy questions to get farmers talking & understanding participants demographics (go round the group, asking each participant to introduce themselves & providing detail:

- *Could you tell us a bit about your farm set up, for example, location, herd size, suckler/finishing unit, main breed, organic, who do you sell to?*
- *How are you all currently recording antibiotic use data?*
- *Are you all Red Tractor farm assured? (If not, why?)*

2. Antimicrobial use data

Objective: To assess knowledge and attitudes towards recording ABU on farms, and to understand better what happens at farm level with ABU data.

Note: We may want to try and decouple the discussion of using ABU data on farm with national reporting. There may be an assumption that having the data on Medicine Hub/WLBP is all that is needed, but is there a better way that farmers and their vet can make use of the data? How we demonstrate responsible usage without necessarily using MH/WLBP?

For this activity we want to talk about antibiotic use data on beef farms.

- *What do you do to provide Red Tractor or others with your annual antibiotic usage figure now? (prompts: does your vet help with this? How?)*
- *How do you review this with your vet?*
- *Could you give examples of when you've found this review useful with regards to the health and welfare of your animals?*
- *Would you make any changes to how your ABU data is presented to you? (prompts: difficulties interpreting/understanding how it is presented, what do you want to know from this data? What would be useful for you to help with health and welfare of your animals?)*
- *Would you refer to your medicine records when going through your ABU with your vet? If yes, could you give an example of this? If no, could you explain why?*
- *How else might this information be useful to you at farm level?*

3. The way forward

Objective: To highlight the push from the supply chain & regulatory bodies for farmers to show they're using antibiotics responsibly and understand how farmers think the industry can best demonstrate this.

- *How do you think you and the industry can best demonstrate you are using antibiotics responsibly?*
- *What would you like to see happen to help you show you're using antibiotics responsibly?*
- *What could be done to help you to show the supply chain and public that you're using antibiotics responsibly?*
- *In your opinion, who should be responsible for ABU data recording/collection?*
- *Who should have access to these data (Probing: veterinarians, government, retailers, consumers)?*

Final question: *Do you have any other ideas on how to improve and sustain antibiotic stewardship in beef farming in the UK?*

Dairy farmers focus group discussion guide

1. Dairy farming in the UK and ABU data collection

Objective: To understand group demographics and how ABU data are currently collected at the farm.

Start with some easy questions to get farmers talking & understanding participants demographics (go round the group, asking each participant to introduce themselves & providing detail:

- *Could you tell us a bit about your farm set up, for example, location, herd size (milkers, followers), main breed, organic, calving system, milk contract*
- *How are you all currently recording antibiotic use data?*
- *Are you all Farm assured? (Likely yes, if not, why?)*

2. Antimicrobial use data

Objective: To assess knowledge and attitudes towards recording ABU on farms, and to understand better what happens at farm level with ABU data.

Note: We may want to try and decouple the discussion of using ABU data on farm with national reporting. There may be an assumption that having the data on Medicine Hub/WLBP is all that is needed, but is there a better way that farmers and their vet can make use of the data? How we demonstrate responsible usage without necessarily using MH/WLBP?

For this activity we want to talk about antibiotic use data on dairy farms.

- *What do you do to provide your Farm assurance body with your annual antibiotic usage figure now? (prompts: does your vet help with this? How?)*
- *How do you review this with you vet?*
- *Could you give examples of when you've found this review useful with regards to the health and welfare of your animals?*
- *Would you make any changes to how your ABU data is presented to you? (prompts: difficulties interpreting/understanding how it is presented, what do you want to know from this data? What would be useful for you to help with health and welfare of your animals?)*
- *Would you refer to your medicine records when going through your ABU with your vet? If yes, could you give an example of this? If no, could you explain why?*
- *How else might this information be useful to you at farm level?*

3. The way forward

Objective: To highlight the push from the supply chain & regulatory bodies for farmers to show they're using antibiotics responsibly and understand how farmers think the industry can best demonstrate this.

- *How do you think you and the industry can best demonstrate you are using antibiotics responsibly?*
- *What would you like to see happen to help you show you're using antibiotics responsibly?*
- *What could be done to help you to show the supply chain and public that you're using antibiotics responsibly?*
- *In your opinion, who should be responsible for ABU data recording/collection?*
- *Who should have access to these data (Probing: veterinarians, government, retailers, consumers)?*

Final question: Do you have any other ideas on how to improve and sustain antibiotic stewardship in dairy farming in the UK?

Small ruminant farmers focus group discussion guide

1. Small ruminant farming in the UK and ABU data collection

Objective: To understand group demographics and how ABU data are currently collected at the farm.

Start with some easy questions to get farmers talking & understanding participants demographics (go round the group, asking each participant to introduce themselves & providing detail:

- *Could you tell us a bit about your farm set up, for example, location, flock size, main breed, organic, who do you sell your produce to?*
- *How are you all currently recording antibiotic use data?*
- *Are you all farm assured? (If not, why?)*

2. Antimicrobial use data

Objective: To assess knowledge and attitudes towards recording ABU on farms, and to understand better what happens at farm level with ABU data.

Note: We may want to try and decouple the discussion of using ABU data on farm with national reporting. There may be an assumption that having the data on Medicine Hub/WLBP is all that is needed, but is there a better way that farmers and their vet can make use of the data? How we demonstrate responsible usage without necessarily using MH/WLBP?

For this activity we want to talk about antibiotic use data on sheep/small ruminant farms.

- *What do you do to provide Red Tractor or others with your annual antibiotic usage figure now? (prompts: does your vet help with this? How?)*
- *How do you review this with you vet?*
- *Could you give examples of when you've found this review useful with regards to the health and welfare of your animals?*
- *Would you make any changes to how your ABU data is presented to you? (prompts: difficulties interpreting/understanding how it is presented, what do you want to know from this data? What would be useful for you to help with health and welfare of your animals?)*
- *Would you refer to your medicine records when going through your ABU with your vet? If yes, could you give an example of this? If no, could you explain why?*
- *How else might this information be useful to you at farm level?*

3. The way forward

Objective: To highlight the push from the supply chain & regulatory bodies for farmers to show they're using antibiotics responsibly and understand how farmers think the industry can best demonstrate this.

- *How do you think you and the industry can best demonstrate you are using antibiotics responsibly?*
- *What would you like to see happen to help you show you're using antibiotics responsibly?*
- *What could be done to help you to show the supply chain and public that you're using antibiotics responsibly?*
- *In your opinion, who should be responsible for ABU data recording/collection?*
- *Who should have access to these data (Probing: veterinarians, government, retailers, consumers)?*

Final question: Do you have any other ideas on how to improve and sustain antibiotic stewardship in sheep/small ruminant farming in the UK?

Veterinarians focus group discussion guide

1. Antimicrobial use data

Objective: To assess knowledge and attitudes towards recording ABU data.

Note: We may want to try and decouple the discussion of using ABU data on farm with national reporting. There may be an assumption that having the data on Medicine Hub/WLBP is all that is needed, but is there a better way that farmers and vets can make use of the data? How can we demonstrate responsible usage without necessarily using MH/WLBP?

For this activity we want to talk about antibiotic use data in ruminants.

- *Do you record antibiotic use data for ruminants?*
- *Do you know at practice level what animals / species / enterprises these are going to?*
- *Do you know the number of animals being treated with an antibiotic you prescribe?*
- *How do you capture this information? What methods do you use to record ABU?*
- *How do you review ABU with your clients?*
- *How could ABU data be more useful to you in making animal health and welfare decisions?*

Annex 5: Organisations invited to the UK ruminant ABS roadmap summit

Organisation (acronym) invited to the Summit	Full name of organisation
ABP Food Group	Anglo Beef Processor Food Group
Agrisearch	Northern Ireland Agricultural Research and Development Council
AHDA	Animal Health Distributors Association
AHDB	Agriculture and Horticulture Development Board
AHWBE	Animal Health and Welfare Board for England
AHWNI	Animal Health & Welfare Northern Ireland
AHWP	Animal Health and Welfare Pathway - England
AIMS	Association of Independent Meat Suppliers
AMTRA	Animal Medicines Training Regulatory Authority
APHA	Animal and Plant Health Agency
Arwain	Arwain DGC (Defnydd Gwrthficrobaidd Cyfrifol)
AVSPNI	The Association of Veterinary Surgeons Practising in Northern Ireland
BCVA	British Cattle Veterinary Association
BMI	British Meat Industry
BMPA	British Meat Processors Association
BRC	British Retail Consortium
BVA	British Veterinary Association
CAGG	Cattle Antibiotic Guardian Group
CVS (UK) Ltd	CVS Veterinary Group
Dairy Council for Northern Ireland	Dairy Council for Northern Ireland
Dairy UK	Dairy UK
Defra UK	Department of Environment, Food and Rural Affairs
FIIA	Food Industry Initiative on Antimicrobials
FSA	Food Standards Agency
GVS	Goat Veterinary Society
HCC	Hybucig Cymru
House of Lords	House of Lords
Iechyd Da	Iechyd Da
IVC Evidensia	IVC Evidensia
Kingshay	Kingshay Dairy Consultants
Kite	Kite Consulting
LMCNI	The Livestock and Meat Commission for Northern Ireland
Map of Ag	Map of Ag consultants
Mentera	Mentera Busnes
MH G&O	Medicine Hub Governance and Ownership Group
MH ILG	Medicine Hub Industry Liaison Group
NBA	National Beef Association
NFU	National Farmers' Union
NI CVO	Northern Ireland Chief Veterinary Officer
NI Daera	Department of Agriculture, Environment and Rural Affairs Northern Ireland

NIMEA	Northern Ireland Meat Exporters Association
NIVA	The North of Ireland Veterinary Association
NMR	National Milk Records
NOAH	National Office of Animal Health
NSA	National Sheep Association
QMS	Quality Meat Scotland
Quadram	The Quadram Institute
RABDF	Royal Association of British Dairy Farmers
RAU	Royal Agricultural College
RCVS	Royal College of Veterinary Surgeons
RCVS Knowledge	RCVS Knowledge
Red Tractor	Red Tractor Food Assurance
RHWG	Ruminant Health & Welfare Group
RUMA Agri	Responsible Use of Medicines in Agriculture Alliance
RVC	Royal Veterinary College
SAGG	Sheep Antibiotic Guardian Group
SAMW	Scottish Association of Meat Wholesalers
Scottish CVO Office	Scottish Government Chief Veterinary Officer
SOAS	Scottish Agricultural Organisation Society
SONAAR	Scottish One Health Antimicrobial Use and Antimicrobial Resistance
SRUC	Scotland's Rural College
SVS	Sheep Veterinary Society
UK CVO Office	UK Government Chief Veterinary Office
University of Bristol	University of Bristol
University of Nottingham	University of Nottingham
VDS	The Veterinary Defence Society
Vet Impress	Vet Impress
VetPartners	VetPartners UK
VMD	Veterinary Medicines Directorate
VPHA	Veterinary Public Health Association
VSC	Vet Schools Council
Welsh CVO	Welsh Government Chief Veterinary Officer
WLBP	Welsh Lamb & Beef Producers
XL Vets	XLVets

Our mission is to advance the quality of veterinary care for the benefit of animals, the public and society.

To find out more
about this project
and to see the latest
updates, visit
[rcvsknowledge.org/
ruminant-roadmap](https://rcvsknowledge.org/ruminant-roadmap)

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