

ROADMAP

TO REDUCING THE NEED FOR

ANTIBIOTICS

Progress Report 2023



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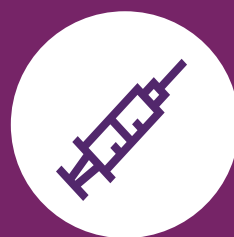
Roadmap Progress Report:

At a glance

Since November 2019, the global Animal Health Sector has made significant progress against the 25 measurable goals set out in the Roadmap to Reducing the Need for Antibiotics. This includes:



\$6.3 billion (est.)
invested in Research
and Development



71 new vaccines
brought to market, with close
to half for bacterial disease



**28 new
diagnostics tools**
brought to market



**1.9 million
medicine users**
trained in responsible use



Over \$25 million
in veterinary scholarships
and research grants



93 new scientific publications
that improve understanding of
veterinary pathogens and AMR

These efforts are helping reduce the need for antibiotics and advance responsible use.
Read on to see our progress against all 25 goals.



Introduction

In 2019, HealthforAnimals published the 'Roadmap to Reducing the Need for Antibiotics', a strategy for addressing antimicrobial resistance (AMR) and improving responsible use. It was signed by the world's largest animal health companies and demonstrated a unified approach to a global challenge.

The Roadmap included 25 measurable actions the sector pledged to complete by 2025. This year, we are publishing our 2nd Roadmap Progress Report showing that **the animal health sector remains on track to meet our commitments by 2025**. In fact, many actions are well ahead of schedule.

We are proud of our sector's commitment to addressing AMR and the progress achieved. Antibiotics remain the only way to treat a bacterial disease and preserving their effectiveness is paramount to the future health of animals.

Our Roadmap is an important piece of this commitment, but our sector and the wider veterinary health community has been acting on AMR for many years. This long-standing, collective work has strengthened responsible use and delivered important results such as:

- **Increased Prevention:** Since 2015, global animal vaccine sales have risen 33% while antibiotics sales fell 30%, illustrating how prevention reduces the need for treatments.¹
- **Low AMR Transfer risk:** A recent literature review found livestock has "little contribution" to AMR in humans, and the primary source of resistant infections remains other people.⁴
- **Low levels of resistance:** Resistance monitoring programs across markets like the US, EU and UK show that resistance to most antibiotics in animals remains 'low' or 'absent.'^{2,3}
- **Reduced need for antibiotics:** Government data shows significant reductions in animal antibiotic use – 59% in the UK, 38% in the US and 53% in the EU – driven by increases in prevention.⁵

Additional data on the successes of responsible use can be found in our accompanying publication, [*Animal Health and Antibiotic Resistance: A Livestock Data Analysis*](#). However, there is more to be done in the fight against AMR.

While our sector remains committed to doing our part, AMR is a One Health challenge. It requires complementary action in people and environment to make a difference. For instance, a recent European Union report found that "while much progress has been achieved in the veterinary sector...it is now crucial to further address human health...and increase action in the environmental domain."⁶

We urge others to join us in making clear commitments and acting on this global challenge. Ensuring that antibiotics remain an effective tool for both people and animals must be a priority for all. We look forward to working with you in the years ahead.



Carel du Marchie Sarvaas

Executive Director, HealthforAnimals



Kristin Peck

President, HealthforAnimals



Our commitments to

Research & Development

If we are to continue to maintain and improve animal health as well as reduce the need for antibiotics, we will need new innovation. HealthforAnimals Members made the following five commitments in our Roadmap to Reducing the Need for Antibiotics to advance our R&D between 2019 and 2025.

Invest at least \$10 billion in research and development

\$6.3 Billion (est.)

➤ **Progress:** an estimated 6.3B has been invested to-date

On track

Deliver at least 100 new vaccines

71 out of 100

➤ **Progress:** 71 vaccines delivered to-date*

Ahead of schedule

Deliver at least 20 new diagnostics tools

28 out of 20

➤ **Progress:** 28 delivered to-date

Ahead of schedule

Deliver at least 20 new nutritional enhancement products

7 out of 20

➤ **Progress:** 7 delivered to-date

In Progress

Deliver at least 30 other products that can reduce the need for an antimicrobial by reducing animal stress or boosting the natural immune system

16 out of 30

➤ **Progress:** 16 delivered to-date

On track

* 32 specifically address bacterial disease while others address issues like viral disease that can lead to or exacerbate secondary bacterial infections.



Our commitments to

One Health

In addressing AMR, we must recognize that this is not an issue limited by species or location. AMR affects animals, people and the planet, and can only be addressed by recognizing the intersection of all three. HealthforAnimals Members made the following two commitments to help provide a One Health lens to our work.

Deliver new tools that reduce the likelihood of human exposure to a resistant pathogen such as Salmonella, Campylobacter, or E. Coli

On track

➡ **Progress:** HealthforAnimals Members offer a wide range of tools that reduce the risk of resistant bacteria developing in animals, which supports public health. This is one reason why studies have found resistance to most critically important antibiotics for human medicine is 'absent' or 'low' in animals.⁷

Tools offered by HealthforAnimals Members included:

- Animal vaccines against zoonotic public health threats like salmonella, e.coli and campylobacter.
- Nutritional products that improve gut health and defend against zoonotic pathogens.
- Sensitivity tests that reduce risk of resistance development when antibiotics are needed.
- Diagnostic tests to accurately detect bacterial infection and support swift treatment.
- Guidance for the rational use of antimicrobials to help veterinary professionals choose the right medicine that reduces the risk of resistance development.

Conduct an AMR risk analysis for every new antibiotic brought to market

On track

➡ **Progress:** HealthforAnimals Members introduced three new antibiotic products to the market. Each received an AMR risk analysis prior to market introduction.⁸



Our commitments to

Communications

Reducing the need for antibiotics can only be possible when the importance, benefits, scientific basis, and barriers are properly understood. HealthforAnimals Members made the following four commitments to help our partners and stakeholders recognize how we can mutually advance this vision.

Strengthen communications on benefits of biosecurity, in-feed supplements, vaccinations, and products that support good animal health

On track

Progress: All HealthforAnimals Members offered robust communications campaigns and materials on the value of preventative care in animal health.

Types of HealthforAnimals Member Communications included:

- Boehringer Ingelheim's European Porcine Reproductive and Respiratory Syndrome (PRRS) award to encourage development of new control measures.
- Ceva's projects like Poulet de Faso that advance preventative care in developing regions.
- Elanco's partnership with Farm Radio International that reached 4 million farmers in Tanzania.
- IDEXX's leadership in promoting the value of preventive care in pet health at TheVetiverse.com.
- Merck Animal Health's 'Time to Vaccinate' program & partnership with US Cattleman Association to promote the value of prevention to US ranchers.
- Phibro's robust 'Phibro Academy' that helps train professionals on preventative technology use.
- Zenoaq's 'FARMinar' training courses for livestock field practitioners and farmers.
- Zoetis' annual Sustainability Reports showing a robust, continued commitment to prevention as the first-line of defence against disease.

Issue Roadmap Updates in 2021 and 2023

On track

Progress: HealthforAnimals has published comprehensive, timely Progress Reports in 2023. The first Progress Report was also translated into French, Spanish, Portuguese and Chinese. A final summary report is anticipated in 2025–26 following the end of the Roadmap time period.



Participate in forums and public dialogues to help build understanding of risks, benefits, and actions that different stakeholders can take to improve public health outcomes in the fight against AMR

On track

➡ **Progress:** HealthforAnimals and its Members have been active and vocal in forums across the globe promoting the need for One Health collaboration, antibiotic stewardship, strategies for reducing antibiotic need in animals.

Major forums where HealthforAnimals and/or Members spoke included:

- 2020 World Health Summit
- AMR Action Fund
- French government's One Health Forum
- Financial Times
- Japanese Ministry of Agriculture, Forestry and Fisheries (JMAFF) forums
- United Nations Global Leaders Group on Antimicrobial Resistance
- U.S. Presidential Advisory Council for Combatting Antibiotic Resistance
- World AMR Congress

Furthermore, Members have spoken at a diverse array of AMR seminars and conferences across nations ranging from Indonesia, Laos, Thailand, and Malaysia in Asia to Hungary, Poland, Lithuania and Ireland in Europe.

Issue regular report(s) and/or white paper(s) identifying barriers to adoption of prevention tools (e.g. vaccination, biosecurity, etc) and how they can be addressed

On track

➡ Progress:

- In November 2019, HealthforAnimals published a comprehensive report entitled “How to Increase Animal Vaccination,” outlining the systemic economic, political, technical, regulatory, practical, and social barriers facing greater adoption of these medicines.
- In 2021, HealthforAnimals published “New Frontiers in Animal Care: The Innovations Shaping the Future”. The report explained how new technologies like digital innovation could improve veterinary care and the steps necessary to accelerate adoption
- In 2022, HealthforAnimals published ‘Digital Revolution in Animal Health’, which profiled predictive, monitoring and diagnostics technologies. The report outlines the basics, benefits and barriers to adoption for these tools.



Our commitments to

Veterinary Training and Access

Veterinarians and veterinary paraprofessionals are on the frontline of the battle against AMR, using their expertise and knowledge to make a difference. They are trained to use antibiotics in a responsible manner that reduces animal suffering while limiting the emergence of resistance. HealthforAnimals Members made the following six commitments to improve veterinary knowledge by 2025.

Provide clear labels on every, single product

On track

► **Progress:** All HealthforAnimals Members provide comprehensive labels on every medicine sold. Labels will differ depending upon the market and regulatory requirements, but the common goal is to provide clear information to the end user.

Information on labels provided by HealthforAnimals Members include information such as:

- **'Indications of use':** The situations and diseases where the medicine is approved for use.
- **Dosage and Administration:** Detailed instructions for how to administer the medicine effectively.
- **'Adverse Reactions':** List of possible side effects from a medicine that should be monitored.
- **Withdrawal Periods:** Amount of time a farmer must wait after administering the medicine before slaughter.
- **Pharmacology:** Clinical explanation of how the medicine functions, efficacy levels, etc.
- **Precautions/Warnings:** Cautions for the user (e.g. Not for Human Use) and information on what to do in case of an accident (e.g. accidental human injection).
- **Contact:** Contact information for the manufacturer to report adverse events or other issues.

Note: this is not an exhaustive list and product labels may include other details.

Make technical guidance available to all product users

On track

► **Progress:** All medicines sold by HealthforAnimals Members include detailed guidance on the label and accompanying materials. Furthermore, contact information is available on the label to seek additional detail as needed. Other animal health products such as diagnostics and monitoring technologies also include clear instructions on proper use of the product for accurate results.



Train more than 100,000 medicine users in responsible use

► **Progress:** Members directly trained 132,000 medicine users through various partnerships and initiatives. Through 'Train the Trainer' style programs, an additional 1.77 million people have received valuable instruction on disease control and responsible medicine use. Combined, this represents just over 1.9 million people trained since 2019.

Direct Training
132,000 out of **100,000**



Indirect Training
1.77 million medicine users



Ahead of Schedule

Undertake at least 15 veterinary training partnerships

► **Progress:** HealthforAnimals Members undertook at least 14 veterinary training partnerships. These include activities such as:

- Partnership with GALVMed to train veterinarians in Senegal on preventive practices.
- Program in Nigeria and Uganda to better manage tick infestations in cattle.
- Collaboration with Worldwide Veterinary Service to help train veterinarians on responsible use of antimicrobials.
- Initiative to advance livestock health and productivity across four Sub-Saharan African countries.
- Partnerships with producer associations and universities to train veterinary professionals.

14 veterinary training partnerships



On Track



Invest at least \$5 million in veterinary education scholarships and grants

► **Progress:** HealthforAnimals members provided US\$15.1 million in scholarships over the past three years.

\$15.1 Million



Ahead of schedule

Deliver a white paper on opportunities in telemedicine for improving access to veterinarians in high-income and low- and middle-income nations

On track

► **Progress:** In 2020, HealthforAnimals published new data on the use of telemedicine during the pandemic and, in 2022, released a 'Global State of Pet Care' website that outlined current state of telemedicine and hurdles to increased adoption.



Our commitments to

Cooperation

The animal health industry does not work in a vacuum and a global issue like AMR cannot be addressed by one sector alone. HealthforAnimals Members made the following five commitments to help build partnerships and work across disciplines to reduce the need for antibiotics by 2025.

Participate in responsible use coalitions in major markets

On track

➤ **Progress:** HealthforAnimals Members continue to be active in coalitions such as the UK's Responsible Use of Medicines in Agriculture Alliance (RUMA), the European Platform for the Responsible Use of Medicines in Animals (EPRUMA), and Brazil's Aliança. In markets without a formal coalition, Members often still work closely with the value chain through direct relationships and informal working groups.

RESPONSIBLE USE OF MEDICINES IN AGRICULTURE ALLIANCE

ruma

EPRUMA

ALIANZA
Para el uso responsable de antimicrobianos

Share sales data in every market where it is required

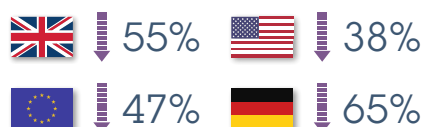
On track

➤ **Progress:** HealthforAnimals Members continue to meet their regulatory requirement to supply sales data in various markets. These show sharp reductions in recent years such as:

- UK: 55% reduction since 2014⁹
- USA: 38% since 2015¹⁰
- EU: 47% since 2011¹¹
- Germany: 65% since 2011¹²

This is alongside a 39% reduction in antibiotics share of the global animal health product portfolio.¹³ Sales data is a flawed mechanism for surveillance though. HealthforAnimals and Members support tracking resistance itself to provide more actionable data

Recent Antibiotic Sales Reductions by Market



The Animal Health sector is taking valuable action to promote responsible use of antibiotics and data shows it is working. However, sales data does not indicate whether AMR is rising or falling; only testing for resistance itself can achieve this. Actions in animal health can also only be truly impactful if accompanied by complementary steps in human health.



Undertake five new partnerships that deliver products that help to reduce the need for antibiotics in underserved markets

Ahead of Schedule

➡ **Progress:** HealthforAnimals Members have undertaken at least 12 new partnerships that are delivering products to underserved markets.

Partnerships undertaken by HealthforAnimals Members include:

- “Village Poultry Project”, offering tools and training to smallholders in East Africa.
- A.L.P.H.A Project, which aims to improve access to quality veterinary medicines and services in Africa.
- Partnership with Cowtribe, a Ghana startup that distributes medicines in rural regions.
- PREVENT Project, a partnership to provide vaccinated chicks to hatcheries across eight African countries.
- East Africa Growth Accelerator, helping farms in East Africa access quality medicines tailored to smallholders.

Conduct at least 50 audits of active ingredient suppliers to ensure they are meeting appropriate standards

Ahead of schedule

➡ **Progress:** HealthforAnimals Members have undertaken at least 295 audits of active ingredient suppliers in the past two years.



Encourage medicine users to submit efficacy reports into pharmacovigilance monitoring systems

On track

➡ **Progress:** All HealthforAnimals Members operate pharmacovigilance monitoring systems, which include details information on how users can submit reports.



Our commitments to

Knowledge

Addressing AMR will be more successful with greater knowledge and understanding about its origins, development, movement and contributory factors. HealthforAnimals Members made the following three commitments that will help contribute to a better understanding of AMR by 2025.

Provide research grants of at least \$1 million

➤ **Progress:** HealthforAnimals Members have provided at least US\$11 million in research grants, well exceeding our Commitment. This has funded research into prevention tools, resistance surveillance, antimicrobial susceptibility monitoring, medicine effectiveness and more.

\$11M in research grants provided, exceeding our **\$1M** goal

Ahead of schedule

Publish new, scientific research within peer-reviewed publications which improves understanding of veterinary pathogens or antimicrobial resistance

On track

➤ **Progress:** HealthforAnimals Members published at least 93 articles over the past two years across a variety of peer-reviewed publications such as Journal of Livestock Medicine, Viruses, Microbiome, and Scientific Reports. Topics included new methods of bacterial infection diagnosis, antimicrobial susceptibility, antimicrobial alternatives and more.



93
Peer-reviewed
articles published



Provide data and support to help improve disease tracking to organizations such as the World Organisation for Animal Health (WOAH)

On track

➡ **Progress:** HealthforAnimals is an active supporter of the World Organisation for Animal Health and maintains an ongoing Memorandum of Understanding (MoU) that calls for collaboration on “responsible and prudent use of antimicrobials...with the aim of tackling resistance and maintain efficacy.”



HealthforAnimals Members also support national, regional and global surveillance efforts such as:

- Support for the Resavip network that monitoring spread of swine influenza A in France.
- Chairing the European Swine Flu Network (ESFLU), which improves information sharing, awareness and preparedness for swine influenza.
- Providing parasite detection data to companion animal parasite councils (CAPC, ESCCAP) in the US and European Union.
- Operating a bio-surveillance program for viral and bacterial animal diseases in cooperation with three major U.S. universities.
- Monitoring the efficacy of antimicrobials and resistance levels in bacterial pathogens through the CEESA, the Executive Animal Health Study Center.



Endnotes

- 1 Animal Health and Antibiotic Resistance: A Data Analysis, HealthforAnimals
- 2 <https://academic.oup.com/jac/article-abstract/77/12/3301/6750681>
- 3 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1126449/TP_FINAL_VARSS_Highlights_2021_2022_41102022-accessible.pdf
- 4 <https://pubmed.ncbi.nlm.nih.gov/36136696/>
- 5 EU: ESVAC 2022 Report
USA: FDA Annual Summary Report on Antimicrobials Sold or Distributed in 2021 for Use in Food-Producing Animals
UK: VMD, UK-VARSS 2022
- 6 https://ec.europa.eu/commission/presscorner/detail/en/qanda_23_1845
- 7 <https://pubmed.ncbi.nlm.nih.gov/36203261/>
- 8 This does not include generics as these are not new antibiotic formulations or APIs.
- 9 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1126450/FOR_PUBLICATION_-_UK-VARSS_2021_Main_Report_Final_v3_-accessible.pdf
- 10 <https://www.fda.gov/animal-veterinary/cvm-updates/fda-releases-annual-summary-report-antimicrobials-sold-or-distributed-2021-use-food-producing>
- 11 <https://www.ema.europa.eu/en/news/sales-antibiotics-animal-use-have-almost-halved-between-2011-2021>
- 12 https://www.bvl.bund.de/SharedDocs/Pressemitteilungen/05_tierarzneimittel/2022/2022_PM_Abgabemengen_Antibiotika_Tiermedizin.html
- 13 <https://www.healthforanimals.org/reports/global-trends-in-animal-antibiotic-use/>



Looking Ahead

Our *Roadmap to Reducing the Need for Antibiotics* offers a clear vision for improving global animal health both in the steps HealthforAnimals and our Members pledge to undertake, and in the areas where we call on others to take action and support this goal. HealthforAnimals Members have made significant progress on the Commitments we made within the *Roadmap* and are determined to fulfil or exceed all by 2025.

We encourage others in the public sector, international organisations, human health sector, or any other institution that can affect positive change to join us by making measurable One Health commitments to tackling AMR and improving responsible use. Together, we can ensure antibiotics remain a powerful tool in human and animal health for years to come.



Data Notes

Information in this report was collected in summer 2023. It reflects HealthforAnimals Member Company activities between November 2019 (the original Roadmap Launch) and this collection date. Data was submitted confidentially by HealthforAnimals Member Companies to the Association for aggregation and presentation fully in accordance with data privacy and anti-trust considerations.