Battling the superbugs

Antimicrobial resistance (AMR) is growing, although the risk too often goes unmanaged or ignored. Yet the ramifications for public health are huge. Dr Emma Berntman explores how we are engaging with companies on this vital issue.

Setting the scene

AMR develops when microorganisms are exposed to antimicrobial treatments. In the case of bacterial infections, treating humans and animals with antibiotics triggers a natural selection process that creates survival benefits for any bacteria carrying specific genes that make the bacteria resistant to the antibiotic used.

Today, 70%[1] of all bacteria carry at least one "resistance gene" and bacteria are fast becoming multi-resistant on a global scale. When bacteria are resistant to all available classes of antibiotics, we will have no viable treatment options for bacterial infections that are treatable today.

The pandemic has highlighted the importance of being prepared for emerging public health threats. But although antibiotics are the bedrock of modern medicine, widespread misuse in animal farming is helping to create dangerous superbugs. The threat is not as immediately obvious as a viral pandemic, but AMR has the power to return us to the Victorian era, where surviving even simple surgery could become a lottery.

Already, some 700,000 people die every year from AMR and this number is expected to increase to 10 million annual deaths globally by 2050[2]. This would be higher than the mortality caused by cancer and diabetes combined. The World Bank estimates that AMR could result in a 3.8% loss in global GDP, an impact comparable to that of the 2008 financial crisis, and potentially costing the global community $100tn by 2050[3]. If current antibiotic practices continue, the likelihood of the world entering and remaining in the post-antibiotic era is high.

Misuse and overuse of antibiotics within industrial animal farming is recognised as a leading cause of the rise in AMR. An estimated 70%[4] of medically important antibiotics are sold for use in animals rather than people. Good animal welfare practices require that animals with bacterial infections are treated with antibiotics.

For further information please contact:

Emma Berntman
Theme lead: Natural Resource Stewardship
Emma.Berntman@hermes-investment.com

[1] https://www.fda.gov/drugs/information-consumers-and-patients-drugs/battle-bugs-fighting-antibiotic-resistance
[2] https://amr-review.org/sites/default/files/AMR%20Review%20Paper%20-%20Tackling%20a%20crisis%20for%20the%20health%20and%20wealth%20of%20nations_1.pdf
[3] https://documents1.worldbank.org/curated/en/323311493396993758/pdf/final-report.pdf
[4] https://www.fda.gov/media/84881/download
[5] https://www.fairr.org/research/animal-health/

However, animals are predominately given antibiotics for non-therapeutic purposes such as growth promotion and preventative treatment of groups of healthy animals – so-called prophylactic use.

Animal health practices

To help shed more light on this issue, EOS contributed to the latest report from the FAIRR initiative, a collaborative investor network that raises awareness of the ESG risks and opportunities inherent in intensive livestock production. *Feeding Resistance: Antimicrobial Stewardship in the Animal Health Industry*[5] explores the current practices of the 10 largest publicly-listed players in the animal health industry and the actions required to ensure resilience of the companies' product portfolios and good AMR stewardship.

The report's key findings were that:

- The opaque antibiotic manufacturing supply chain and lack of external oversight are allowing antibiotic residues in effluence to enter the environment at concentrations that increase the risk of AMR developing. The risk of poor manufacturing practices is exacerbated by the lack of global standards, as well as inadequate local regulation to restrict antibiotic concentrations in manufacturing effluence.
- Among the companies assessed, certain sales and marketing practices were found to promote misuse and overuse of antibiotics, indicating a troubling lack of integration of good AMR stewardship practices within wider business strategies. For example, robust labelling is key to ensuring responsible use of antimicrobials and deterring their use for growth promotion or prophylaxis, as well as ensuring the proper disposal or return of products so they are not released into the environment. This is particularly egregious in emerging markets as regulatory oversight of antibiotic use tends to be inadequate and this is where industrial farming practices are growing.
- Positively, regulation governing antibiotics is becoming more robust around the globe and consumers are increasingly demanding sustainably and ethically-produced animal protein products, as well as animal protein alternatives. In response to this, animal protein producers are exploring preventative treatments and alternatives to antibiotics. Animal health companies are to a varying degree diversifying their product portfolios by investing in R&D for vaccines, probiotics, prebiotics and other treatments to protect animal health.
- Finally, some of the companies have AMR stewardship initiatives in place, mainly in emerging markets, to support good animal farming practices and the responsible use of antibiotics via the education of veterinarians and farmers. However, the sector is also seen to actively support lobbying, which seeks to undermine tightening AMR regulation.

Our engagement approach

When engaging with animal health companies, investors and their representatives should press for them to credibly demonstrate their understanding of the material risks and opportunities linked to AMR, and their preparedness to meet these across their full value chain of manufacturing, sales, marketing, R&D and AMR stewardship.

[6] https://w ww.tysonfoods.com/news/viewpoints/antibiotic-use

A challenge for investors is the lack of transparency, and determining how well sales, marketing and lobbying practices promote responsible antibiotic use. We expect companies to carry out a risk analysis to identify high-risk versus low-risk antibiotic manufacturers in their supply chain and have mechanisms in place to ensure that effluence from all manufacturing sites is effectively treated.

CASE STUDY

Tyson Foods

We have engaged with this US supplier of poultry, beef and pork, asking the company to create and disclose its progress against a clear global policy on antimicrobial resistance (AMR), for all protein lines. Tyson Foods has a "no antibiotics ever"[6] stance for chicken for some, but not all, of its brands and it has indicated its desire to make its messaging clearer. In its 2020 sustainability report, the company disclosed that it had completed its first global animal welfare assessment.

During a meeting with its sustainability and global impact team in August 2021, we urged the company to articulate how it views the risk that AMR poses to its business and encouraged additional disclosure on the scope of animals treated without antibiotics versus those treated with antibiotics along traditional lines. Tyson Foods is seeing increased demand for zero antibiotic use from customers, and in line with our request that the company establish a global AMR policy we encouraged it to demonstrate international suppliers' compliance with the policy, particularly in countries with less stringent antibiotic use standards.

Velika Talyarkhan
Theme lead: Executive Remuneration

Joanne Beatty
Theme lead: Corporate Reporting

We ask companies to provide public disclosure of antibiotic policies banning the use of antibiotics for growth promotion purposes and restricting the preventative use of medically important antibiotics.

Companies should also have policies and practices in place, across all their markets, ensuring that label indications, package sizes and promotional strategies do not promote the use of medically important antibiotics for growth promotion or routine preventative treatment. Rather, they should lead to reductions in the overuse and misuse of antibiotics. Companies that do not ensure that AMR stewardship is fully integrated into their business strategy run the risk of being perceived as greenwashing when the disconnect between stewardship activities and wider business practices becomes apparent.

We engage with companies across the animal protein value chain including protein producers, animal health companies, consumer goods companies, retailers and restaurants to ensure that responsible antibiotic practices are put in place. We ask companies to provide public disclosure of antibiotic policies banning the use of antibiotics for growth promotion purposes and restricting the preventative use of medically important antibiotics. Time-bound reduction targets should be made public and transition plans for antibiotic replacements introduced.

A challenge for investors is the lack of transparency, and determining how well sales, marketing and lobbying practices promote responsible antibiotic use.

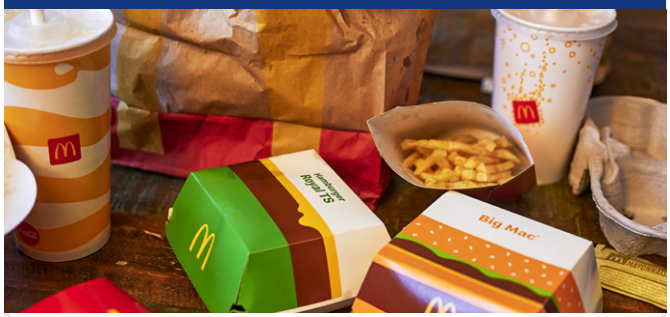
At a minimum, animal health companies should remove growth promotion indications on labels and the highest priority critically important antibiotics (HPCIA) from their portfolios, and ensure they have guidelines for responsible marketing at global best practice levels, regardless of local regulation.

Loss of efficacy of antibiotics is a material business risk for any company dependent on an animal rearing system that relies on antibiotics. Protein portfolio diversification into sustainable non-animal proteins would increase companies' resilience in light of this challenge, while meeting growing consumer demand for alternatives to meat. Also, any new classes of antibiotics that are developed are now unlikely to be made available for use in animals, which raises additional questions around the long-term feasibility of current industrial farming practices.

As a signatory to FAIRR, we have engaged on the key issues and practices of the animal health industry including protein diversification with some of the world's largest protein producers and retailers including Mondelez, Carrefour, Conagra Brands, Costco, Tesco, Nestle, Walmart and Marks & Spencer. Where companies are unwilling to act at the required pace, investor collaborations, AMR shareholder proposals and voting recommendations are all important escalation tools that can be used to hold companies and boards to account.

CASE STUDY

McDonald's



We began engaging with fast food chain McDonald's on AMR in its chicken supply chain in 2017 and have focused on its progress in eliminating the highest-priority critically important antibiotics (HPCIAs). The company has led with the development of antibiotic-use policies and has eliminated HPCIAs in its chicken supply chain in Australia, Brazil, Canada, Europe, Japan, South Korea and the US. Its goal is to eliminate HPCIAs from all chicken served by 2027.

McDonald's has published a beef policy and it is working to develop policies for antibiotic use in its pork supply chain. We have questioned how the company will continue to expand the scope of its antibiotic-use policies including specifying clear targets and timelines for implementation and increased disclosure for greater transparency on progress. We have also asked how the company audits suppliers against its commitments.

We recommended support for a shareholder proposal at the 2021 annual shareholder meeting, related to the use of antibiotics. While we recognise that the company has led on the development of antibiotic-use policies, we believe that enhanced disclosure on the implementation, scope and impact of its existing policies for its chicken and beef/dairy supply chains, as well as a greater understanding of the economic impact of the overuse of antibiotics as the proposal specified, would aid in accelerating progress.

Joanne Beatty
Theme lead: Corporate Reporting

CASE STUDY

Cargill

Cargill is a global soft commodities producer, which was chosen by the US Agency for International Development (USAID) to lead its TRANSFORM programme[7].This aims to improve livestock management and combat the threat of zoonotic diseases to both human and animal health, and reduce the risk of AMR. The company supports the responsible use of human antibiotics in food production and has committed not to use the highest-priority critically important antibiotics (HPCIAs)[8].

We met the company's lead for the TRANSFORM project in July 2021, to discuss this in more detail. Through the Cargill Health Technologies (CHT) division, the company said it had taken a holistic approach focused on optimising an animal's gut microbiome and leveraging its natural biology to maximise immune system strength, thereby reducing the need for antibiotic intervention. CHT's product portfolio is focused on alternatives to antibiotic use including prebiotics, probiotics and post-biotics.

In conjunction with its consortia partners Ausvet, Heifer and the International Poultry Council, Cargill has developed a detailed project plan and metrics to measure TRANSFORM's impact from 2021 to 2026. Beginning in 2022, Cargill will conduct nutrition and immune health trials on dairy, poultry, shrimp and swine operations in four countries throughout Asia and Africa to improve the understanding of, and quantify, the role that holistic animal nutrition can play in reducing the threats of zoonotic diseases to human health.

The company remains committed to further reducing the use of human antibiotics in food production. We welcomed the company's involvement in the international consortium for antibiotic stewardship in agriculture and the United Nations Foundations antimicrobial resistance industry group.

Growth promotion

Cargill confirmed that it has eliminated antibiotics for growth promotion in all turkey production and has eliminated the use of antibiotics for broiler chicken growth in North America, Europe and Asia. It is working to extend this to Latin America. While Cargill continues to judiciously use antibiotics for therapeutic use, it is striving to avoid the use of antibiotics for prophylactic use through programmes focused on optimising animal health and hygiene to minimise disease risk.

In response to our question regarding the treatments and practices that are most effective in reducing antibiotic use, the company identified farm management, biosecurity systems and animal health and nutrition. The challenges to adoption by farmers for some of these approaches include cost, confusion regarding the number of available health and nutrition products, and the demonstration of measurable benefits. Cargill is hoping that the TRANSFORM project will provide the data and information to demonstrate positive outcomes. We will monitor Cargill's involvement in the project and encourage the company to further eliminate antibiotic use across all product lines.

Joanne Beatty
Theme lead: Corporate Reporting

[7] https://www.cargill.com/2021/usaidtransform
[8] Antibiotics - Cargill's view | Cargill

CASE STUDY

JBS

JBS is a Brazilian food supplier, which buys and processes animals in various countries. In early January, we raised our concerns with the company about its policy on the use of antibiotics, seeking clarification on how preventative use is defined. We have also asked about its stance on using antibiotics for growth promotion and have highlighted the importance of transparent and reliable data.

In a subsequent call with the company later that month, JBS said that it was responsible for supplying animals, feed, vaccines and medicines, technical assistance and transport to its contracted farms. The farms are forbidden from using any medicines or vaccines, unless supplied and authorised by JBS. It emphasised that it has control of the process and full traceability of the use of antibiotics. JBS also outlined its animal welfare policy and highlighted that better living conditions, such as increased space and ventilation, helped to reduce the need for antibiotics.

> **In early January, we raised our concerns with the company about its policy on the use of antibiotics, seeking clarification on how preventative use is defined.**

We asked whether the company had a goal to reduce the use of antibiotics. It said that it was judicious in their use, but ultimately this was driven by customer demand, as there was an increased production cost when antibiotics were not used. It gave the example of the premium "Da Granja" product line, which is antibiotics-free. We urged JBS to improve the transparency on its use of antibiotics, including the publication of a policy statement and the disclosure of usage data.

Jaime Gornsztejn
Sector lead: Industrial and Capital Goods

Public policy

A long-term sustainable food system is fundamental to the future of our society. Governments, companies and investors need to ensure that negative externalities, such as AMR, are removed from the agricultural practices that will feed our growing population. In addition to our continued engagement with companies on AMR, we have participated in a consultation with the Sustainability Accounting Standards Board (SASB) on early-stage research on the sustainability and business implications of AMR.

> **Governments, companies and investors need to ensure that negative externalities, such as AMR, are removed from the agricultural practices that will feed our growing population.**

We also provided input to the development of a One Health Priority Research Agenda on AMR, which is a tripartite collaboration between the World Health Organization, the Food and Agricultural Organization of the United Nations, and the World Organisation for Animal Health.

BLOG SPOTLIGHT

You can read more about our work with food producers and their supply chains in our new series of EOS Insights focusing on the environmental and social impacts of the global food system.

In the opening article From farm to fork, we set the scene by highlighting some of the key issues and challenges:

https://www.hermes-investment.com/ukw/eos-insight/eos/from-farm-to-fork-key-challenges-for-global-food-systems/

In part two, Nature's larder, Sonya Likhtman looks at how biodiversity underpins farming and food production:

https://www.hermes-investment.com/ukw/eos-insight/eos/natures-larder-why-food-producers-must-safeguard-biodiversity/

In the third article, Net zero on the menu, Joanne Beatty and Emma Berntman examine the impact of dietary choices and plant-based menu options:

https://www.hermes-investment.com/ukw/eos-insight/eos/net-zero-on-the-menu/

Federated Hermes

EOS

Federated Hermes

Federated Hermes is a global leader in active, responsible investing.

Guided by our conviction that responsible investing is the best way to create long-term wealth, we provide specialised capabilities across equity, fixed income and private markets, multi-asset and liquidity management strategies, and world-leading stewardship.

Our goals are to help people invest and retire better, to help clients achieve better risk-adjusted returns, and to contribute to positive outcomes that benefit the wider world.

All activities previously carried out by Hermes now form the international business of Federated Hermes. Our brand has evolved, but we still offer the same distinct investment propositions and pioneering responsible investment and stewardship services for which we are renowned – in addition to important new strategies from the entire group.

Our investment and stewardship capabilities:

- **Active equities:** global and regional
- **Fixed income:** across regions, sectors and the yield curve
- **Liquidity:** solutions driven by four decades of experience
- **Private markets:** real estate, infrastructure, private equity and debt
- **Stewardship:** corporate engagement, proxy voting, policy advocacy

Why EOS?

EOS enables institutional shareholders around the world to meet their fiduciary responsibilities and become active owners of public companies. EOS is based on the premise that companies with informed and involved shareholders are more likely to achieve superior long-term performance than those without.

For more information, visit **www.hermes-investment.com** or connect with us on social media:

EOS000925 0011653 10/21