



WHITEPAPER

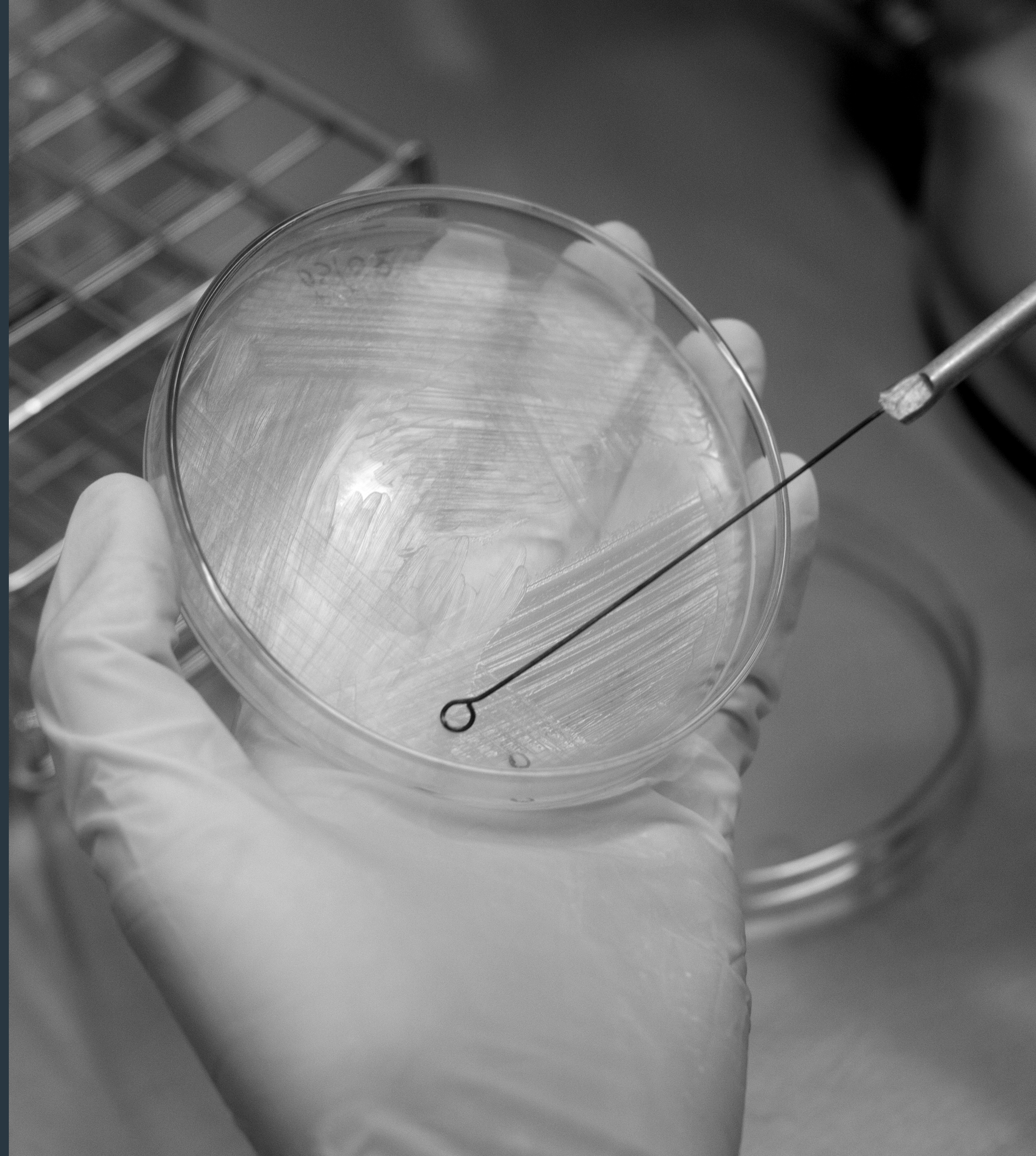
# Antimicrobial resistance

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A continued blind spot of sustainable agriculture

November 2020

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# The challenge

Covid-19 has refocussed attention on the magnitude of global health threats, and the enormous impact they could have on our health and economies. Half of Covid-related deaths may be directly attributable to secondary bacterial infections that antibiotics were not effective against, rather than Covid itself.<sup>1</sup>

In fact, antimicrobial resistance (AMR) might worsen under the current pandemic due to the overuse of antibiotics in humans, continuing misuse in agriculture, and the inequitable access to antimicrobials and vaccines.<sup>2</sup>

The contribution of secondary bacterial infections and AMR to deaths in global pandemics is not a new phenomenon. The 1918 flu pandemic is estimated to have caused more deaths worldwide than World War I, and scientific experts now agree that the cause of the greatest number of deaths was secondary bacterial infections, not influenza viruses themselves.<sup>3</sup>

AMR is one of the biggest threats to global health today, according to the World Health Organization (WHO).<sup>4</sup> Resistance is rising to dangerously high levels globally and is indiscriminate in who it affects. As antibiotics become less effective, a growing list of infections, including pneumonia, tuberculosis, blood poisoning and gonorrhoea, are becoming increasingly difficult and sometimes impossible to treat.

Rising levels of AMR have provoked alarming statements from medical authorities across the globe. Former Chief Medical Officer in the United Kingdom and now UK Special Envoy on AMR, Dame Sally Davies, spoke in 2013 of an apocalyptic scenario in the near future, in which people going for simple medical procedures die of routine infections “because we have run out of antibiotics”. Further to this, in 2019 she co-convoked a report with the UN Interagency Coordination group on AMR, which underscores the ways in which AMR poses a huge challenge to achieving Universal Health Coverage and many of the SDGs relating to poverty and health. The WHO now warns of a post-antibiotic age, where common infections, minor

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injuries and routine operations can kill once again. Currently circa 700,000 people a year die from antibiotic resistance.<sup>5</sup> It has been estimated that this could rise to 10 million a year by 2050, which could make it the world’s biggest killer.<sup>6</sup>

The overuse of antibiotics in agriculture is widely recognised as a contributing factor to the AMR crisis.

In intensive farming systems, the routine preventative mass-medication of animals with antibiotics is common. This practice is particularly prevalent in the pig and poultry sectors, where animals are often kept in crowded conditions, and disease outbreaks are more common and harder to control. In the Netherlands and other European countries where calves are farmed intensively, these animals can also receive high levels of non-essential antibiotics.

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1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7358648/>
2. [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)32063-8/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)32063-8/fulltext)
3. <https://www.newscientist.com/article/dn14458-bacteria-were-the-real-killers-in-1918-flu-pandemic/>
4. <http://www.bbc.co.uk/news/health-27204988>
5. <https://www.who.int/news/item/29-04-2019-new-report-calls-for-urgent-action-to-avert-antimicrobial-resistance-crisis>
6. [https://amr-review.org/sites/default/files/AMR%20Review%20Paper%20-%20Tackling%20a%20crisis%20for%20the%20health%20and%20wealth%20of%20nations\\_1.pdf](https://amr-review.org/sites/default/files/AMR%20Review%20Paper%20-%20Tackling%20a%20crisis%20for%20the%20health%20and%20wealth%20of%20nations_1.pdf)



## The challenge contd.

Today, intensive livestock production methods and factory farming are still the dominant system of livestock farming. An estimated 70% of UK farmed animals are now raised in this system, and 99% of farm animals in the US.<sup>7</sup> There is also growing evidence of use of non-essential antibiotics in crop production contributing to AMR and soil degradation.<sup>8</sup> Excessive use of antibiotics in farming, especially factory farming, and the corresponding dangers to human health, puts lives at risk and creates systemic risks across the food, farming and pharmaceutical industries.

These include potential costs of regulatory change and reputational damage. Furthermore, as the momentum for a concerted global effort to address AMR grows, companies risk being caught on the wrong side of the debate if they continue putting short-term profitability before the common good.

The race against the declining efficacy of our antibiotics had heightened stakes as a result of Covid-19, and will be closely run. The challenges facing livestock farmers and supply chain actors are significant. But there are also potentially huge benefits to be reaped. Tackling farm antibiotic overuse could see farming businesses benefit from increased resilience, food and pharmaceutical companies from improved company brand value, and investors from the long-term, sustainable returns generated from a robust and well-functioning system. Most crucially, tackling profligate farm antibiotic use will help to safeguard these vital resources for current and future generations.

It isn't just health that is at risk from the spread of drug resistant 'superbugs'.

The macroeconomic implications of the antibiotic resistance crisis are hugely significant. Levels of drug resistant infections by 2050 are predicted to cost the world \$100 trillion in lost output between now and 2050,<sup>9</sup> which is more than the current global economy.



It is estimated that in the EU alone, the issue is costing more than EUR 1.5 billion per year in healthcare expenses and productivity losses.<sup>10</sup>

With antibiotic resistance in farm animals, food and certain human infections increasing in a number of countries worldwide, we must act fast to save our antibiotics.

7. <https://www.fairr.org/article/intensive-factory-farming/>

8. <http://www.fao.org/3/ca0486en/CA0486EN.pdf>

9. <http://www.worldbank.org/en/news/press-release/2016/09/18/by-2050-drug-resistant-infections-could-cause-global-economic-damage-on-par-with-2008-financial-crisis>

10. [https://ec.europa.eu/health/antimicrobial-resistance/eu-action-on-antimicrobial-resistance\\_en](https://ec.europa.eu/health/antimicrobial-resistance/eu-action-on-antimicrobial-resistance_en)



# Investor interventions and tools

## Raising awareness

**Aviva Investors continue to raise awareness of AMR and believe it represents a market failure and a key systemic risk.**

In 2016, Aviva Investors convened and chaired the first ever investor conference on antibiotic resistance in conjunction with the UK Government's Antimicrobial Resistance Review team, with Lord Jim O'Neill as a keynote speaker. We have also published a number of briefings and reports in collaboration with FAIRR and Save our Antibiotics – such as “Superbugs and Super Risks: A Briefing for Investors”<sup>11</sup> and “Frontiers in sustainable agriculture; putting your money where your mouth is”<sup>12</sup> – to highlight the investment risks associated with farm antibiotic misuse, and key ways in which investors can engage companies to mitigate this risk.

During World Antimicrobial Awareness Week 2020, we are joining the coalition for ‘Investor Action on AMR’ as a founding member. The main goal of the initiative is to help the broader financial community align with international standards such as the WHO Global Action Plan on AMR. The Plan’s aim is also to specifically harness investor influence by encouraging investors to assess, integrate and mitigate AMR-related risks when making investment decisions.

*“During World Antimicrobial Awareness Week 2020, we are joining the coalition for ‘Investor Action on AMR’ as a founding member.”*

## Engagement

Aviva Investors meets individually and collectively with the companies they invest in. In the pharmaceutical, food retailer and producers sectors we have encouraged our investee companies to establish a comprehensive antibiotics policy that includes clear timelines for phasing out routine, prophylactic use of antibiotics across all livestock, seafood and poultry supply chains.

Following extensive engagement, several companies have committed to phase out antibiotics. In 2017, we saw a power shift to the market on AMR when McDonald’s decided to cut global antibiotic use in multiple species, starting with chicken. Aviva’s CEO congratulated McDonald’s on their antibiotic policy shift.<sup>13</sup> In 2018, Aviva Investors asked Zoetis, an animal health company, about its stance on marketing medically important antibiotics for growth promotion purposes in jurisdictions where regulation was either missing or very lax. The company published a statement last year saying it would cease all sales of medically important antibiotics for growth promotion purposes.

Aviva continues to engage on the issue of antibiotics with companies such as Associated British Foods Plc, Novartis AG, Restaurant Group Plc, SS Group plc and Tristel Plc.

11. <https://www.lccr.org/superbugs-and-super-risks-investment-case-action>

12. <https://www.avivainvestors.com/en-gb/about/responsible-investment/policies-and-documents/>, White Papers

13. <https://www.aviva.com/content/dam/aviva-corporate/documents/about-us/mark-wilson-EAT-speech.pdf>



# Investor tools

## Investment Risk & Return (FAIRR)

Aviva Investors is a founding signatory to the Farm Animal Investment Risk & Return (FAIRR) coalition of over 150 institutional investors with collective assets under management of \$5.9 trillion.

FAIRR aims to encourage companies to disclose how they are addressing the issue of overuse of antibiotics through their supply chains. FAIRR developed a best practice policy on antibiotics stewardship to provide guidance to food companies, including both meat producers and purchasers in the development of their individual policies.

The Collier FAIRR Protein Producers Index,<sup>14</sup> launched in June 2018, is the world’s first comprehensive assessment of how some of the largest global intensive livestock and fish farming companies (by market capitalisation) are managing critical risks facing the sector. The 60 Index companies have combined revenues of \$299 billion, most of which are derived from producing and processing intensively farmed livestock and fish.

The goal of the Index is to help investors assess and engage with companies to ensure these risks are managed across corporate operations and supply chains. Antibiotic usage is one of the key risk factors in scope for this Index.

## Access to Medicine Index

Aviva has also been involved from the outset with the Access to Medicine Index, which independently ranks pharmaceutical companies’ efforts to improve access to medicine in developing countries.

The Index assesses pharmaceutical companies across seven Technical Areas that are key for improving access to medicine, such as R&D and pricing.

As part of the index coalition, we have raised the importance for strengthened access commitments in the context of COVID-19, engaging collaboratively with key names in the index on their pricing for their vaccine adjuvants and role in ensuring a consistent pricing commitment with their R&D partners.

We are very supportive of their Antimicrobial Resistance Benchmark,<sup>15</sup> which was launched at the Annual Meeting of the World Economic Focus in Davos in January 2018. The benchmark compares how a cross-section of the pharmaceutical industry is responding to the threat from drug-resistant infections. It measures the 30 most active players in antimicrobial development and production and includes multinational pharmaceutical companies, biotechnology firms and manufacturers of generic medicines. GSK and Johnson & Johnson lead the eight large research-based pharmaceutical companies included in the Benchmark. GSK has the most antimicrobial medicines in its R&D pipeline, including for pathogens experts view as the highest priority targets for AMR.

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14. <https://www.fairr.org/index/>

15. <https://accesstomedicinefoundation.org/amr-benchmark>



# Questions to ask of companies

## Food producers and retailers

### Governance

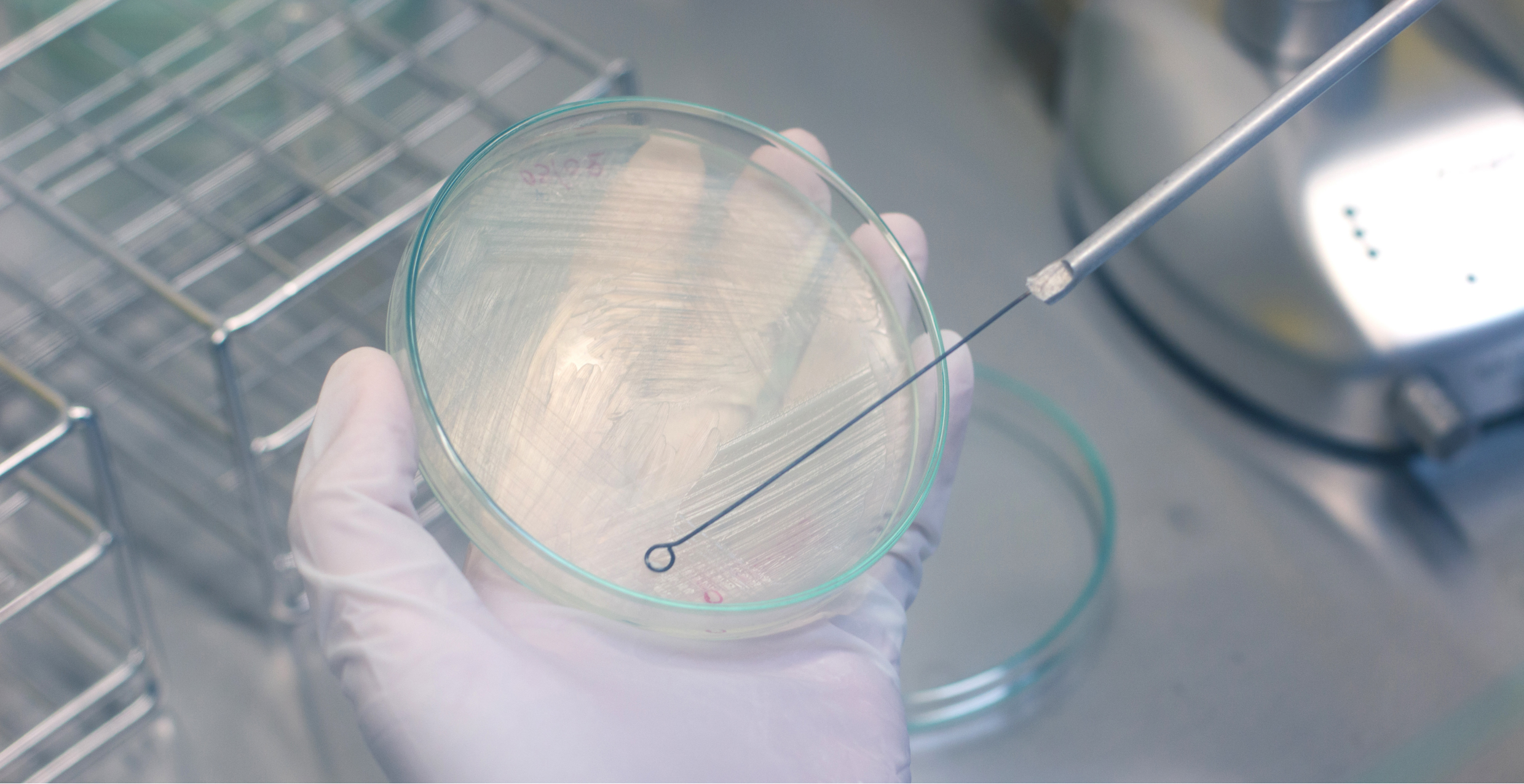
- At what level is the issue of antibiotic resistance discussed in your organisation? (H&S team, divisional management, senior leadership, Board of Directors?)
- Who do you perceive has most responsibility for combatting antibiotic resistance?
- How do you view yourself as contributing to the solutions (e.g. responsible practices, new incentives, etc.)?
- To what other systemic issues would you compare AMR?

### Strategy

- Have any studies been commissioned to quantify this impact?
- Are clients alive to this topic and asking you for more information?
- What are the company’s policies and practices regarding non-therapeutic use of antibiotics?

### Risk management

- How does your supply chain, both upstream and downstream, stand to be affected by antibiotic resistance?
- Does antibiotic resistance feature on your corporate risk register?



### Metrics and targets

- What percentage of your research and development spend relates to this area?
- Where do you disclose the metrics used to assess AMR-related risks and opportunities in line with your strategy and risk management process?

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# Questions to ask of companies contd.

## Pharmaceutical and Biotech industry

### Governance

- At what level is the issue of antibiotic resistance discussed in your organisation? (H&S team, divisional management, senior leadership, Board of Directors?)
- How have the recommendations of the Review on Antimicrobial Resistance landed internally and what outcomes can you share?
- Who do you perceive has most responsibility for combatting antibiotic resistance?
- How do you view yourself as contributing to the solutions (e.g. responsible practices, new incentives, etc.)?

### Strategy

- What is your approach to R&D in this area?
- Is your company actively engaged with policy discussions taking place in multilateral forums and with national governments about the national and international response to drug resistance?
- Is your company a signatory to the January 2016 Davos Declaration, or September 2016 industry ‘roadmap’ for action on antibiotic resistance? If so, what action is your company taking to implement the commitments contained in these documents?

### Risk management

- Which product lines stand to be affected by this trend?
- How do you keep abreast of the latest science around antibiotic resistance, and the latest policy developments on this issue?
- Does antibiotic resistance feature on your corporate risk register?
- Have you assessed the impact of rising drug resistance on demand for non-antibiotic drugs (or devices) which depend upon the availability of effective antibiotic treatments or prophylaxis for their successful use?
- Do you perform risk-based audits with a minimum frequency of three years?
- Do third-party suppliers of antibacterial APIs follow the same standards that you impose on your own operations?
- What strategies have you got in place to minimise the environmental impact of wastewater on and solid waste from antibacterial manufacturing?

### Metrics and targets

- What measures will the company put in place to improve animal husbandry, health and welfare – in order to reduce the need for antibiotics in the first place?
- Does the company have a clear, time bound policy and plan for the elimination of routine use of antibiotics in its global supply chain?
- Does the company have a clear, time bound policy outlining a commitment to limiting farm use of the ‘critically important’ antibiotics, which restricts use of these antibiotics to where sensitivity testing shows that no other antibiotics are likely to work?

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