AMR INDUSTRY ALLIANCE

2024 Year In Review

amr INDUSTRY ALLIANCE



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Letter from the Chair

2024 marked a critical inflection point in the global response to antimicrobial resistance (AMR). In the wake of the second United Nations High-Level Meeting on AMR, momentum is building, and we must not miss the opportunity to build upon the outcomes of 2024 and drive progress on AMR as a united global community.

AMR is not a distant threat: it is an escalating reality that undermines patient safety, medical innovation, and global health security, with an immense human toll around the world. Yet progress is possible. Across sectors and borders, the response is growing, and industry has an essential role to play.

Throughout 2024, the AMR Industry Alliance has helped to shape the global response as a leading private sector partner, beginning with our call to action in February, which helped galvanize action ahead of the High-Level Meeting. As a key representative of the private sector in the High-level Meeting process, we engaged directly with global leaders—speaking at the Multi-Stakeholder Hearing on AMR and at the High-level Meeting itself. The Alliance led an action group within the Multi-stakeholder Partnership Platform which delivered a set of recommendations endorsed by more than 100 signatories to UN Member States, demonstrating the collective will to act.

Alongside the High-level Meeting, we also continued to highlight key issues and drive progress within the field of AMR. Our report, *Leaving the Lab: Tracking the Decline in AMR R&D Professionals*, revealed a troubling decline in the number of researchers in the field of AMR, especially as compared to comparable fields critical to global public health such as cancer and HIV/AIDs. This finding struck a chord with global stakeholders and underscored the need to invest not only in technologies but in the people who will drive future innovation. We also continued to make progress in driving responsible manufacturing through the BSI certification program based on the Alliance's manufacturing standard: 50 products were certified before the end of 2024, and the program continues to expand.

As this annual report details, our work spans stewardship, access, innovation, and responsible manufacturing—but what ties it together is a clear purpose: to safeguard the effectiveness of antimicrobials and preserve the future of modern medicine. We do this through partnerships, data, advocacy, and action.

I hope this report serves as a catalyst for new conversations and collaborations in the year ahead. Together, we can make meaningful progress on the critical threat of AMR.

James Anderson, Chair, AMR Industry Alliance

AMR Industry Alliance Members

aam
Association for Accessible Medicines

ABAC Therapeutics

AdvaMed
Advanced Medical Technology Association

ADVANZ PHARMA

Aequor
Antibiofilm Antifouling

AiCuris
Anti-infective Cures

allecra therapeutics

Alphanosos

ANTABIO
Developing tomorrow's antibacterials

ATHLONE LABORATORIES

AUROBAC THERAPEUTICS

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BD

BEAM Alliance

BIA
UK BioIndustry Association

BIOFILM CONTROL

BIOMÉRIEUX

Bio

BIOVERSYS

BLACKSMITH Medicines

Boehringer Ingelheim

bugworks

CENTRIENT Pharmaceuticals

Cepheid
A better way.

CLARAMETYX biosciences

Combioxin

CURZA

Destiny Pharma


Disperazol
Pharma


efpia


ELIGO
BIOSCIENCE


FASTinov
Next Generation
Antimicrobial Resistance Technologies


FEDORA
PHARMACEUTICALS INC.


FRESENIUS
KABI


HELPERBY
THERAPEUTICS


ICBA


IFPMA


INNOVATIVE
MEDICINES
CANADA


INNOVIVA


iNtRON
BIOTECHNOLOGY


JPMA


LOCUSBIOSCIENCES


gsk


Molsid


MUTABILIS


Nosopharm
First-in-class Anti-Infectives


medicines
for europe
better access. better health.


meiji
Meiji Seika Pharma Co., Ltd.


MENARINI
group


MERCK


MICROBION
CORPORATION
biosciences industries


moderna


MSD
INVENTING FOR LIFE


Nabriva
THERAPEUTICS


NAICONS


Northern
Antibiotics


NovaBiotics


ORAGENICS


Otsuka


PARATEK


Peptilogics


Pfizer




PHERECYDES
PHARMA


Rebiotix
Microbiota Restoration Therapy
A FERRING COMPANY


Roche


SANDOZ


SCYNEXIS


SETLANCE


SHIONOGI


SinSa


SOLIGENIX


SPERO
THERAPEUTICS


SPEXIS


Sumitomo Pharma


Summit
therapeutics


TAXIS
Pharmaceuticals, Inc.


teva

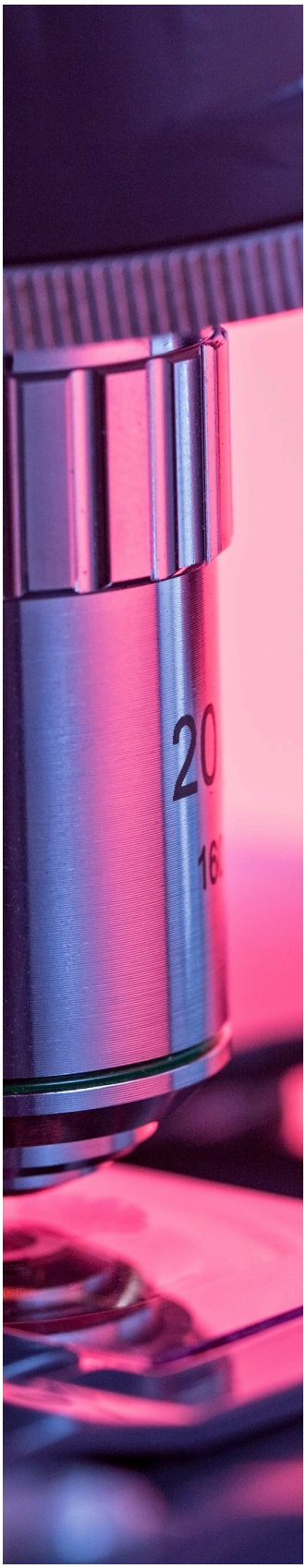

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Introduction

Antimicrobial resistance (AMR) poses a critical global health threat, and will continue to escalate without concerted and coordinated action. Recent projections indicate that between 2025 and 2050, AMR could directly cause 39 million deaths worldwide, equating to approximately three deaths every minute.[1] If current trends persist, annual deaths directly attributable to AMR are expected to rise from 1.14 million in 2021 to 1.91 million by 2050.[2] Beyond the extensive and devastating human toll of AMR, it also poses an economic threat: direct healthcare costs associated with AMR are projected to surge from $66 billion annually to $159 billion by 2050.[3] The global economy could suffer losses up to $1.7 trillion per year due to reduced labor force participation and productivity.[4]

2024 presented a unique opportunity for stakeholders to unite to find cross-sectoral solutions for AMR, driven by the United Nations' 2024 High-level Meeting on AMR.

As the largest life-sciences coalition of its kind, the AMR Industry Alliance joined stakeholders from across government, the private sector, and NGOs working in human, animal, and agricultural health to drive coordinated action, including through the Multi-stakeholder Partnership Platform on AMR, the United Nations Multistakeholder Hearings on AMR, and ultimately the High-level Meeting itself.

Addressing AMR requires a comprehensive, cross-sectoral approach. The multifaceted nature of AMR—spanning human and animal health, agriculture, and the environment—necessitates collaboration among governments, industry, academia, and civil society for a concerted One Health approach.

The urgency to act against AMR is clear. Without immediate and coordinated efforts, we risk undermining a century of medical advancements and facing a future where common infections become untreatable.

2024 AMR Industry Alliance Timeline of Key Milestones

EVENTS *PUBLICATIONS* *MANUFACTURING INITIATIVES*

JANUARY

FEBRUARY

- *Leaving the Lab: Tracking the Decline in AMR R&D Professionals* published
- *Call-to-Action in the Fight Against AMR* published
- Launch Event: *Call-to-Action in the Fight Against AMR*

MARCH

APRIL

- *Inspiring Action: The Impact of and Recommendations on Including Diagnostics in National Action Plans* published

MAY

- *2024 Equitable and Responsible Access Roadmap* published
- Global AMR Diary launched

JUNE

JULY

AUGUST

- NHS launches antimicrobial subscription model in the UK incorporating manufacturing standard and certification

SEPTEMBER

- United Nations High-level Meeting on AMR
- 10th Annual World AMR Congress
- Webinar: "Guidance on Wastewater and Solid Waste Management from Antibiotic Manufacturing"
- *The Lancet* publishes "Global burden of bacterial antimicrobial resistance 1990–2021: a systematic analysis with forecasts to 2050"
- *Nature Medicine* publishes "Advancing global antibiotic research, development, and access"

OCTOBER

NOVEMBER

- Webinar: "The Future of Addressing AMR–Taking Action Following the High-level and Ministerial Meetings on AMR"
- 2024 Stewardship Prize Winner announced

DECEMBER

- Manufacturing certification landmark: 50 antibiotic products independently certified to AMRIA standard
- AMR and Infectious Diseases campaign with Mediaplanet



ALLIANCE FOCUS AREAS

Alliance Focus Areas

The AMR Industry Alliance focuses its work in four key areas: Access, Appropriate Use, Manufacturing, and Research and Science. In convening leaders across the life sciences industry, the Alliance works collaboratively to advance the dialogue on AMR and foster sustainable solutions centered on engagement, advocacy, and action.

Along with its traditional focus areas, the Alliance expanded its activities to include advocacy in 2024.

ALLIANCE FOCUS AREAS		2024 ALLIANCE HIGHLIGHTS
ACCESS	Access to quality antibiotics and ensuring novel antibiotics are available to all, and improve and amplify access to diagnostics in low-and middle-income countries	Equitable & Responsible Access Roadmap
APPROPRIATE USE	Appropriate use of antibiotics to curb the development of AMR	2024 AMR Stewardship Prize Report: Inspiring Action: The Impact of and Recommendations on Including Diagnostics in National Action Plans Opportunities to Enhance Diagnostic Testing and Antimicrobial Stewardship: A Qualitative Multinational Survey of Healthcare Professionals
MANUFACTURING	Manufacturing to mitigate the environmental impact and drive responsible manufacturing through standards	Webinar: One Health—AMR and the Environment: The Challenge of Manufacturing and Procuring Antibiotics Responsibly NHS incorporates standard into subscription model Standard and certification included in Nordic procurement tender Certification milestone: 50 products independently certified by BSI to AMRIA standard
RESEARCH & SCIENCE	Research and science to achieve public health needs with novel innovative diagnostics and treatments	Leaving the Lab: Tracking the Decline in R&D Professionals
ADVOCACY	Advocacy to engage diverse stakeholders to advance policy to support the key pillars	Call to Action in the Fight Against AMR Multi-stakeholder Partnership Platform Recommendations to UN Member States



Access

Working to remove barriers to equitable access to antibiotics around the world

2024 ALLIANCE ACCESS HIGHLIGHTS:



Equitable & Responsible Access Roadmap

To curb the spread of antimicrobial resistance, it's crucial to ensure access to the right antimicrobials and diagnostic tests to save lives. Without diagnostics and appropriate antimicrobials, doctors may be forced to resort to alternative treatments that fail to appropriately treat or fully eliminate pathogens, leading to poorer health outcomes and an increased risk of antimicrobial resistance.

Access to essential antimicrobials is a global challenge. Research shows that in many low- and middle-income countries, nearly half of healthcare facilities lack access to these necessary antimicrobials.[5] This resistance is not only limited to these countries, but also affect high-income countries who face barriers, such as unstable supply chains and lack of drug approvals—with some countries approving as few as two novel antimicrobials in the past decade.[6,7]

The AMR Industry Alliance is dedicated to improving global access to antimicrobials and advancing diagnostic capabilities. Alliance members are actively addressing this urgent issue through both individual and collaborative initiatives, targeting the root causes in low-, middle-, and high-income countries.



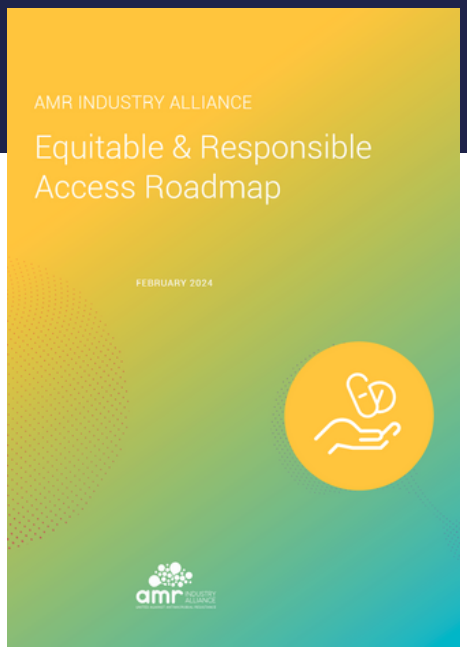
AMR Industry Alliance Commitments in Access

Address barriers to patient access to the most appropriate treatment, vaccine or diagnostic.

Work in collaboration with policymakers to create an economic and regulatory environment that enables the sustainable supply of quality-assured antibiotics.

Work to reduce the prevalence of substandard and falsified AMR-relevant products.

Equitable & Responsible Access Roadmap



The Equitable & Responsible Access Roadmap highlights key barriers to diagnostics and antimicrobial access—and outlines solutions to tackle the barriers of regulatory issues, demand forecasting, and procurement challenges. Both the report and accompanying infographic identify key barriers to diagnostic access, including:

Diagnostics infrastructure: Inadequate health system infrastructure hinders the introduction and appropriate use of diagnostics technology.

Recognition of the value of diagnostic technology: In many health systems, diagnostics technology is available but not optimally utilized. In places where the value of testing isn't recognized, it is difficult for the private sector to invest further into the introduction of new technology.

Antibiotic regulatory issues: Registration processes in many countries are inefficient. Limited resources for registration and differing requirements across countries limit where companies seek approval for antibiotics.

Forecasting and surveillance: Without accurate data on infectious disease trends and resistance rates, decisions about new registrations and manufacturing volume are difficult, creating barriers to the access of antimicrobials.

Antibiotic procurement challenges: Procurement policies can drive the prices of antibiotics down to the point where the price of any drug is too low to allow for its continued manufacturing and supply to the market.

Without timely access to appropriate antimicrobials and diagnostics, antimicrobial resistance (AMR) spreads, medical costs rise, and patients suffer. To mitigate the barriers to access, a multi-stakeholder approach is required where governments, the private sector, multilateral organizations, healthcare professionals, and civil society work together. The AMR Industry Alliance developed this roadmap as a starting point for impactful engagement with other stakeholders committed to the fight against AMR.

Equitable & Responsible Access Roadmap

There are many reasons why diagnostics and antibiotics don't make it to patients.

Without timely access to appropriate antimicrobials and diagnostics, antimicrobial resistance (AMR) spreads, medical costs rise, and patients suffer. AMR Industry Alliance's Equitable and Responsible Access Roadmap lays out key problems that block access, and solutions to overcome them.

Diagnostics Infrastructure

Problem: Accessing reliable medical tests can be a challenge in many places due to problems with electricity, biosafety requirements, internet connectivity, supply chain stability, and laboratory workforce capacity among other issues, which can cause delays in diagnosis and appropriate treatment.

Solution: Governments need to invest in sustainable clinic and laboratory infrastructure improvements to achieve access to quality, safe, effective, affordable, and essential diagnostics for everyone.

Recognition of the Value of Diagnostic Technology

Problem: Diagnostic technology is crucial for improving patient outcomes and reducing healthcare costs. However, a lack of awareness about the value of diagnostic testing can result in inadequate funding for diagnostic technology, making testing less accessible to medical professionals.

Solution: Governments need to create and promote training programs for diagnostics in clinical care and surveillance, encourage the use of technology for antimicrobial stewardship, and incentivize healthcare systems to use diagnostics. The value of diagnostics to society and individual patients should be included in health technology assessments to encourage appropriate use and stewardship.

Forecasting and Surveillance

Problem: Forecasting demand in the context of changing infectious disease patterns and antimicrobial resistance poses a challenge, leading to supply constraints.

Solution: Improving data collection and strengthening surveillance systems supported by diagnostic technology can enable better monitoring to connect high-quality antimicrobials to the right patients.

Regulatory Processes

Problem: Complex and varying regulatory processes pose a significant barrier to global access to both novel and generic antibiotics.

Solution: Regulatory systems need improvement to create efficiency and enable more timely and equitable registration of quality-assured medicines through flexible country-specific trial data requirements, removal of financial disincentives to market entry, utilization of reference mechanisms, and the implementation of reliance mechanisms by working collaboratively with organizations like the World Health Organization.

What does "Access" mean?

The timely availability of appropriate antimicrobials and diagnostic technology worldwide that are quality-assured and sustainably priced via health facilities near their home.

Antimicrobial Procurement Challenges

Problem: Antibiotic procurement policies and practices can create challenges for countries of any income level in accessing the medicines they need.

Solution: To enhance access to essential antibiotics worldwide, it is crucial to revise pricing policies for off-patent antibiotics to ensure a balance between cost-effectiveness for health systems and viability for suppliers.

INFOGRAPHIC



Appropriate Use

Promoting awareness and stewardship in the use of antibiotics

2024 ALLIANCE APPROPRIATE USE HIGHLIGHTS:



2024 AMR Stewardship Prize

Report: Inspiring Action: The Impact of and Recommendations on Including Diagnostics in National Action Plans

Opportunities to Enhance Diagnostic Testing and Antimicrobial Stewardship: A Qualitative Multinational Survey of Healthcare Professionals

The inappropriate use of antimicrobials poses a critical global threat, endangering lives, prolonging patient recovery, and accelerating the spread of antimicrobial resistance (AMR). When antimicrobials are used appropriately, they effectively reduce the number of pathogens capable of developing resistance, thereby preserving the efficacy of commonly used treatments. Conversely, misuse or overuse accelerates the emergence of resistant pathogens, diminishing treatment options and jeopardizing public health.

Research shows that at least 50% of antimicrobial prescriptions worldwide are either unnecessary or inappropriate, highlighting a significant area for improvement.[8] Promoting the proper use of antimicrobials requires a multifaceted approach, including the adoption of diagnostic testing by healthcare professionals to ensure timely and targeted treatment. Furthermore, leveraging surveillance data to increase awareness of AMR and support antimicrobial stewardship programs is essential in curbing misuse.

Approximately 80% of Alliance members are actively implementing stewardship strategies, ensuring the responsible use of antimicrobials remains a top priority. The AMR Industry Alliance is committed to advancing initiatives that drive appropriate use, collaborating with external partners to raise awareness, enhance surveillance systems, and increase diagnostic use.

AMR Industry Alliance Commitments in Appropriate Use

Contribute to slowing emergent resistance by preventing infections through vaccination promotion and reducing the inappropriate use of antibiotics via the expanded use of diagnostics.

Support the appropriate use of antibiotics by working closely with other partners on awareness campaigns, continued education for healthcare professionals and generation of evidence to support appropriate use and stewardship.

Collect and share surveillance data with public health bodies and healthcare professionals to improve understanding of resistance trends, monitor the effectiveness of antibiotics, inform appropriate antibiotic and vaccine use and develop adapted infection control strategies.

Ensure that any promotional activities for antibiotics align with the goal of advancing stewardship.

Stewardship Prize

Since its establishment in 2021, the Alliance's annual Stewardship Prize recognizes programs with innovative and scalable approaches in low- and middle-income countries to achieve AMR stewardship with a monetary grant intended to help scale their approach. In 2024, the prize was awarded to M.P. Shah Hospital's AMS program in Nairobi, Kenya.

The AMS program at M. P. Shah Hospital is a multidisciplinary initiative aimed at addressing antibiotic overuse and antimicrobial resistance (AMR).

The program operates on three main pillars:

1. **Daily Stewardship Rounds:** Every antibiotic prescription in the wards is audited daily, with real-time feedback provided to prescribing physicians. Monthly audits on antimicrobial use are also conducted.
2. **Data-Driven Surveillance**: The hospital employs in-house dashboards to monitor culture and sensitivity data and is in the process of updating its antibiogram to guide evidence-based prescribing.
3. **Increasing Use of Diagnostics**: Through the implementation of the antibiotic timeout tool pilot, the program conducts audits and prompts prescribers to utilize cultures to confirm the suitability of empiric therapy within three days.

The AMS program has led to a measurable reduction in antimicrobial consumption, especially in inpatient settings.



M.P. Shah Hospital's Antibiotic Timeout Tool

The Antibiotic Timeout tool is a structured review process designed to optimize antibiotic use by prompting clinicians to reassess antibiotic prescriptions 72 hours after initiation. The tool consists of two parts:

- Part 1: Completed at the time of initial antibiotic prescription, requiring clinicians to request cultures and document the rationale for antibiotic use.
- Part 2: Completed 72 hours later, incorporating microbiology results to guide antibiotic de-escalation or continuation.

Pharmacists play a key role by auditing antibiotic prescriptions and withholding further dispensing until Section 2 is completed. This encourages timely review and adjustment based on lab results, reducing unnecessary antibiotic exposure.

The tool led to a dramatic increase in antibiotic timeout compliance, from less than 2% at baseline to over 50% by the end of a three-month pilot. It also improved diagnostic practices by increasing culture ordering before antibiotic initiation, supporting more targeted therapy.

Impact and Future Plans of M.P. Shah Hospital's AMS Program

The AMS program has contributed to improved prescribing practices, reduced antibiotic consumption, and enhanced awareness among clinicians. The hospital plans to expand the Antibiotic Timeout initiative into pediatric care, where empiric prescribing is more common and microbiology data is currently limited. Additionally, the program aims to customize national empiric antibiotic guidelines based on local susceptibility patterns to better tailor therapy.

WORLD AMR AWARENESS WEEK
18-24 NOVEMBER

M.P. Shah Hospital in Nairobi was announced the winner during the World AMR Awareness Week 2024 webinar "The Future of Addressing AMR–Taking Action Following the High-level and Ministerial Meetings on AMR."

Inspiring Action: The Impact of and Recommendations on Including Diagnostics in National Action Plans



Published in April of 2024, *Inspiring Action: The Impact of and Recommendations on Including Diagnostics in National Action Plans* examined the integration of diagnostics into national action plans. Based on a review of the 2022 TrACSS database and individual countries' national action plans, this report identified four key examples of countries that include detailed diagnostics plans in their national action plans on AMR and highlighted impactful projects within each of the countries. These projects in Tanzania, Ghana, India, and Pakistan demonstrate the positive influence of including diagnostics in national action plans, and underscores the importance of incorporating diagnostics into national strategies to tackle AMR.

KEY RECOMMENDATIONS

- **Diagnostics form the basis of good stewardship and should be included in any national action plan.** National governments can demonstrate commitment and intent by including clear and specific goals and plans for implementation which serve as guidance for regional and local institutions. These should also include investment in the form of budget or other indication of methods of real-world implementation.
- **Political commitment is necessary to ensure follow through.** NAPs should contain actionable steps and plans which can serve as a guide to real-world implementation. Establishing a national committee which will oversee the implementation of the NAP is a meaningful first step towards change.
- **Real world experience can provide valuable lessons for success.** Policy must be driven by on-the-ground data and evidence. Cross-sector coordination is needed to ensure the insights and experience of on-the-ground programs are incorporated into future iterations of NAPs.
- **Leveraging engagement in non-governmental sectors is crucial to supporting implementation.** Before implementing new programs, conducting stakeholder mapping can help to understand the current landscape and identify key partners for implementation.This can also include assessing best practices.
- **Further investment in diagnostics in LMICs is necessary to effect valuable change in good stewardship practices.** A common theme across case studies is the need for sustainable investment and funding for these programs. Continuing investment will prove critical to reducing the burden of AMR and extending the use of existing antibiotics.

FEATURED COUNTRIES



TANZANIA



GHANA



INDIA



PAKISTAN

Opportunities to Enhance Diagnostic Testing and Antimicrobial Stewardship: A Qualitative Multinational Survey of Healthcare Professionals

The Wellcome Trust, BD, Pfizer, bioMérieux, and AMR Industry Alliance partnered to develop a report analyzing the impact of rapid diagnostic testing to inform AMS efforts, identifying barriers faced by HCPs from different WHO world regions that use rapid diagnostics at various stages of the diagnostic testing pathway, and identifying opportunities for enhancing diagnostic testing practices to inform antibiotic stewardship in different country settings. The report was published in 2024 in *Infectious Diseases and Therapy*.

KEY SURVEY FINDINGS

1	High resistance rates are a problem—they are the major barrier to use of narrow-spectrum antibiotics across all countries.
2	Investment and resourcing for AMS at an institutional level have mixed perceptions of whether they are sufficient.
3	Availability of suitable diagnostic tests and antimicrobials are important factors in ensuring new antimicrobials are appropriately used and guidelines are followed.
4	Barriers exist to the use of diagnostics including cost, accuracy concerns, lack of awareness, and access.
5	Time to diagnostic test result is perceived as sub-optimal, with room for improvement in turnaround time.
6	Guidelines are an important consideration for HCPs in all countries surveyed, but there are opportunities for improvement in guidelines to aid AMS.
7	Use of diagnostic efforts has a perceived positive impact on AMS activities (including the appropriate use of newly released antimicrobials) and patient outcomes.





Manufacturing

Setting the standard for mitigating the environmental effects of AMR

2024 ALLIANCE MANUFACTURING HIGHLIGHTS:



- Webinar: One Health—AMR and the Environment: The Challenge of Manufacturing and Procuring Antibiotics Responsibly
- Manufacturing Standard Included in UK NHS Subscription Model
- Standard and Certification Included in Nordic Procurement Tender
- Certification milestone: 50 products independently certified by BSI to AMRIA standard

Globally, the discharge of active pharmaceutical ingredients (APIs) from manufacturing facilities is not regulated. The Alliance is leading the way in setting and promoting targets for responsible manufacturing.

While the primary source of pharmaceuticals in the environment remains the use and subsequent excretion of medicines by patients, emissions of antibiotics from manufacturing sites can contribute to the development of antimicrobial resistance (AMR). This risk arises when antibiotic concentrations in wastewater exceed levels that may create selective pressure, encouraging bacteria to develop resistance.

To address this, all manufacturing members of the Alliance have committed to aligning with the Antibiotic Manufacturing Standard, including adherence to the Default Predicted No-Effect Concentrations (PNECs). Working to meet this standard is a condition of Alliance membership and reflects a shared commitment to mitigating AMR risks in the environment.

Since its inception in 2017, the AMR Industry Alliance has led the way in developing, implementing, and upholding responsible environmental practices in antibiotic manufacturing, reinforcing the industry's role in the global fight against AMR.

AMR Industry Alliance Commitments in Manufacturing

Review Alliance members' own manufacturing and supply chains to assess good practices in controlling the release of antibiotics into the environment.

Establish a common framework for managing antibiotic discharge and start applying it across their own manufacturing and supply chains by 2018; continue to implement the framework in the following years to reduce environmental risk due to manufacturing discharges.

Work with stakeholders to develop a practical mechanism to transparently show that Alliance members' supply chains meet the framework's standards.

Work with independent technical experts to establish science-driven, risk-based targets for discharge concentrations of antibiotics, develop good-practice methods to reduce environmental impacts of manufacturing discharges and work with Alliance members to ensure that discharge targets are met.

One Health – AMR and the Environment: The Challenge of Manufacturing and Procuring Antibiotics Responsibly

On World Environment Day, June 5, BSI hosted a webinar with GARDP and AMR Industry Alliance members Orchid Pharma and Shionogi on how different stakeholders involved in healthcare and life sciences are building environmental considerations into their efforts to procure, manufacture antibiotics, and ultimately provide appropriate antibiotic access. This session highlighted the manufacturing certification launched by BSI in 2023 based on the Alliance's responsible manufacturing standard.

Manufacturing Standard and Certification Is Included in UK NHS's Subscription Model for Antibiotics

In 2024, the UK National Health Service launched its Antimicrobial Product Subscription Model following its 2022 pilot with Pfizer and Shionogi. The subscription model is a significant step towards delinking use and payment to incentivize investment in new antibiotics while combating their overuse. Manufacturers who wish to participate in the scheme will be required to attain BSI Kitemark™ for Minimized Risk of AMR certification, in a significant achievement for the certification program. The announcement was covered in **CIDRAP** and the **Financial Times**.


FINANCIAL TIMES

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NHS launches 'subscription' scheme for antibiotics with pharma sector

Drugmakers will receive flat fees for new medicines in push to avoid encouraging overuse

Developing new antibiotics has historically been an unattractive investment for pharmaceutical groups © Universal Images Group via Getty Images

Nordic Countries Incorporate the Standard in Procurement Tenders

In 2024, Iceland, Norway, and Denmark announced a joint tendering procedure which includes environmental considerations to address AMR. In this joint Nordic tendering procedure, suppliers will be awarded points for certification or intent to pursue certification against the Alliance standard. Read more in the press release **here**.

Certification Milestone: 50 Products Certified to Alliance's Manufacturing Standard

Launched in 2023, the BSI Kitemark™ for Minimized Risk of AMR Certification validates compliance with the AMR Industry Alliance's responsible manufacturing standard, ensuring antibiotic residue emissions from waste streams are controlled during manufacturing and meet Predicted No Effect Concentration (PNEC) thresholds. As of 2024, more than 50 products have received certification.



Research & Science

Addressing barriers to innovation

2024 ALLIANCE RESEARCH & SCIENCE HIGHLIGHTS:



Leaving the Lab: Tracking the Decline in AMR R&D Professionals

The research and development landscape for new antimicrobials has experienced a marked and concerning decline. Between 1950 and 2000, the US FDA approved an average of 23 new antimicrobials per decade. Since 2000, this figure has dropped to a remarkable 14 per decade.[9] Of 53 antibiotics approved by the FDA over the past 30 years, only one has represented a novel compound with direct action against a previously unaddressed bacterial target.[10]

This decline is the inverse of the growing global threat of antimicrobial resistance (AMR), underscoring the urgent need for renewed focus on antimicrobial research and development. Through sustained investment by the Alliance's members and the work of its Research and Science Working Group, the Alliance supports critical initiatives, including the publication of *Leaving the Lab: Tracking the Decline in AMR R&D Professionals,* which spotlighted the diminishing pool of scientific expertise in this field.

Since its establishment, the AMR Industry Alliance has remained committed to identifying systemic barriers within the antimicrobial marketplace and advocating for viable, long-term solutions. Its efforts encompass policy advocacy to incentivize innovation, support for collaborative frameworks and data-sharing initiatives, and original research evaluating current regulatory environments while proposing targeted, evidence-based improvements.

AMR Industry Alliance Commitments in Research and Science

Invest in research and development for innovative antibiotics and dosage forms, vaccines, new technologies, and diagnostics.

Continue to advocate for policies that support sustainable investment in AMR relevant innovation.

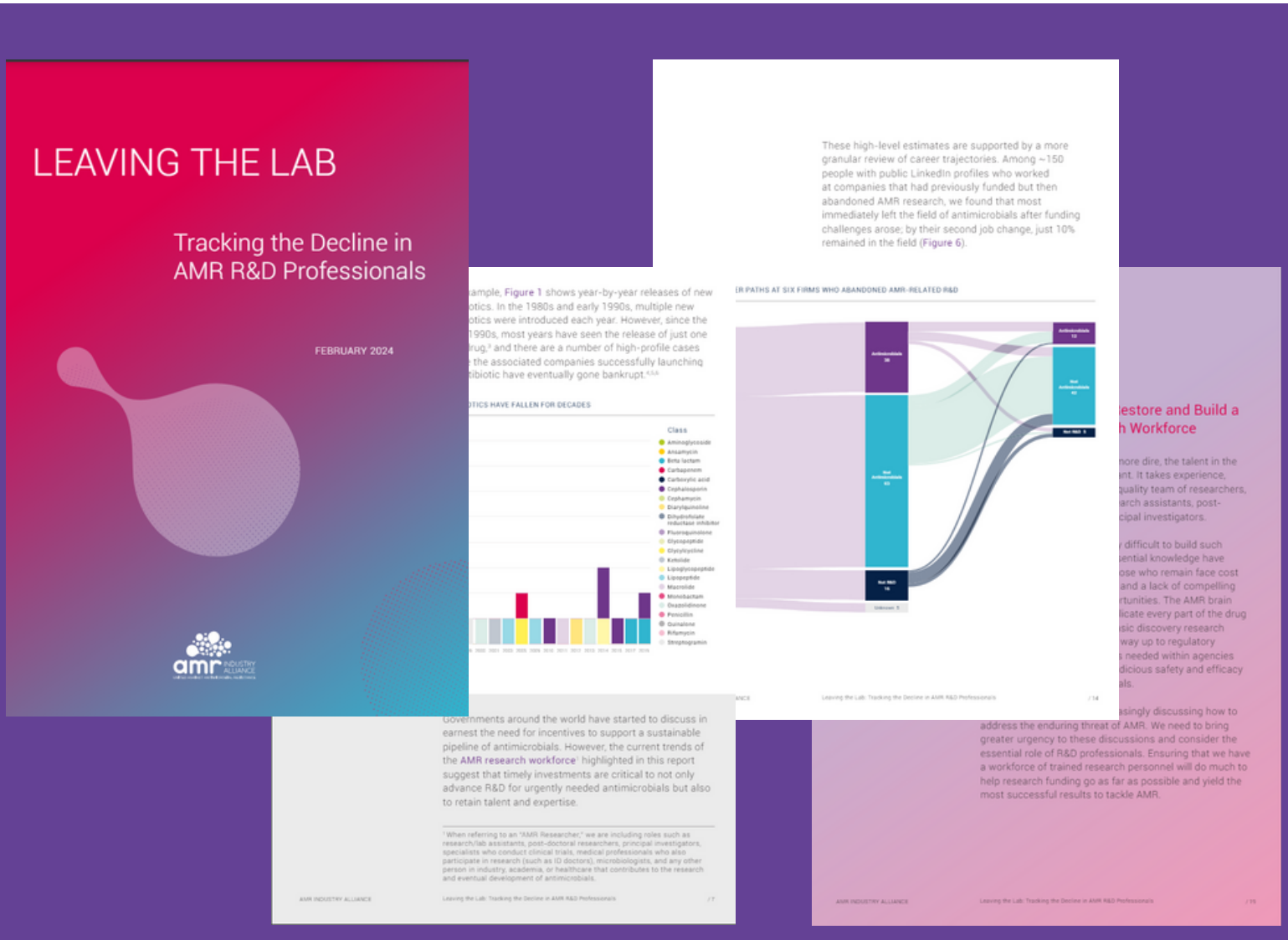
Partner with policymakers, payers and other relevant stakeholders on new reimbursement, valuation and commercial models that support appropriate patient access and a sustainable supply of antibiotics, AMR-relevant vaccines, new technologies and diagnostics.

Support collaboration and sharing of relevant non-proprietary data with different stakeholders (e.g. academia, consortia, SMEs, public researchers and industry) to help address key scientific and public health challenges.

Leaving the Lab: Tracking the Decline in AMR R&D Professionals

Antimicrobial resistance (AMR) is one of the top causes of death globally, as one of the greatest health threats of our time, yet research and development in the antimicrobial field has not kept up with similar significant health threats, such as cancer. The field of AMR has seen a steady decline in vital scientific and research talent. If not addressed, AMR is expected to cause as many as 10 million deaths annually by 2050, while simultaneously costing the global economy a cumulative $100 trillion.[11]

To provide concrete data and demonstrate the severity of the problem, AMR Industry Alliance's Research and Science Working Group developed a report examining this loss of critical scientific and research talent over more than two decades. The report highlights the overlooked problem of researcher shortages in antimicrobial research and development and measured the extent of the shortage, underscored the significance of the problem, and suggested potential solutions. The report has been featured in STAT News, CIDRAP News, Nature, AMR Insights, and others.



Key Insights:

1. The AMR research and development workforce is limited and declining, even as the threat of AMR continues to grow.
2. The number of AMR researchers has significantly declined over the past 20+ years.
3. AMR research output is significantly lower than other fields such as cancer and HIV/AIDS.

Key Drivers:

1. The broken pipeline undermines investment and employment.
2. Private and public funding for AMR trails behind other areas.
3. There are limited incentives for infectious disease as a medical specialty.

The report highlights key barriers and suggests actions to restore and build a more robust AMR research workforce. The report was published in February 2024.

The report found that the AMR field has been steadily declining over the last two decades, across publications, patents, and most remarkably, the number of researchers working and publishing in the field. This decline is especially striking when compared to the field of cancer and HIV/AIDS.

1. The annual number of publications has been declining since around 2000, with a peak of 586 papers on antimicrobials in 1995. This number drastically declined and by 2022, there were only 187 papers published on antibiotics and 29 on antifungals. In comparison, there were over 35 times the number of clinical trials and RCT papers (2,195) published on cancer in 2022 and approximately 5.5 times more publications on HIV/AIDS.
2. As of 2022, only 115 patents for antibiotics were awarded, but there were about 20 times more patents for cancer (2,388). Additionally, while HIV patent numbers were closer to that of antibiotics and antifungals, they were significantly higher each year since 1992.
3. The number of specific authors of AMR publications declined from a peak of around 3,600 in 1995 to 1,800 by 2020.
4. Additionally, LinkedIn data was collated on the career trajectories of approximately 150 employees at six firms and found that most employees immediately left the field of antimicrobials after funding challenges arose and by their second job change, just 10% remained in the field.

> **A critical challenge in the field of AMR is the insecure job market with the emergence and departure of so many biotechs.**
>
> **– Robert Skov, President-Elect and Secretary General ESCMID**

> **If I were entering the field today, I would not go into this line of work. My career has been wonderful, but this field is no longer thriving.**
>
> **– AMR researcher**

Leaving the Lab in the News

The *Leaving the Lab* report has sparked meaningful dialogue across major media outlets, reflecting the urgent relevance of this specific challenge in addressing AMR. The coverage underscores the report's critical insights and the growing recognition of the need to invest in building a more robust AMR research workforce. This page showcases a selection of high-impact features that have amplified the report's reach and reinforced its importance among policymakers, industry leaders, and the broader public.

The cover story for the August 2024 edition of **Infectious Disease Special Edition (IDSE)**, "What Happens When the Last AMR Researcher Turns Off the Lights in the Lab?" paints a stark picture of the dwindling antimicrobial resistance (AMR) research field, warning that without structural change, the workforce powering antibiotic innovation may disappear entirely. Citing findings from the AMR Industry Alliance's Leaving the Lab report, the piece outlines how the collapse of economic incentives has led to stalled investment, shuttered programs, and a demoralized R&D pipeline. It emphasizes the Alliance's call for long-term, predictable pull incentives to retain top scientific talent and avoid a future where lifesaving antimicrobial breakthroughs are no longer possible—not because of biology, but because the people to pursue them are gone. Read the story **here**.

IDSE Infectious Disease SPECIAL EDITION

The **Council on Foreign Relations** publication ***Think Global Health*** highlights the systemic policy and market failures behind the dramatic contraction of the AMR innovation workforce. The article draws upon the Leaving the Lab report to show how the current volume-based reimbursement model devalues antibiotics and erodes career pathways for scientists. The piece positions the shrinking workforce as both a symptom and driver of AMR vulnerability—underscoring that rebuilding the talent pipeline is inseparable from creating a viable, innovation-friendly market. Read the article **here**.

Think Global Health

AMR Industry Alliance's Global Engagement

Engaging the United Nations Ahead of the High-Level Meeting

Ahead of the High-level Meeting on AMR, in February, the Alliance launched a Call to Action, calling upon UN Member States to take substantive action against AMR. The Alliance recognized the need for broad, multi-stakeholder approach and to reaffirm that the 2030 agenda for the Sustainable Development Goals offers a framework to ensure healthy lives and promote well-being for all ages. It further recognized the critical role of the private sector in setting the agenda and taking action on AMR.

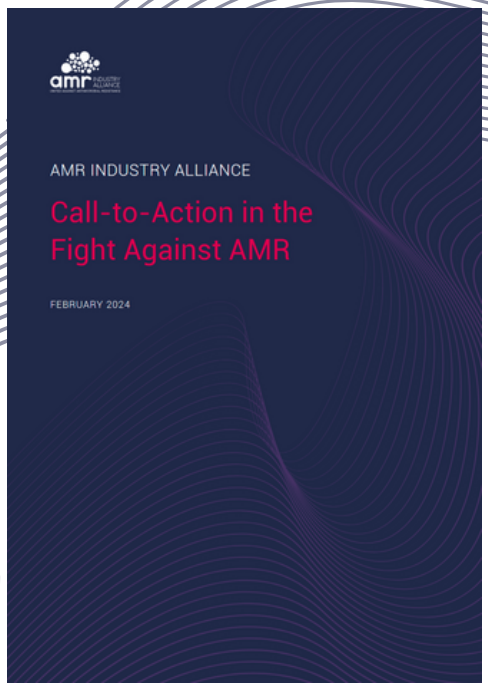


The Alliance convened key stakeholders, including the co-facilitators of the UN High-level Meeting Barbados and Malta, alongside senior leaders from the life sciences industry, governments and global institutions to identify and prioritize global solutions to address AMR.



The Call to Action was shared with all 193 Member States following its launch, and the Alliance met directly with Member States to help align on key priorities and share knowledge.





The Alliance called for action in four key areas:

- Strengthening responsible manufacturing of antibiotics worldwide.
- Transforming the antimicrobial R&D ecosystem by establishing a functioning and sustainable market.
- Removing barriers to equitable antimicrobial access and enable a sustainable and robust global supply chain.
- Improving the appropriate use of antimicrobials through better valuation and investment in diagnostics.

Recommendations from the Multi-Stakeholder Partnership Platform

Ahead of the High-level Meeting (HLM) on AMR in September, the action group on the HLM of the Multi-Stakeholder Partnership Platform on AMR published key policy recommendations with actionable steps that governments should consider for inclusion in the 2024 UN Declaration on AMR. The AMR Industry Alliance worked in partnership with members of this action group and the Quadripartite Secretariat to publish these recommendations, issued to UN Member States in May of 2024. The recommendations were endorsed by 97 organizations from across government, civil society, academia, and the private sector:



1. Enhance One Health collaboration on AMR through effective cross-sectoral, transparent, inclusive, multilateral, multidisciplinary, multi-stakeholder coordination, communication and follow-through.
2. Accelerate the implementation of AMR National Action Plans (NAPs), building on country context, capacity and capabilities.
3. Strengthen capacity for AMR efforts by mobilizing sustainable financing for research, infrastructure and AMR NAPs implementation.
4. Strengthen health systems through comprehensive primary and secondary prevention strategies, such as infection prevention and control (IPC), stewardship programmes, water, sanitation and hygiene (WASH), vaccination, early diagnosis and prompt treatment and environmental management of air, water, soil, food and vectors for better human, animal and environmental health.
5. Better leverage preventive measures such as vaccination by expanding the evidence base on their impact against AMR, developing mechanisms to increase access and utilization of existing vaccines, improving regulatory pathways, facilitating market authorization and distributing products across sectors and countries.
6. Strengthen sector-specific AMR and antimicrobial use (AMU) surveillance, building towards integrated surveillance for evidence-based action to reduce the risk and impact of AMR.
7. Transform agrifood systems to significantly reduce AMU while optimizing animal health and welfare.
8. Ensure universal, equitable, affordable and sustainable access, including in rural areas, to quality essential medicines, vaccines and diagnostics for humans and animals.
9. Encourage high-income countries and other stakeholders to commit to taking an end-to-end approach to sustainable antimicrobial research and development (R&D), including by increasing public investment in push and pull incentives to catalyse the global R&D efforts necessary to deliver new treatments and tools that target priority pathogens.
10. Prevent and address the drivers, sources and challenges of the environmental dimensions of AMR.

Global AMR Diary

The AMR Industry Alliance supported the launch of the **Global AMR Diary** by the Partnership to Fight Infectious Disease and other global health partners. The Diary is an online storytelling platform designed to raise awareness about the urgent crisis of antimicrobial resistance (AMR). By sharing personal accounts from patients, caregivers, healthcare providers, and innovators, the Diary humanizes the global threat of AMR and aims to drive policy change and coordinated action.



World AMR Congress

At the final World AMR Congress in Philadelphia, Pennsylvania in September, the Alliance participated in "From awareness to action: identifying tailored solutions for AMR." The discussion drew upon insights from advocacy and industry to identify opportunities and outline a pathway to meaningful solutions. The Alliance highlighted certification, the Stewardship Prize, and the importance of diagnostics, as well as emphasizing the importance of the HLM in political will for action on AMR, and awareness activities around AMR.



Together with Mediaplanet, the AMR Industry Alliance launched the "AMR & Infectious Diseases" campaign, highlighting the future of prevention, diagnostics, and the R&D challenges of AMR, among other important topics. This piece, authored by AMR Industry Alliance's Board Chair, James Anderson, was featured in The Guardian's print edition and **online**.



United Nations Multi-Stakeholder Hearing on Antimicrobial Resistance

The **UN Multi-Stakeholder Hearing on AMR** was held in New York City on May 15 and included three panels as well as interventions from a small group of stakeholders speaking from the floor. The Alliance addressed Member States and highlighted the shared priorities within the Call-to-Action and the Multi-Stakeholder Partnership Platform Recommendations, calling on Member States to:

1. Ensure universal, equitable, affordable, and sustainable access to quality essential medicines, vaccines, and diagnostics for human and animals.
2. Encourage high-income countries and other stakeholders to commit to taking an end-to-end approach to sustainable antimicrobial research and development (R&D).
3. Prevent and address the drivers, sources, and challenges of the environmental dimensions of AMR.





Attendees included regional organizations, non-governmental organizations in consultative status with the UN Economic and Social Council, invited civil society organizations, philanthropic foundations, academia, medical associations, and the private sector including the agriculture and food industry, broader communities, as well as appropriate senior-level representatives of Member States, observers of the General Assembly, parliamentarians, representatives of local governments, and relevant United Nations entities.

Events Around the UN Multi-Stakeholder Meeting

Alongside the High-level Meeting itself, the Alliance participated in side events around the Multi-Stakeholder Hearing held by a variety of Missions and external organizations, including the Permanent Missions of France and Sweden, the Swedish and Norwegian Cancer Societies, the United Nations Foundation, the World Health Organization, the Fleming Initiative, the Union for International Cancer Control, the British Society for Antimicrobial Chemotherapy, Foreign Policy, IFPMA, and the Business Council for the United Nations.

WSIS + 20 Forum High-Level Event

The AMR Industry Alliance, represented by member companies bioMérieux, Economist Impact, and WHO, participated in a panel at the World Summit on the Information Society + 20 Forum High-Level Event titled "The Role of Information Communication Technologies (ICTs) in Addressing the Challenges of Antimicrobial Resistance (AMR)." This panel focused on technology, AI, digital solutions, and related policy changes that can improve decision making for the appropriate use of antibiotics and assist in the development of new antimicrobial treatments.

AMR Industry Alliance at the WHO

The AMR Industry Alliance attended a series of meetings at the World Health Organization in Geneva. The goal was to help policymakers and other stakeholders take actionable steps, in parallel to the UN's High-level Meeting in September. In the meeting "Technical Consultation on Guidance for Countries Introducing New Antibiotics," the Alliance highlighted the barriers identified in the Equitable & Responsible Access Roadmap and showcased successful access projects undertaken by AMRIA members. The Alliance also provided input from the virtual industry roundtable hosted by WHO and the Access to Medicines Foundation in early June. In addition, the Alliance shared its concerns with pricing and licensing options being presented as equal, as well as the lack of guidance on specific challenges related to "watch" and "reserve" antibiotics. Finally, it emphasized the need for countries and other stakeholders to involve the private sector early on in the planning process of introducing new antibiotics.

SECURE Initiative

The SECURE Initiative hosted an Operational Planning Meeting to solicit input from stakeholders including the AMR Industry Alliance on the development of its core operations, including the creation of a short-list of antibiotics for the initial proof-of-concept, exploring priority issues in antibiotic access, and building foundations for an ecosystem for market shaping to improve access to antibiotics.

United Nations High-Level Meeting on Antimicrobial Resistance

In September 2024, AMR Industry Alliance's Chair James Anderson addressed the UN General Assembly at the High-level Meeting (HLM) on Antimicrobial Resistance (AMR) as part of the panel "Addressing human health, animal health and welfare, agrifood systems, and protecting the environment to tackle antimicrobial resistance, through integrated surveillance, capacity-building, sustainable resources, financing, and investment." Recognizing the important role of industry in addressing AMR, Anderson called for:



1. **The adoption of responsible manufacturing standards.** Member States should adopt the Alliance's Antibiotic Manufacturing Standard as part of their tendering and reimbursement policies to incentivize antibiotic manufacturers and suppliers to be independently certified per the standard through third-party certification. Independent certification is effective because it raises manufacturing standards worldwide without waiting for individual countries to change environmental regulations.

2. **The transformation of the market for antimicrobials with the introduction of new incentives** that encourage companies, investors, and researchers to pursue ongoing antimicrobial innovation and market launch to help alleviate the concerns recognized in the Political Declaration. Without action in this area, the pipeline will continue to decline, resulting in a loss of vital talent in the fight against AMR.

3. **The adoption of actionable steps to ensure equitable access to antimicrobials worldwide** by facilitating regulatory pathways, removing barriers to registration, accelerating approvals, improving forecasting through better data collection and surveillance, and reforming antimicrobial procurement practices. Aggregating the demand and making it visible is essential to driving the change of the companies.

4. **The increase of appropriate use of antimicrobials** by utilizing diagnostic tests and implementing stewardship programs, prioritizing investments in laboratory infrastructure, improving the valuation of diagnostics based on their short- and long-term value, and expanding surveillance of AMR at the local, national, and global levels.

AMRIA in the Press

In a video interview series, “Defending Our Health: Unravelling Antimicrobial Resistance,” ITN examines the evolving global response to AMR, with a spotlight on industry’s role in driving progress. The programme features the AMR Industry Alliance as a key exemplar of cross-sector collaboration—demonstrating how its members are advancing measurable commitments across access, stewardship, innovation, and responsible manufacturing. The series interviews Alliance Board Chair James Anderson, emphasizing the Alliance’s leadership in setting shared standards, reporting frameworks, and accountability mechanisms that help shape the broader policy and research environment. Watch the interview **here**.

Los Angeles Times

In September, the **Los Angeles Times** article “Drug-Resistant Germs Will Kill Millions More People in Coming Decades” highlighted a grim Lancet forecast showing drug-resistant infections could directly claim nearly 2 million lives annually by 2050. Alliance Board Chair James Anderson, quoted in the article, underscored the need for increased stewardship and continued investment in the antibiotic pipeline. Read the article **here**.

In **Politico**’s *Morning Healthcare* in September, the industry’s role in the UN’s Political Declaration was recognized, as was its critical role in drug development and the need for pull incentives to fuel new antimicrobials. Read the brief **here**.

POLITICO



The Alliance is proud to partner with organizations across sectors, and we invite continued collaboration with governments, multi-lateral organizations, non-governmental organizations, academic institutions, and patient advocacy groups to help us bring about progress in the critical fight against AMR.

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ABOUT THE AMR INDUSTRY ALLIANCE

The AMR Industry Alliance is one of the largest private-sector coalitions established to provide sustainable solutions to curb antimicrobial resistance. The Alliance, comprised of 77 biotechnology, diagnostics, generics, and research-based pharmaceutical companies and 10 trade associations, facilitates collaboration, reports on the industry's contribution to the fight against AMR, and engages with external stakeholders. The Alliance seeks to contribute sustainable solutions to curb antimicrobial resistance by creating broad industry momentum and facilitating collaboration between the public and private sectors.

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