Policy brief

Bridging antibiotic resistance and sustainable development to ensure post-2030 policy coherence

Why policymakers need to identify and manage hidden goal conflicts before they become costly and difficult to reverse

This policy brief is informed by research and expert consultations conducted through the BRIDGE-ABR initiative, led by ReAct and Stockholm Resilience Centre with support from the Uppsala University Future Institutes (UuniFI) Goal Conflicts initiative. It synthesizes findings on the interactions between antibiotic resistance and sustainable development policies, complemented by insights from a multi-sector expert workshop held in April 2026.

Core message

The global challenge of antibiotic resistance (ABR) is accelerated by the misuse and overuse of antibiotics across sectors. Efforts to curb this trend often clash with vital development priorities, which risk leading to policy silos, misalignment and inefficiencies. Addressing ABR therefore requires shifting from isolated control measures to addressing fundamental goal conflicts with broader sustainable development goals (SDGs). Effectively navigating these goal conflicts requires making them visible, and understanding how they emerge and evolve over time, and applying governance responses appropriate to their stage. Rather than managing ABR in isolation, this can help prevent interventions in one sector from compromising outcomes in another. It also supports approaches that maximize co-benefits, while ensuring that vulnerable populations are not disproportionately burdened by the economic costs of transition.

1. The policy challenge

Antibiotic resistance occurs when bacteria evolve so that antibiotics that once were effective for treating infections no longer work. Within the wider concept of antimicrobial resistance (AMR), resistance to antibiotics is one of the greatest and most urgent global risks.[1] It is driven largely by the misuse and overuse of antibiotics in human health, animal production and other sectors. As resistance becomes more widespread, infections become increasingly harder and more expensive to treat, threatening health outcomes, livelihoods and economic development. At the same time, the drivers of antibiotic resistance are closely linked to development challenges. Access to healthcare, water and sanitation, food production systems, environmental management and economic incentives all influence how resistance emerges and spreads. This means that decisions made in sectors far beyond health can affect antibiotic resistance outcomes.

Research[2] has found that while antibiotic resistance policies and Sustainable Development Goals (SDGs) often appear compatible at the level of policy objectives, hidden goal conflicts frequently

[1] **Antimicrobial Resistance (AMR) and Antibiotic Resistance (ABR)** are often used interchangeably both in scientific papers and policy documents. In strict technical terms, antibiotic resistance implies resistance to antibiotics and AMR includes resistance to drugs both for treatment of bacteria and other microbes, including viruses and protozoa. However, it is apparent that the term AMR is used in many contexts today to refer to antibiotic resistance. In this policy brief the terms antibiotic resistance and AMR is used interchangeably, referring to antibiotic resistance or "bacterial AMR".

[2] Nguyen Thanh, Luong, et al. "A Large Language Model approach to quantify interactions between AMR and SDG action: Knowledge for seeking synergy solutions." (2025).

emerge during implementation. Workshop discussions conducted within the BRIDGE-ABR initiative* confirmed that these implementation-level conflicts are common but often overlooked.

As governments prepare for implementation of updated AMR National Action Plans and strategic discussions on the post-2030 development agenda, there is an opportunity to move from reactive management toward anticipatory governance of these goal conflicts.

By identifying trade-offs early, strengthening cross-sector collaboration and investing in interventions that generate synergistic benefits, policymakers can reduce unintended consequences while advancing both sustainable development and the long-term effectiveness of antibiotics.

2. The hidden nature of policy trade-offs

Development policies create important benefits, yetimplementation choices sometimesgenerate unintended consequences. The following examples illustrate **how policy objectives may align, while implementation mechanisms can create conflicts.**

- Expanding access to healthcare improves equity and health outcomes, but it may increase antibiotic use if diagnostic services and prescribing systems do not keep pace. Efforts to improve access can increase empirical antibiotic prescribing, while restrictions on non-prescription antibiotic sales may reduce access for vulnerable populations if affordable alternatives and primary healthcare services are not strengthened simultaneously.
- Agricultural intensification can improve food security and farmer incomes, but it may also increase disease risks and antibiotic use if biosecurity and veterinary services are insufficient. As production systems scale, farmers may face pressure to maintain productivity without access to affordable vaccines, diagnostics or veterinary support, increasing reliance on antimicrobials as a substitute for prevention.
- Wastewater reuse can support water security and climate adaptation, but may contribute to the spread of resistant bacteria if treatment and monitoring are inadequate. Circularity goals may therefore create new pathways of exposure unless investments in safe treatment infrastructure expand alongside reuse practices.
- Stricter environmental controls on pharmaceutical manufacturing can reduce pollution and resistance risks, but may increase production costs unless transition support is provided. Without mechanisms to manage these costs, efforts to reduce environmental contamination may create tensions with objectives related to medicine affordability, access and industrial development.

3. Understanding how risks may become entrenched

To better understand how these challenges may emerge and evolve, the BRIDGE-ABR initiative adapted insights from the "Anthropocene traps" framework.[3] The concept can be simplified as follows: Policies and technologies often begin by solving real and urgent problems. However, if potential side effects are not anticipated, systems can gradually become dependent on approaches that create new challenges over time. The process typically unfolds in four stages: initiation, scaling, masking and trapping. This can be illustrated as follows:

Climate adaptation policies promoting wastewater reuse for irrigation may initially help address water scarcity and support agricultural production (**initiation**). As these practices expand, infrastructure and agricultural activities may become increasingly dependent on reused water, potentially without adequate investment in treatment and monitoring (**scaling**). Antibiotic residues and resistant microorganisms may then spread through water and food systems, with consequences that are difficult to detect or trace across sectors (**masking**). Once these systems become established, improving treatment standards or changing existing practices may require substantial investment, institutional coordination and support for affected communities (**trapping**).

[3] Søgaard Jørgensen, Peter, et al. "Evolution of the polycrisis: Anthropocene traps that challenge global sustainability." Philosophical Transactions of the Royal Society B: Biological Sciences 379.1893 (2024).



The key policy lesson is that it is **usually cheaper and more effective to identify risks early than to correct them once they become embedded in society and the economy.**

4. Priority actions for policymakers

1. **Integrate antibiotic resistance into sustainable development planning**

   Antibiotic resistance should be considered across health, food systems, water, climate, industrial and other development policies rather than treated solely as a health-sector issue. As governments review development strategies and contribute to discussions on the post-2030 agenda, ABR considerations should be incorporated more systematically across relevant goals, targets, and implementation mechanisms.

2. **Screen policies and investments early**

   Many tensions between development objectives and ABR emerge during implementation rather than at the level of policy goals. Governments should assess potential ABR--related trade-offs during the design and implementation of major policies and investments, and pay attention to financing arrangements, incentives, regulations and institutional capacity. Early screening can help prevent costly lock-in and unintended consequences.

3. **Strengthen cross-sector literacy, coordination and governance**

   ABR often falls between institutional mandates. Stronger collaboration is needed between health, agriculture, environment, finance and development planning actors, as well as between ABR and SDG coordination mechanisms. Building awareness of shared challenges and creating incentives for collaboration can improve policy coherence and implementation effectiveness.

4. **Ensure equitable sustainability transitions**

   Efforts to reduce antibiotic resistance can impose costs on patients, farmers, manufacturers, and local authorities. Policymakers should assess who benefits, who bears the costs and which groups may require support. Successful transitions depend on affordable alternatives, realistic implementation timelines and targeted measures to protect vulnerable and low-capacity actors.

5. **Prioritize integrated interventions with multiple benefits**

   In a context of constrained resources, investments should focus on interventions that simultaneously advance health, development and AMR objectives. High-value examples include packages that combine water and sanitation, infection prevention, vaccination, biosecurity, diagnostics, education and safe waste management. Integrated approaches can maximize co-benefits while reducing the risk of unintended trade-offs.

***About BRIDGE-ABR**

BRIDGE-ABR is a transdisciplinary collaboration within the Uppsala University Future Institutes Goal Conflict initiative. It brings together ReAct, Uppsala University and Stockholm Resilience Centre to make conflicts and synergies between antibiotic resistance action and the Sustainable Development Goals visible and actionable.

This Policy brief is based on the full report of the BRIDGE-ABR Multistakeholder Expert workshop ***"Making the invisible visible: Navigating Goal Conflicts between Antibiotic Resistance and the Sustainable Development Goals."***