

Diagnostics at the frontline: using the Public Accounts Committee report to catalyse the UK's antimicrobial resistance diagnostics strategy



Between 2020 and 2024, the UK Government spent £567 million¹ on its programme for tackling the growing threat of antimicrobial resistance (AMR), of which £543 million was allocated to the Department of Health and Social Care, National Health Service England, and UK Health Security Agency. On June 13, 2025, the UK Public Accounts Committee (PAC), which scrutinises government spending, published a review evaluating the effectiveness of this spending to address AMR risks through the measures set out in the national action plan (NAP).²

The PAC highlighted two concerns on diagnostics: slow progress in implementation, leading to inappropriate antibiotic use, driving resistance, and the failure to meet the 2019–24 NAP³ target to report on “the proportion of prescriptions supported by diagnostics”, now omitted from the 2024–29 NAP.⁴

PAC recommended that the Department of Health and Social Care, National Health Service England, and UK Health Security Agency report how they will show progress in deploying diagnostics, effectively seeking a diagnostics action plan (DAP) in 2 years. The government has accepted this recommendation and responded (panel),⁵ which means that a DAP will be able to position diagnostics as the frontline of AMR defence, when backed by urgency, transparency, and ambition.

There is a need for accelerated delivery. Nearly a decade after Lord O'Neill's report⁶ to the UK Government on AMR, the ambition of “no antibiotics without a test by 2020” remains unmet, despite diagnostics arguably representing the most important technology-driven step governments can take to curb inappropriate prescribing, a key driver of AMR. Therefore, a DAP needs to be developed and implemented swiftly to match the threat's urgency: one that addresses the following needs.

Moreover, it is important to learn from missed targets. Government investments to integrate diagnostic tools for antimicrobial stewardship have not delivered. Over 20% of primary-care prescriptions² and overall, 50% of human health-care prescriptions⁷ remain inappropriate. Therefore, lessons from the missed and later removed diagnostic uptake target in the NAP need to inform the development of the DAP.

Restricting the DAP to human health care would undermine the wider role of diagnostics in the veterinary, environment-human health, plant-human health, and food sectors. Antimicrobial use and AMR selection are bidirectionally linked between humans and animals.⁸ The use of agricultural fungicides, although essential for food production, is contributing to an alarming increase in resistant human fungal pathogens, in addition to resistant plant pathogens.⁹ Therefore, diagnostics needs to expand beyond bacteria to include fungi and other targets, alongside tools to detect antimicrobials, resistance genes, and co-selective chemicals (eg, heavy metals and pesticides in farm run-off, wastewater, rivers, and soil)—an aspect that is currently inadequately covered—and adopt a One Health approach.

Hence, a needs-driven, innovation-focused approach is essential. The DAP should begin by identifying priority needs—pathogens, diseases, drivers, and suitable technologies—and the sectors and settings in which these technologies should be deployed for greatest impact. Innovation and resources must then be directed towards these needs, with the industry, regulators, scientists, engineers, and practitioners collaborating to design or refine new or existing diagnostics into practical, fit-for-purpose tools. Success will depend on strong economic evidence, clear regulatory and market pathways, behavioural insights to overcome adoption barriers, and shared best practices. A robust support pipeline—funding, translation guidance, and political commitment—is crucial to drive industry investment for affordable diagnostics.

Furthermore, sustainable initiatives are necessary. The Accurate, Rapid, Robust, and Economical One Health DiagnoSTics for antimicrobial resistance (ARREST-AMR) Network, noted by the government response (panel), was funded by UK Research and Innovation in response to the NAP. The ARREST-AMR Network represents an opportunity to catalyse an integrated, needs-driven, action-oriented approach to tackling AMR through One Health diagnostics, driving progress from research to adoption with a transdisciplinary team spanning academia, industry, government agencies, and charities. Such initiatives need

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Panel: Summary of the UK Government's response to the PAC report, highlighting its current actions to support diagnostics to tackle AMR

- DHSC invested more than £18 million in diagnostics research (through NIHR)
- DHSC funded NIHR HealthTech Research Centres to accelerate development of diagnostics
- NHSE is hosting *Moving Forwards in Infection Diagnostics* to create an infection diagnostics framework by 2027, define target profiles, optimise existing tests, and set up a rapid review pipeline
- NHSE developed decision-support tools for antibiotic stewardship through Pharmacy First
- NHSE to initiate pilot schemes on point-of-care tests in primary care and community pharmacies, launching in 2026, with results in 2026–27
- UKHSA is exploring rapid laboratory-based tests for antibiotic susceptibility
- UKHSA and the Veterinary Medicines Directorate are partnering in the ARREST-AMR Network, which aims to advance One Health AMR diagnostics into real-world use

AMR=antimicrobial resistance. ARREST-AMR=Accurate, Rapid, Robust and Economical One Health DiagnoSTics for antimicrobial resistance. DHSC=Department of Health and Social Care. NIHR=National Institute for Health and Care Research. NHSE=National Health Service England. PAC=Public Accounts Committee. UKHSA=UK Health Security Agency.

long-term support to address chronic challenges such as AMR, and the DAP should provide such support.

The PAC notes that AMR is a global threat and warns that reductions in UK aid could weaken international initiatives, as exemplified by cuts to the Fleming Fund.¹⁰ The DAP needs to ensure robust local and international collaboration on diagnostics to respond to this global challenge. Of the £567 million invested in AMR, £543 million (96%) was directed to human health,¹ with only £16 million (3%)¹ for other One Health sectors. Moreover, only £18 million (3%) of the investment was allocated to diagnostics research.⁵ The DAP should promote transparent reporting to strengthen accountability and balanced resource allocation.

The PAC report and government response reinforce that a coordinated cross-sector effort to deploy fit-for-purpose diagnostics is important. Diagnostics are central to safeguarding antimicrobials and tackling AMR. Only a bold, innovation-driven One Health approach, implemented without delay, can drive the forthcoming DAP and deliver real progress against the silent pandemic.

We declare no competing interests.

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