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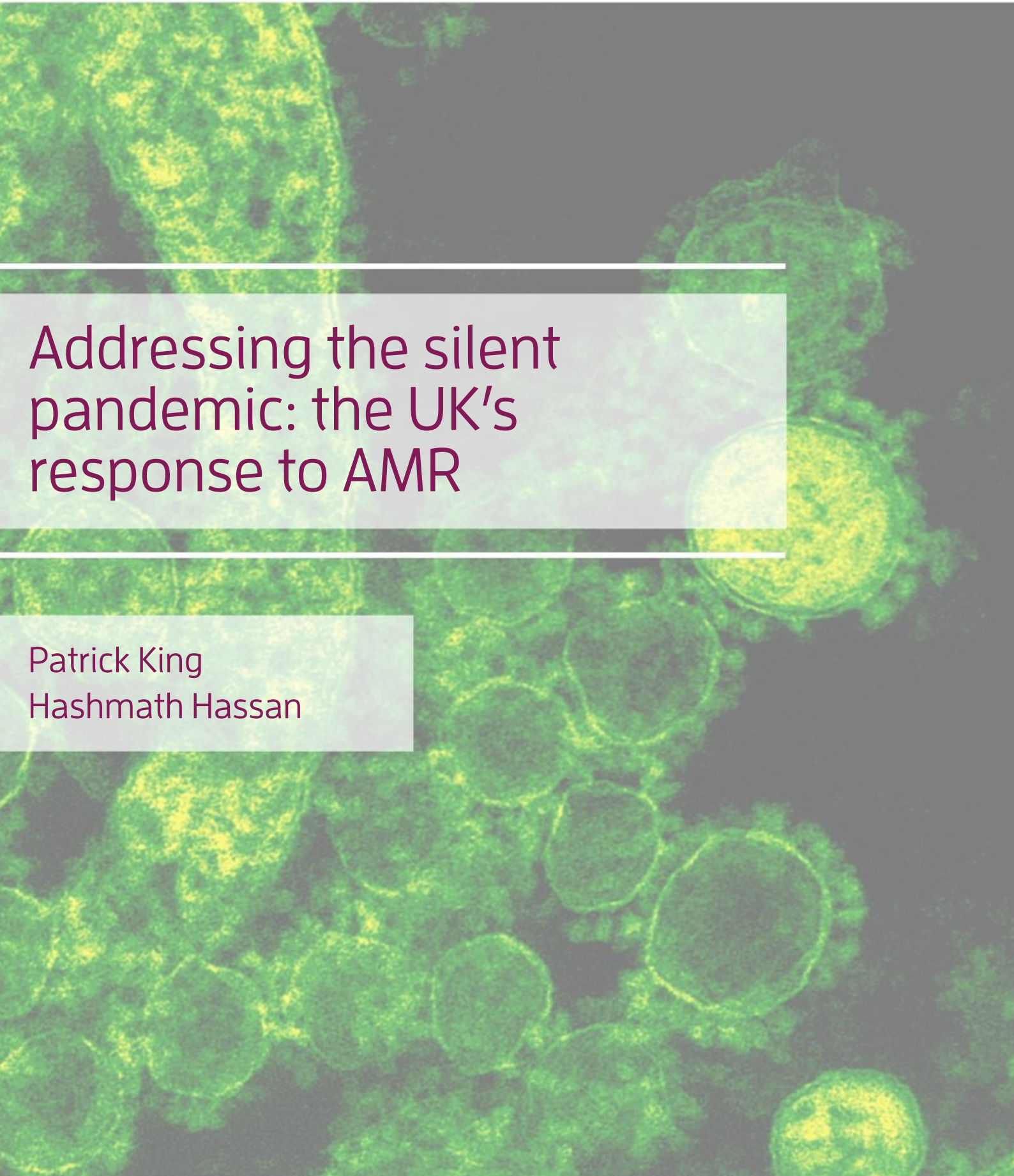

Addressing the silent pandemic: the UK's response to AMR

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Addressing the silent pandemic: the UK's response to AMR

Reform was delighted to host a policy roundtable on the practical steps that will be needed in the new 2024-2029 AMR Action Plan to stem the rise of drug resistance. The discussion was introduced by Russell Hope, Deputy Director of the AMR Division at the UKHSA and Andrew Jones, Public Affairs Lead for AMR at the ABPI.

Antimicrobial resistance (AMR), where bacteria and viruses change over time and become unresponsive to the medicines commonly used to treat them, is a silent pandemic. It is one of the biggest threats to global health — directly responsible for 1.27 million deaths annually – and is estimated to cost the global economy $100 trillion between 2016 and 2050. Without effective antibiotics, many common procedures like hip replacements and caesarean delivery could become too dangerous to undertake.

The UK has long been a world leader in addressing the threat of AMR. It published its first national strategy and action plan as early as 2000 and added AMR to its National Risk Register nearly a decade ago, alongside risks such as "catastrophic terror attacks". To sufficiently "contain and control" AMR by 2040, though, as the UK's 20-year vision sets out, further action will be needed across government, with the close support of industry.

Attendees stressed that AMR requires a cross-sector, "one health" approach, which considers the interconnections between human, animal, plant, and environmental risks. Participants identified five areas that need to be improved in order to reduce rates of drug resistance and effectively manage its effects: surveillance, stewardship, diagnostics, improving the use of vaccines, and accelerating drug development.

Surveillance

Effective and ongoing surveillance is essential to monitoring levels of drug resistance in recognised diseases, and detecting new and emergent diseases of concern. It can also be used to better understand local and regional differences in the prevalence of AMR, and to inform approaches to public health and infection control in response. Participants noted that key to surveillance is data quality.

For instance, high-quality, joined up data between primary and secondary care can tell us which patients are prescribed antibiotics multiple times a year, the factors that might lead to higher rates of prescription, and the relative success of interventions used to reduce unnecessary prescribing. In turn, this supports a more targeted approach to AMR stewardship.

AMR stewardship

AMR stewardship involves monitoring and promoting the sustainable use of antimicrobials: including how clinical decisions around prescription and dosage are made, and whether these decisions are proportionate to patient need. Participants noted that, especially in primary care, antibiotics are often prescribed according to severity of illness rather than patient need.

Participants also emphasised the importance of using data insights to inform stewardship: citing, for example, the fact that 0.5 per cent of patients receive 10 per cent of all antibiotic prescriptions or that patients with irritable bowel syndrome are more likely to be inappropriately prescribed antibiotics. Equally, better data join-up across the health system can help to benchmark prescription data, identify and spread examples of best practice.

In addition to effective stewardship, and central to achieving lower antibiotic prescribing in the long-run, is improving diagnostic capability in primary and secondary care. When a severely ill patient presents at a care setting, but diagnostics are unavailable or cannot be used in a timely manner, a difficult trade-off arises between stewardship and patient safety.

Diagnostics

There is a significant gap between primary and secondary care in how frequently point-of-care diagnostic tools are used to detect susceptibility to antibiotics. While in secondary care settings, diagnostic tests are typically conducted before antibiotics are prescribed, this is not the case in primary care, where participants told us that general practitioners often "treat blind".

Participants noted that the lack of dedicated funding streams for purchasing diagnostic tools in primary care, and their high cost, are important barriers to boosting roll out, particularly as the benefits from diagnostics accrue to the wider health system rather than any individual practice – meaning some GPs see diagnostic tools as a more costly and time-consuming alternative to prescribing "just in case". It is therefore crucial to consider ways of incentivising more widespread use of diagnostics, including by reviewing purchasing arrangements for diagnostic equipment (for example, some countries purchase diagnostics for primary care centrally).

Improving the use of vaccines

Vaccines play a vital role in preventing diseases that may otherwise require treatment using antibiotics. Though confidence in immunisation programmes is generally very high in the UK, uptake rates have been falling for the past decade, and there are communities for which uptake is markedly lower – putting them at greater risk of acquiring vaccine-preventable diseases and requiring treatment with antibiotics.

More attention must also be paid to reducing the spread of common infections treated using antibiotics. Participants reflected that, while it is easier to communicate the need for vaccines against life-threatening infections, or the importance of protecting immunocompromised patients, it can be more difficult to communicate the need for vaccines to protect against a number of common infections – despite this being necessary to controlling AMR.

Improving vaccine uptake, participants noted, must begin at the community level. The pandemic showed that successful vaccination programmes engage local actors to promote uptake and aid vaccine delivery. This is especially important in reaching out to communities with particularly low vaccination rates, including where access to healthcare itself is a challenge. Participants referred to the potential for public awareness campaigns, lessons in schools, and public forums with community leaders to be used in conjunction to increase vaccine uptake.

The development of new vaccines, including

those specifically targeted at drug-resistant pathogens, will also key to managing existing and emerging diseases, which means ensuring the right conditions – from funding for R&D, to a flexible regulatory environment – are in place for development to flourish.

Accelerating drug development

Essential to developing new antimicrobials are creating the right pull incentives for companies and research groups to commit to R&D – particularly as no new class of antibiotic has been discovered since the 1980s.

In this regard, the UK has been world leading. In 2022, it launched a pilot, 'subscription' model of reimbursement to encourage pharmaceutical companies to invest in drug development, which pays companies £10 million a year, for up to ten years, to supply a new antibiotic to the NHS. Crucially, the contract is based on the value the drug provides the health system, rather than sales volume (which is, and ought to be, lower for antibiotics than other drugs). The NHS has already contracted the first two drugs to be developed through this scheme.

Participants noted that the subscription model is set to widen, to include more antibiotics and in due course, antifungal, phage and other therapies. As a result, other countries – such as the US and Canada – are now looking to the UK's example, and considering similar subscription schemes.

Despite these advances, participants noted there is still some way to go to incentivise pharmaceutical companies – and particularly smaller ones – to persist with all stages of drug development. Funding for companies is usually concentrated at the early stages of research, with few funding opportunities at later stages.

This can slow down potentially pioneering research. For instance, the use of microbiomes as another line of defence against AMR was discussed by attendees; while there has been some promising initial research, funding issues have hindered further progress.

Finally, participants noted that there needs to be a willingness to think differently. The traditional approach to drug development is to target specific pathogens. However, it is impossible to determine what drugs will be needed in future. A more resilient way might be a more exploratory, rather than targeted, approach to drug development – capable of tackling a wider range of diseases.

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