The omission of children from the UK’s antimicrobial strategy must be tackled

Children face specific risks from antimicrobial resistance, yet UK policy has failed to recognise them as a distinct group, say Samuel Channon-Wells and Sanjay Patel

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The Department for Health and Social Care is developing the UK national action plan (UK-NAP) on antimicrobial resistance (AMR) for 2024-29. The 2022-23 winter surge in cases of group A streptococcus in children and the resultant strain on the antibiotic supply chain were stark reminders that this cohort of the population must not be overlooked in the UK’s AMR strategy.1 We strongly urge policy makers to recognise the risk that AMR poses to children in the next UK-NAP on AMR.

In the UK and the rest of the world, the burden of AMR—particularly in Gram negative bacteria—and mortality from associated infections are disproportionately experienced by children compared with adults.3 4 This difference is especially stark for infants and neonates.4 A growing body of evidence suggests that exposure to antibiotics during the first few years of life can also have a long term health impact through disruption to the microbiome. Early life antibiotic exposure has been associated with childhood onset asthma, allergic rhinitis, atopic dermatitis, coeliac disease, and obesity,5 highlighting the specific risks that children face from inappropriate antimicrobial use.

Despite a large body of evidence showing that children are “not just little adults” when it comes to AMR and antimicrobial stewardship (AMS),2 there remains a global lack of paediatric specific data on antimicrobial use and resistance.

Unfortunately, this important population has also been under-represented in major UK publications on antimicrobial policy in recent years. The current UK-NAP on AMR, 2019-24,6 and the English surveillance programme for antimicrobial utilisation and resistance (ESPAUR) report 2021-227 make just six and 50 references to paediatric care in their 90 and 172 pages, respectively. A large proportion of these mentions are grouped in small, highly specific sections that fail to engage meaningfully with the broad problem of AMR in children. Many of the remaining occurrences are non-specific or even irrelevant.

We are concerned by how little attention has been paid to paediatric services in relation to AMR, use, and stewardship—the central pillars of antimicrobial policy. Instead, paediatric populations are almost entirely subsumed under adult data collection and policy targets. Despite the clear need to increase the evidence base for delivering high quality paediatric AMS services, these documents pay no attention to this goal in their sections on future research and innovation. With no clear national directive, the challenge of securing research funding to close this knowledge gap is increasingly difficult as budgets shrink.

Furthermore, in both documents, antimicrobial prescribing is always expressed using defined daily doses—a metric that has been shown to be inappropriate in children.8 9 Since paediatric and adult data were mostly aggregated, this serves to invalidate the reporting data for both children and adults alike.

A new vision

These oversights show the need for greater recognition of the impact of AMR on children in the next UK-NAP on AMR. This must include a clear strategic vision for paediatric services and steps to improve in four key areas: reporting, funding, incentivisation, and infection prevention and control.

Firstly, hospitals need to demonstrate a clear commitment to tackling AMR in children, with progress reported at trust and national level. A national mandate that requires acute trusts to separately report their paediatric data on AMR would improve the quality of data we have, allowing us to gain a more granular understanding of the problem and its potential solutions. In the first instance, hospitals participating in the UK Health Security Agency’s 2023 National Point Prevalence Survey of Healthcare Associated Infections and Antimicrobial Use in England should be strongly encouraged to collect data on children as well as adults.

Routine reporting of antimicrobial prescribing must use metrics that are appropriate for all ages, including children. We suggest the use of days of therapy per 1000 patient days (or a similar denominator), in line with current evidence based recommendations.10 11 Primary care data on antibiotic use are already reported by age group, including children, but a similar approach is required in secondary care. We recommend that the UK Department of Health and Social Care defines a minimal dataset that trusts must report, encompassing rates of antimicrobial use, AMR, and hospital acquired infection, which would enable benchmarking between healthcare providers.

Secondly, at present there is little or no funding to support AMS services in secondary or tertiary care paediatric settings. NHS England and other bodies commit money to support AMS activities, yet in many hospitals this funding is exclusively used to support adult AMS. If paediatric services are to sustainably deliver interventions that promote AMS and infection...
prevention and control, then they will need a ringfenced budget for children.\textsuperscript{13}

Incentives from the Commissioning for Quality and Innovation (CQUIN) framework and NHS England’s quality premium scheme in primary care in the UK have been highly effective overall in reducing antimicrobial prescribing\textsuperscript{16} and improving infection and prevention control outcomes. Yet key targets, such as reducing \textit{Clostridioides difficile} and urinary tract infections, focus almost exclusively on adults. Targets should be created that are relevant to both children and adults, such as reducing central line associated bloodstream infection rates, and which support AMS efforts in paediatric services.

Finally, infection prevention and control efforts must, at a minimum, include neonatal and paediatric intensive care units, as this cohort of patients are at high risk of nosocomial infections with resistant organisms.\textsuperscript{15,16}

Children have been neglected in the UK’s national AMR strategy. Yet there are resources that can be drawn on to develop policies that are sensitive to paediatric populations, such as the recent international consensus recommendations on paediatric AMS in hospital settings.\textsuperscript{47} UK policy makers need to generate a new strategic vision for AMR that recognises the risks to children and redresses the above omissions if we are to slow down the evolution of AMR in children and neonates.

Competing interests: None declared.

Provenance and peer review: Not commissioned; not externally peer reviewed.


