

Proceeding Paper

# National Antimicrobial Stewardship Activities in Primary and Secondary Care in England 2021–22 (ESPAUR Report) <sup>†</sup>

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<sup>†</sup> Presented at the ESPAUR 2021/22 Webinar, Antibiotic Guardian, 23 November 2022; Available online: <https://antibioticguardian.com/Meetings/espaur-2021-22-webinar/>.

**Abstract:** A summary of key national primary and secondary care antimicrobial stewardship interventions led by the UK Health Security Agency (UKHSA) are highlighted. This includes development and implementation of TARGET Antibiotics Toolkit resources in community pharmacy and General Practice and the development of a national intravenous-to-oral switch (IVOS) criteria for use in secondary care.

**Keywords:** TARGET Antibiotic Checklist; AMS; community pharmacist; repeat antibiotics; antimicrobial

## 1. Introduction

Tackling antimicrobial resistance (AMR) requires action on multiple fronts to optimise antimicrobial use and reduce the emergence and transmission of resistance. An important element of this approach is the implementation of antimicrobial stewardship (AMS) interventions. AMS enables healthcare workers to choose the most appropriate drug, dosage and duration of treatment whilst limiting the microbe’s ability to develop or acquire resistance. Optimising prescribing in this way is a key focus of the UK’s 5-year National Action Plan on tackling AMR, which includes a target to reduce UK antimicrobial use in humans by 15% by 2024 [1].

The annual English Surveillance Programme for Antimicrobial Utilisation and Resistance (ESPAUR) report, Chapter 4, commentates on National AMS activities in primary and secondary care [2,3]. In this paper, we provide a summary of key national primary and secondary care antimicrobial stewardship interventions led by the UK Health Security Agency (UKHSA) and presented at the ESPAUR webinar on 23 November 2022 (<https://antibioticguardian.com/Meetings/espaur-2021-22-webinar/>, accessed on 23 March 2023).

## 2. Development and Implementation of TARGET Antibiotics Toolkit Resources for Primary Care and Community Pharmacy

### 2.1. Update of the TARGET Antibiotics Toolkit

The TARGET (Treat Antibiotics Responsibly, Guidance, Education, and Tools) antibiotics toolkit (Figure 1) is a suite of AMS resources to support primary care clinicians in championing and implementing AMS activities. The toolkit, designed and developed by UKHSA, is hosted on the Royal College of General Practitioners (RCGP) website [4]. The TARGET toolkit website underwent a major redesign in November 2021 to include new sections that provide evidence-based resources, supporting clinicians in discussing antibiotic use with patients. There were 167,827 views of the website from April 2021 to March 2022, with a peak in November coinciding with the website redesign and World Antimicrobial Awareness Week (WAAW). The ‘leaflets to share with patients’ [5] remained



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the most popular section of the TARGET Toolkit, and website-based HTML versions of the leaflets were introduced with the redesigned website. To help implement the HTML leaflets, UKHSA collaborated to develop templates with the company accuRx, which also produced software that allows GPs to communicate digitally with patients through text messages and emails.

## The TARGET Antibiotics Toolkit\*



\*Treat Antibiotics Responsibly, Guidance, Education and Tools

[www.rcgp.org.uk/targetantibiotics](http://www.rcgp.org.uk/targetantibiotics)

UKHSA ESPAUR Report 2021-22

**Figure 1.** Resources included in the Treat Antibiotics Responsibly, Guidance, Education, and Tools (TARGET) Antibiotics Toolkit, available via Royal College of General Practitioners ([www.rcgp.org.uk/targetantibiotics](http://www.rcgp.org.uk/targetantibiotics), accessed on 15 August 2022).

### 2.2. Implementation of the TARGET Antibiotic Checklist in Community Pharmacy

The TARGET Antibiotic Checklist [6], an AMS intervention for community pharmacy, was included as a criterion of the 2021–22 Pharmacy Quality Scheme (PQS). The PQS is an incentive scheme forming part of the community pharmacy contractual framework (CPCF) for all NHS community pharmacies in England [7]. Community pharmacy teams were required to use the checklist as part of their current antimicrobial practice for a period of four weeks with a minimum of 25 patients; or up to eight weeks if the minimum number of patients was not achieved within four weeks. Data were submitted from 8374 community pharmacies (74% of all pharmacies in England (11,133) at the time of the report) who used the TARGET Antibiotic Checklist with 213,105 antibiotic prescriptions dispensed to patients; 86% of the pharmacies entered data for at least the required 25 patients and 44% surpassed this. There was high engagement with this scheme, and the data provides an important understanding of AMS activities within community pharmacy.

### 2.3. Developing Tools for the Management of Long-Term and Repeated Antibiotic Use in General Practice

This work aimed to develop tools for healthcare professionals to review antibiotic use—specifically long-term and repeat antibiotics within general practice using a multi-step approach. In partnership with clinical pharmacists in primary care networks (PCNs) in England, the patient cohort that would benefit from the antimicrobial review was identified

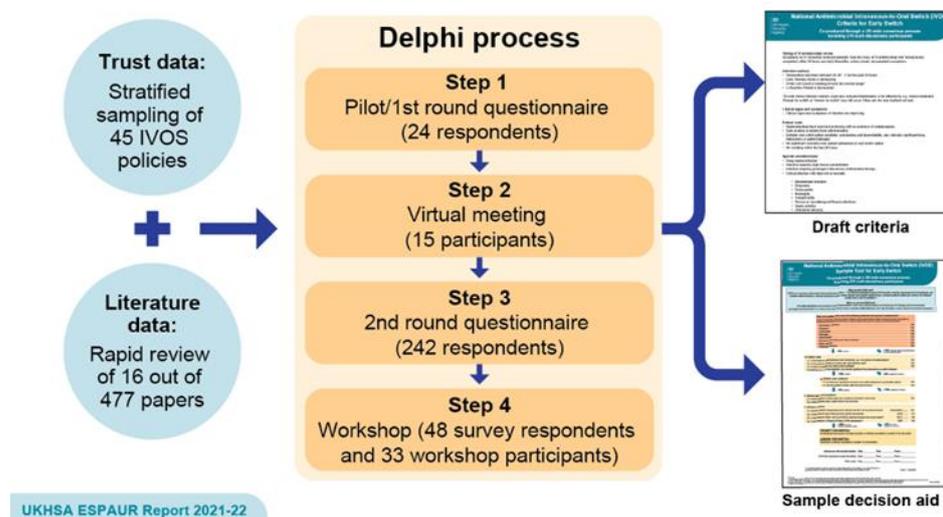
following the development of a search strategy to be conducted using GP electronic systems, EMIS and SystmOne. The aim was to identify patients with antimicrobials available on repeat prescription (long-term use) and/or issued over three courses in 6 months (repeat use). The search strategy also identified the top prescribed antimicrobials. This data informed which infections to focus on for initial management tools development. Data from OpenSAFELY was also requested and analysed to assess the most prescribed antimicrobials nationally.

The top antibiotic scripts (n = 225) issued for long-term and repeat use in a sample of PCNs included lymecycline (16%), oxytetracycline (12%), doxycycline (12%), amoxicillin (7%), and trimethoprim (7%). The most frequent infection indications were identified as acne (lymecycline/oxytetracycline) and respiratory tract infections, including those associated with chronic obstructive pulmonary disease (COPD) exacerbations (doxycycline/amoxicillin). Toolkits for acne and COPD exacerbations were developed, addressing the need for patient reviews and practice-based behaviour change to sustain AMS improvements.

### 3. Development of a National Intravenous-to-Oral Switch (IVOS) Criteria for Use in Secondary Care

Adult antibiotic IVOS policies from UK trusts were conveniently sampled for the collation of IVOS criteria. A literature search was undertaken in OVID Embase and Medline databases. Articles without IVOS criteria were excluded, as were those focusing on a specific antimicrobial or infection (for generalisable criteria).

Criteria available within trust guidelines, as well as from published literature, were entered into Excel spreadsheets. Those with the highest appearance informed a consensus of Delphi (Figure 2). Step 1) pilot/1st round questionnaire (24 respondents). Step 2) virtual meeting (15 participants) agreed to IVOS criteria. Step 3) 2nd round questionnaire (UK-wide cascade).



**Figure 2.** Development of a national intravenous-to-oral switch (IVOS) criteria for use in secondary care.

IVOS criteria from forty-five policies and 16 (out of 477 papers identified from the literature search) led to a collated list of 41 IVOS criteria. These were subsequently formatted into 5-point Likert scale questions for Step 1) pilot/1st round questionnaire. Step 2) virtual meeting, accepted 36 IVOS criteria for inclusion in Step 3). Step 3) 2nd round questionnaire. So far, 86% of 2nd round questionnaire respondents (n = 169) agree/strongly agree that a patient's early warning score should be improving for a safe and effective IVOS. The final criteria will be published as part of UKHSA's AMR guidance and regulation collection webpage [8].

#### 4. Conclusions

Developing and implementing AMS strategies across healthcare sectors is vital to tackle the global health threat that is AMR. In primary care, evidenced-based tools were developed for clinicians to support addressing high rates of long-term and repeat prescribing in acne and COPD exacerbations. During 2022–2023, the national AMS toolkit for primary care, the TARGET Antibiotics Toolkit website, was updated with new resources to support antibiotics discussions with patients, and there are plans to develop resources for common skin infections. In secondary care, the consensus is being defined for a UK-wide criteria and tool to support prompt antimicrobial IV to oral switch decisions.

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