

Variations in guidance, delayed/back-up antibiotics, decision support tools and education to facilitate appropriate antimicrobial prescribing in English Primary Care settings

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INTRODUCTION

A key aim of the UK 5 year antimicrobial resistance (AMR) strategy is to optimise prescribing practice. In 2010 Public Health England (PHE) published national guidance for primary care prescribers for managing common infections, including upper respiratory, lower respiratory and urinary tract infections (Figure 1).¹ The guidance document is intended for local adaptation.

Delayed/back-up antibiotic prescriptions are issued by a clinician for a patient to collect or use at a later date if they feel no better or feel worse after several days. These have been used successfully to reduce antibiotic prescribing in primary care for respiratory and urinary tract infections (UTI & RTI). Use of delayed/back-up prescriptions can form part of a successful stewardship strategy, and are now encouraged in UK guidance on the management of these infections.^{1,2}

This study aimed to determine whether local prescribing guidelines followed national guidance, back-up (delayed) prescribing was promoted and recommended within local guidelines and what decision support was available.

METHODS

In November 2014 a web based survey to assess antimicrobial stewardship (AMS) activities in primary care was distributed to all 211 clinical commissioning groups (CCGs) in England.

The survey was a voluntary audit completed by healthcare professionals and therefore ethics approval was not required. The responses were analysed using Microsoft Excel. Confidence intervals were calculated using analytical tools for Public Health from the association of public health observatories.

Figure 1: PHE guidance for management of common infections in primary care

RESULTS

Eighty two (38%) of the 211 English CCGs completed the survey. Local guidelines regarding the first line antibiotic choice, dose and duration for a range of clinical indications closely matched those presented in national guidance (Figure 2). 53 (69%) of responding CCGs had used local antibiotic audits within the past two years.

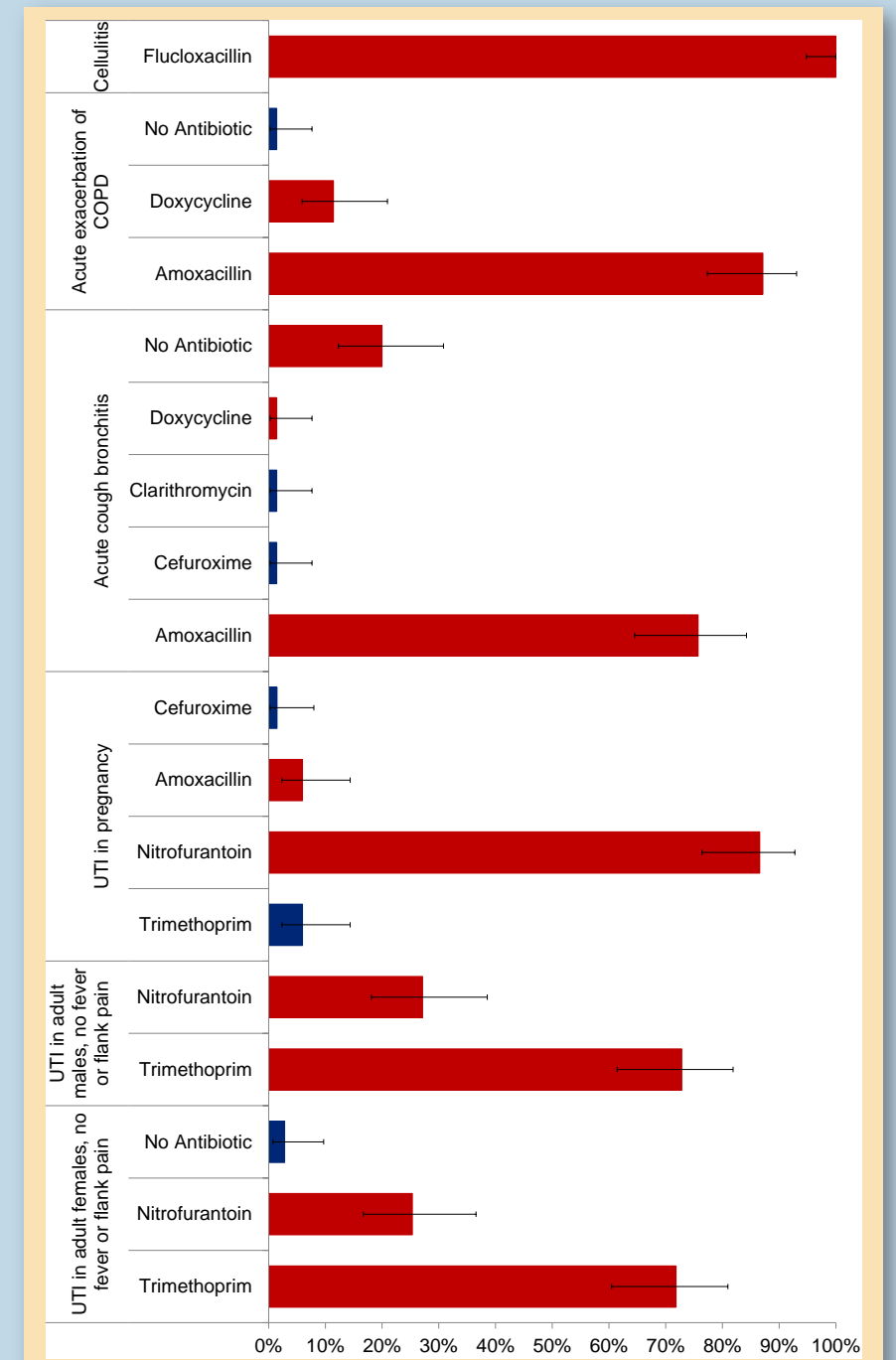


Figure 2: Antibiotic choice dose and duration for clinical indications as recommended by local and national guidelines (n=82). Red bars denote 1st line antibiotic recommended by national guidelines

The use of delayed/back-up antibiotic prescribing by primary care prescribers was promoted within 65 (79%) of responding CCGs. Local guidelines commonly recommended the use of back-up prescriptions for acute cough bronchitis and in half of guidelines for acute exacerbation of COPD. Back-up prescriptions were less commonly recommended for cellulitis and urinary tract infections in adults and pregnancy (Figure 3).

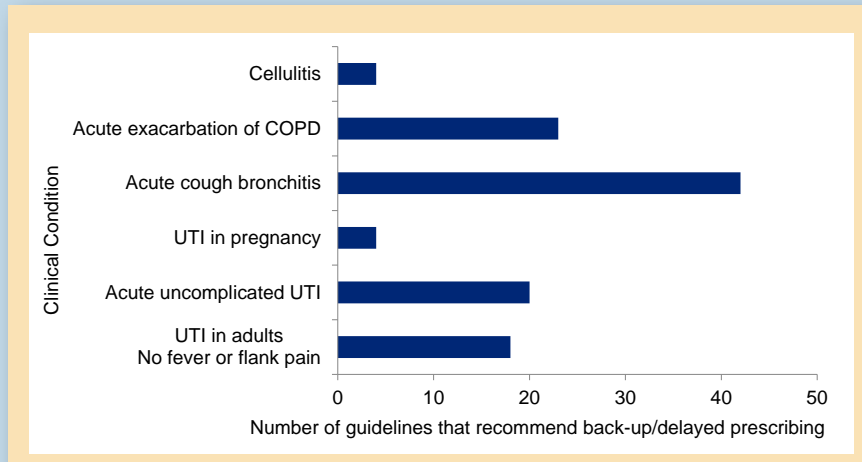


Figure 3: Conditions for which local prescribing guidelines recommended back-up/delayed prescribing (n=60)

Fifty-two (63%) respondents were able to access clinical decision support about antimicrobial use integrated within the CCG's GP practices electronic prescribing software. EMIS health was the most commonly used electronic prescribing software provider for information regarding choice, dose, duration and cost of antimicrobial, and whether or not the antimicrobial is on the CCG formulary (Figure 4).

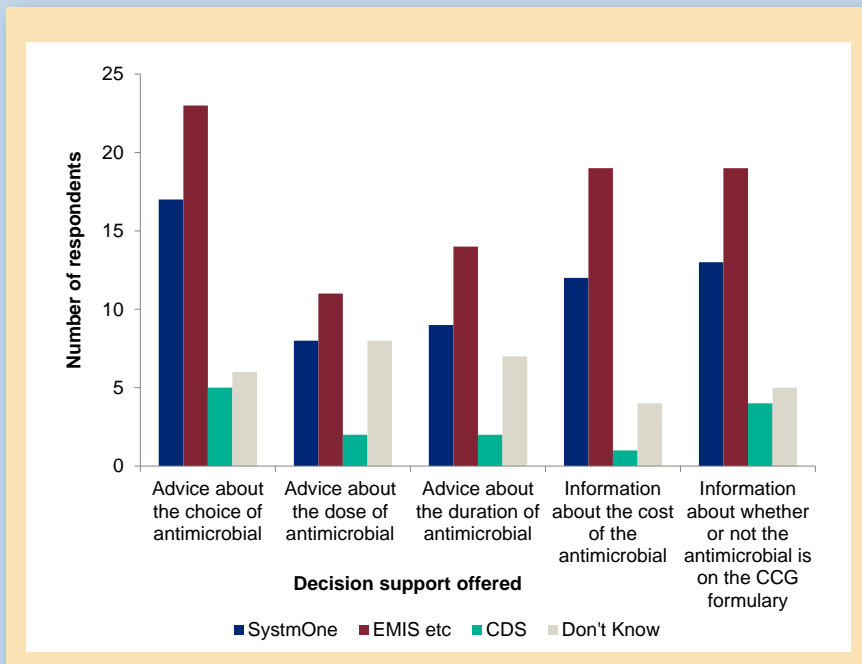


Figure 4: Clinical decision support about antimicrobial use provided by electronic prescribing software in primary care (n=52)

Only one CCG had a written antimicrobial education and training strategy. However 61% of doctors received antibiotic guidelines and training on antimicrobial prescribing on induction; in contrast only 6% of nurses and pharmacists received this training. The content of antimicrobial prescribing and stewardship training was left to individual trainers to decide in 33% of responding CCGs (Table 1).

	%CCGs
Has a written Antimicrobial Education and Training Strategy	1
All doctors on induction receive antibiotic guidelines	61
All doctors on induction receive antibiotic guidelines and a lecture/in person training on antimicrobial prescribing	15
All doctors on induction receive antibiotic guidelines and need to do an e-learning module on antimicrobial prescribing	2
Teaching on induction for all nurses	6
Teaching on induction for all pharmacists	6
Teaching on induction for non-medical prescribers	7
Mandatory e-learning for senior doctors (registrar and higher)	4
Mandatory e-learning for junior doctors	4
Antimicrobial prescribing and stewardship training is left to individual trainers to decide	33

Table 1: Reported education and training in CCGs (n=82)

DISCUSSION

Local guidelines follow PHE national guidance closely for the conditions investigated. A large majority of CCGs promoted the use of delayed/back-up prescribing to primary care providers but there was variation in what conditions delayed/back-up prescribing was advocated for within local guidelines. Although not common; it was surprising that delayed/back-up prescribing was being recommended for cellulitis and UTI in pregnancy, these conditions are not specified in national guidance.

The majority of practices had clinical decision support; there was variation in what systems were used and for what purpose. Further work is required to formulate a minimum standard of antimicrobial stewardship support available through electronic prescribing systems.

A written antimicrobial education and training strategy was rare; further work is required to promote delivery of these strategies as key antimicrobial stewardship actions. In a third of CCGs the provision of training was left to local trainers to deliver. This may have resulted in variable levels of AMS training in primary care and requires further study.

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