Exploring the implementation of interventions to reduce antibiotic use (ENACT study)

Appendix K: Stakeholder APEASE assessments of intervention suggestions

Contents

Notes to the tables

The number of respondents that assessed intervention suggestions for different settings varies. That is why in the column 'relevant to setting' the number of respondents who indicated that the suggestion is relevant to that setting gives the total number of participants that answered questions in each section. Most participants assessed intervention suggestions in the section for 'all settings' (that is, 14 for general practice, 14 for out of hours [OOH], 13 for walk-in centres, and 11 for community pharmacy settings). Out of those respondents, fewer completed the sections specific to each setting (that is, 11 for general practice, 6 for OOH, and 3 for community pharmacy settings). Therefore, the total APEASE scores (where APEASE stands for Affordable, Practical, Effective, Acceptable, Safe, Equitable) were calculated based on the maximum score possible for the number of respondents answering questions in each section and for each setting.

Table K1. Stakeholder ratings of intervention suggestions for general practice

Intervention suggestion (in order of % APEASE score)	Number of respondents							APEASE score	
	Relevant to setting	A Affordable	P Practical	E Effective	A Acceptable	S Safe	E Equitable	Total	% score
Prescribing advisors or practice prescribing or AMS leads to carry out standardised quality improvement (for example, supported by IT system functionality) and use prescribing data to identify underlying reasons for high or inappropriate antibiotic prescribing, provide tailored advice to prescribers and agree practice action plans (for example, practice plan to reduce	11 out of 11	8	8	10	10	10	10	56 out of 66	84.9%

Intervention suggestion (in order of % APEASE score)	Number of respondents							APEASE score	
	Relevant to setting	A Affordable	P Practical	E Effective	A Acceptable	S Safe	E Equitable	Total	% score
immediate antibiotic prescribing for acute cough).									
Multi-disciplinary small group learning (for example, including local GPs, nurses, pharmacists, CCG staff) to identify ways to improve implementation of antimicrobial stewardship (AMS) initiatives and share local examples of good practice and actions taken by others as part of AMS.	13 out of 14	10	11	13	12	13	12	71 out of 84	84.5%
Appoint AMS lead GPs in all practices to lead on AMS-related issues, for example, by organising practice meetings about AMS, disseminating information about new guidelines, encouraging peers to implement interventions.	11 out of 11	9	8	9	8	11	10	55 out of 66	83.3%
Audit prescribing of individual prescribers in general practices, to be done by local (CCG) prescribing advisors, practice prescribing or AMS leads or practice pharmacists, and provide individual feedback on	10 out of 11	8	9	10	8	10	10	55 out of 66	83.3%

Intervention suggestion (in order of % APEASE score)	Number of respondents							APEASE score	
	Relevant to setting	A Affordable	P Practical	E Effective	A Acceptable	S Safe	E Equitable	Total	% score
prescribing, identify underlying reasons for high or inappropriate antibiotic prescribing, provide tailored advice and agree individual action plans (for example, individual prescriber's plan to reduce immediate antibiotic prescribing for acute cough).									
Promote or regulate the use of unique prescriber codes to be able to provide individual prescribing feedback.	11 out of 11	9	8	9	8	10	9	53 out of 66	80.3%
Clinical system providers to incorporate interventions (for example, guidelines, leaflets, clinical decision support tools, computer prompts to use delayed or back-up prescriptions, computer prompts to reduce broad-spectrum antibiotics) into all clinical systems nationally and commissioners to ensure that practices activate and are aware of these functions on their clinical system.	10 out of 11	6	9	8	9	10	9	51 out of 66	77.3%
Improve dissemination and awareness of data on local antimicrobial resistance patterns and evidence that links it with	9 out of 11	8	7	6	9	9	9	48 out of 66	72.7%

Intervention suggestion (in order of % APEASE score)	Number of respondents							APEASE score	
	Relevant to setting	A Affordable	P Practical	E Effective	A Acceptable	S Safe	E Equitable	Total	% score
prescribing rates, describing the relation between antibiotic prescribing and antimicrobial resistance (for example, by prescribing advisors communicating this information to practices, together with feedback on AMR and antibiotic prescribing rates as part of regular reviews, audits or training).									
Promote increased use of delayed or back-up prescriptions (instead of immediate prescriptions) by providing online skills training to prescribers. Training to include information on why delayed or back-up prescribing is beneficial, how patients use delayed or back-up prescriptions, and by a practice agreeing on a process to provide delayed or back-up prescriptions.	9 out of 11	8	7	8	8	9	8	48 out of 66	72.7%
Use respected and trusted, national and local experts with relevant professional backgrounds to promote AMS and engagement with under-used AMS	12 out of 14	7	7	9	12	12	9	56 out of 84	66.7%

Intervention suggestion (in order of % APEASE score)	Number of respondents							APEASE score	
	Relevant to setting	A Affordable	P Practical	E Effective	A Acceptable	S Safe	E Equitable	Total	% score
interventions by giving talks and endorsing AMS approaches.									
Agree on a consistent local approach to antibiotic prescribing within an organisation, such as a general practice, out-of-hours, walk-in centre or community pharmacy, for example, by agreeing an AMS-related action plan, a practice protocol on treating certain infections and/or following national or local guidelines.	10 out of 14	10	9	9	9	10	9	56 out of 84	66.6%
Increase staff time available to work on AMS within commissioning teams and standardise the AMS-related roles; for example, all commissioners to have adequate number of prescribing advisors and/or pharmacists to work more closely with practices, OOH and community pharmacies (for example, by auditing prescribing, disseminating information, providing training and advice).	11 out of 14	6	7	10	10	11	10	54 out of 84	64.3%
Provide online AMS training to all patient-facing staff within an organisation	11 out of 14	11	8	6	8	11	9	53 out of 84	63.1%

Intervention suggestion (in order of % APEASE score)	Number of respondents							APEASE score	
	Relevant to setting	A Affordable	P Practical	E Effective	A Acceptable	S Safe	E Equitable	Total	% score
to improve (and minimise variation in) skills to ensure a consistent approach to providing advice to patients and antibiotic prescribing for respiratory tract infections.									
Local prescribing advisors or practice prescribing or AMS leads to encourage GPs to peer review each other's antibiotic prescribing, review uncertain cases regularly and promote discussion on alternative approaches to immediate prescribing (for example, as a task within a practice meeting).	10 out of 11	7	5	6	6	8	7	39 out of 66	59.1%
Make AMS training mandatory (for example, evidence-based training as part of CQC, contracts, targets) if practice prescribing rates reach a certain threshold (for example, top 25% nationally or locally).	9 out of 11	6	6	6	3	8	9	38 out of 66	57.6%
Co-organise national AMS events together with different professional networks (for example, GPs, nurses, pharmacists, OOH staff) to facilitate	10 out of 14	5	7	7	8	10	8	45 out of 84	53.6%

Intervention suggestion (in order of % APEASE score)	Number of respondents							APEASE score	
	Relevant to setting	A Affordable	P Practical	E Effective	A Acceptable	S Safe	E Equitable	Total	% score
multi-disciplinary work and improve dissemination of information about AMS and training to all relevant professional networks.									
Provide diagnostic point-of-care CRP testing, including training in using it, interpreting the results and maintaining the equipment.	11 out of 14	2	4	7	6	11	6	37 out of 84	44.0%
Provide information on opening hours of all local healthcare services for prescribers and patients to know what care is available to patients outside GP hours (for example, as a leaflet, on a practice website) to prevent higher prescribing on Fridays.	5 out of 11	5	6	2	6	5	5	21 out of 66	31.8%

Table K2. Stakeholder ratings of intervention suggestions for out-of-hours

Intervention suggestion	Number of respondents							APEASE score	
	Relevant to setting	A Affordable	P Practical	E Effective	A Acceptable	S Safe	E Equitable	Total	% score
Appoint AMS lead prescriber in all OOH sites to lead on AMS-related issues, for example, by organising meetings about AMS, disseminating information about new guidelines, encouraging peers to implement interventions.	6 out of 6	5	5	5	6	6	6	33 out of 36	91.7%
Develop tools or system to enable audit of prescribing in OOH and provision of personalised feedback and advice.	5 out of 6	4	4	5	5	5	5	28 out of 36	77.8%
Improve induction for new prescribers in OOH to ensure knowledge of local AMS-relevant guidelines (for example, indications for antibiotic prescribing, first-line antibiotics) and organisation-agreed approaches to prescribing antibiotics.	5 out of 6	4	4	5	5	5	5	28 out of 36	77.8%
Promote increased use of delayed or back up prescriptions (instead of immediate prescriptions) by providing online skills training to prescribers. Training to include information on why	5 out of 6	4	4	4	4	5	5	26 out of 36	72.2%

Intervention suggestion	Number of respondents							APEASE score	
	Relevant to setting	A Affordable	P Practical	E Effective	A Acceptable	S Safe	E Equitable	Total	% score
delayed or back-up prescribing is beneficial, how patients use delayed or back up prescriptions, how to discuss delayed or back up prescriptions with patients, and how it can be used in OOH.									
Promote or regulate the use of unique prescriber codes in order to provide individual prescribing feedback.	5 out of 6	4	3	4	4	5	5	25 out of 36	69.4%
Clinical system providers to incorporate interventions (for example, guidelines, leaflets, clinical decision support tools, computer prompts to use delayed or back-up prescriptions, computer prompts to reduce broad-spectrum antibiotics) into all clinical systems nationally and commissioners or providers to ensure these are activated and OOH staff are aware of these functions on their clinical system.	5 out of 6	3	4	4	4	5	5	25 out of 36	69.4%
Make patient information and history available on OOH IT system, and the OOH information available on GP IT	5 out of 6	5	1	4	5	5	5	25 out of 36	69.4%

Intervention suggestion	Number of respondents							APEASE score	
	Relevant to setting	A Affordable	P Practical	E Effective	A Acceptable	S Safe	E Equitable	Total	% score
system for a GP to be able to follow-up afterwards.									
Multi-disciplinary small group learning (for example, including local GPs, nurses, pharmacists, CCG staff) to identify ways to improve implementation of antimicrobial stewardship (AMS) initiatives and share local examples of good practice and actions taken by others as part of AMS.	13 out of 14	7	6	10	8	11	12	54 out of 84	64.3%
Provide online AMS training to all patient-facing staff within an organisation to improve (and minimise variation in) skills to ensure a consistent approach to providing advice to patients and antibiotic prescribing for respiratory tract infections.	12 out of 14	12	8	7	8	11	8	54 out of 84	64.3%
Agree on a consistent local approach to antibiotic prescribing within an organisation, such as a general practice, out-of-hours, walk-in centre or community pharmacy, for example, by agreeing an AMS-related action plan, a	10 out of 14	10	8	9	8	9	10	54 out of 84	64.3%

Intervention suggestion	Number of respondents							APEASE score	
	Relevant to setting	A Affordable	P Practical	E Effective	A Acceptable	S Safe	E Equitable	Total	% score
practice protocol on treating certain infections and/or following national or local guidelines.									
Use respected and trusted, national and local experts with relevant professional backgrounds to promote AMS and engagement with under-used AMS interventions by giving talks and endorsing AMS approaches.	10 out of 14	5	7	8	11	12	10	53 out of 84	63.1%
Increase staff time available to work on AMS within commissioning teams and standardise the AMS-related roles; for example, all commissioners to have adequate number of prescribing advisors and/or pharmacists to work more closely with practices, OOH and community pharmacies (for example, by auditing prescribing, disseminating information, providing training and advice).	10 out of 14	7	7	9	9	10	10	52 out of 84	61.9%
Improve dissemination and awareness of data on local antimicrobial resistance patterns and evidence that links it with	4 out of 6	3	4	3	4	4	4	22 out of 36	61.1%

Intervention suggestion	Number of respondents							APEASE score	
	Relevant to setting	A Affordable	P Practical	E Effective	A Acceptable	S Safe	E Equitable	Total	% score
prescribing rates, describing the relation between antibiotic prescribing and antimicrobial resistance (for example, by prescribing advisors communicating this information to OOH, together with feedback on AMR and antibiotic prescribing rates as part of regular reviews, audits or training).									
Make antibiotic prescribing or infection audit in OOH mandatory.	5 out of 6	3	3	2	3	4	4	22 out of 36	61.1%
Provide diagnostic point-of-care CRP testing, including training in using it, interpreting the results and maintaining the equipment.	11 out of 14	4	6	8	5	11	8	42 out of 84	50.0%
Co-organise national AMS events together with different professional networks (for example, GPs, nurses, pharmacists, OOH staff) to facilitate multi-disciplinary work and improve dissemination of information about AMS and training to all relevant professional networks.	8 out of 14	3	6	6	5	7	7	34 out of 84	40.5%

Table K3. Stakeholder ratings of intervention suggestions for walk-in or urgent care centres

Intervention suggestion	Number of respondents							APEASE score	
	Relevant to setting	**A** Affordable	**P** Practical	**E** Effective	**A** Acceptable	**S** Safe	**E** Equitable	**Total**	**% score**
Agree on a consistent local approach to antibiotic prescribing within an organisation, such as a general practice, out-of-hours, walk-in centre or community pharmacy, for example, by agreeing an AMS-related action plan, a practice protocol on treating certain infections and/or following national or local guidelines.	9 out of 13	9	8	8	8	9	9	51 out of 78	65.4%
Provide online AMS training to all patient-facing staff within an organisation to improve (and minimise variation in) skills to ensure a consistent approach to providing advice to patients and antibiotic prescribing for respiratory tract infections.	11 out of 13	11	7	7	8	9	7	49 out of 78	62.8%
Multi-disciplinary small group learning (for example, including local GPs, nurses, pharmacists, CCG staff) to identify ways to improve implementation of antimicrobial stewardship (AMS) initiatives and share	12 out of 13	7	6	8	7	10	10	48 out of 78	61.5%

Intervention suggestion	Number of respondents							APEASE score	
	Relevant to setting	**A** Affordable	**P** Practical	**E** Effective	**A** Acceptable	**S** Safe	**E** Equitable	**Total**	**% score**
local examples of good practice and actions taken by others as part of AMS.									
Increase staff time available to work on AMS within commissioning teams and standardise the AMS-related roles; for example, all commissioners to have adequate number of prescribing advisors and/or pharmacists to work more closely with practices, OOH and community pharmacies (for example, by auditing prescribing, disseminating information, providing training and advice).	9 out of 13	7	7	7	9	9	9	48 out of 78	61.5%
Use respected and trusted, national and local experts with relevant professional backgrounds to promote AMS and engagement with under-used AMS interventions by giving talks and endorsing AMS approaches.	8 out of 13	3	6	7	9	10	8	43 out of 78	55.1%
Provide diagnostic point-of-care CRP testing, including training in using it,	9 out of 13	3	5	7	6	11	6	38 out of 78	48.7%

Intervention suggestion	Number of respondents							APEASE score	
	Relevant to setting	**A** Affordable	**P** Practical	**E** Effective	**A** Acceptable	**S** Safe	**E** Equitable	**Total**	**% score**
interpreting the results and maintaining the equipment.									
Co-organise national AMS events together with different professional networks (for example, GPs, nurses, pharmacists, OOH staff) to facilitate multi-disciplinary work and improve dissemination of information about AMS and training to all relevant professional networks.	6 out of 13	4	7	4	3	6	6	30 out of 78	38.5%

Table K4. Stakeholder ratings of intervention suggestions for community pharmacy setting

Intervention suggestion	Number of respondents							APEASE score	
	Relevant to setting	**A** Affordable	**P** Practical	**E** Effective	**A** Acceptable	**S** Safe	**E** Equitable	**Total**	**% score**
Provide online AMS training to all patient-facing staff within an organisation to improve (and minimise variation in) skills to ensure a consistent approach to providing advice to patients and antibiotic prescribing for respiratory tract infections.	8 out of 11	8	5	6	6	7	7	39 out of 66	59.1%
Agree on a consistent local approach to antibiotic prescribing within an organisation, such as a general practice, out-of-hours, walk-in centre or community pharmacy, for example, by agreeing an AMS-related action plan, a practice protocol on treating certain infections and/or following national or local guidelines.	8 out of 11	6	6	6	6	7	8	39 out of 66	59.1%
Multi-disciplinary small group learning (for example, including local GPs, nurses, pharmacists, CCG staff) to identify ways to improve implementation of antimicrobial stewardship (AMS) initiatives and share local examples of good practice and actions taken by others as part of AMS.	9 out of 11	6	5	5	5	8	8	37 out of 66	56.1%

Intervention suggestion	Number of respondents							APEASE score	
	Relevant to setting	**A** Affordable	**P** Practical	**E** Effective	**A** Acceptable	**S** Safe	**E** Equitable	**Total**	**% score**
Promote routine interactive use of patient leaflets with patients with self-limiting infections (for example, through training, role models, respected and trusted experts promoting use of leaflets).	2 out of 3	2	2	1	2	2	1	10 out of 18	55.6%
Use respected and trusted, national and local experts with relevant professional backgrounds to promote AMS and engagement with under-used AMS interventions by giving talks and endorsing AMS approaches.	8 out of 11	4	5	6	7	8	6	36 out of 66	54.5%
Increase staff time available to work on AMS within commissioning teams and standardise the AMS-related roles; for example, all commissioners to have adequate number of prescribing advisors and/or pharmacists to work more closely with practices, OOH and community pharmacies (for example, by auditing prescribing, disseminating information, providing training and advice).	7 out of 11	5	5	5	6	7	7	35 out of 66	53.0%
Pharmacy staff to prompt GPs to review long-term and repeat antibiotic	2 out of 3	2	1	1	1	2	2	9 out of 18	50.0%

Intervention suggestion	Number of respondents							APEASE score	
	Relevant to setting	**A** Affordable	**P** Practical	**E** Effective	**A** Acceptable	**S** Safe	**E** Equitable	**Total**	**% score**
prescriptions (for example, for COPD patients).									
Co-organise national AMS events together with different professional networks (for example, GPs, nurses, pharmacists, OOH staff) to facilitate multi-disciplinary work and improve dissemination of information about AMS and training to all relevant professional networks.	7 out of 11	3	6	5	4	7	7	32 out of 66	48.5%
Encourage pharmacists to feedback to GPs where antibiotics were not prescribed according to guidelines (for example, through a checklist for clinical screening, dispensing and handing out antibiotics).	2 out of 3	1	0	2	1	2	2	8 out of 18	44.4%
Promote the use of patient records by pharmacists (for example, by digital prompts) to review whether antibiotics were prescribed appropriately.	2 out of 3	0	1	1	1	1	2	6 out of 18	33.3%
Provide training and resources to structure the way(s) of asking patients the right questions about self-limiting infections and identifying red flags to help decide what to advise patients (for example, whether to	2 out of 3	1	1	1	1	1	1	6 out of 18	33.3%

Intervention suggestion	Number of respondents							APEASE score	
	Relevant to setting	**A** Affordable	**P** Practical	**E** Effective	**A** Acceptable	**S** Safe	**E** Equitable	**Total**	**% score**
give self-help advice or suggest seeing a GP).									
Provide diagnostic point-of-care CRP testing, including training in using it, interpreting the results and maintaining the equipment.	5 out of 11	0	2	3	2	5	3	15 out of 66	22.7%