

# THE LANCET

## Supplementary appendix

This appendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

Supplement to: Hallsworth M, Chadborn T, Sallis A, et al. Provision of social norm feedback to high prescribers of antibiotics in general practice: a pragmatic national randomised controlled trial. *Lancet* 2016; published online Feb 18. [http://dx.doi.org/10.1016/S0140-6736\(16\)00215-4](http://dx.doi.org/10.1016/S0140-6736(16)00215-4).

## Web Appendix

Figure 1: Feedback Intervention: Letter to General Practitioners



[GP\_Name]

[Address 1]

[Address 2], [Address 3]

[Address 4], [Address 5]

29<sup>th</sup> September 2014

**NOTE TO PRACTICE MANAGERS: PLEASE FORWARD IMMEDIATELY TO GP ADDRESSED**

Dear Dr [GP\_Surname]

#### **Antibiotic usage in your practice**

Antimicrobial resistance is a serious and growing threat to our health. Reducing unnecessary prescriptions in primary care may help prevent a public health catastrophe.

**The great majority (80%) of practices in [NHS Area Team] prescribe fewer antibiotics per head than yours.\***

Many practices are already taking action to reduce antibiotic prescriptions while safeguarding patients' health. Please join them by taking three simple actions:

1. Give patients advice on self-care instead – you can use the leaflet enclosed or search online for the "TARGET antibiotics toolkit".
2. Consider offering a back-up (delayed) prescription instead – this could be post-dated or collected by the patient a few days later if still necessary.
3. Talk to other prescribers in your practice to ensure they are also acting – data on prescribing is recorded at practice level.

I know that prescribers are aware of this problem and that prescribing is not a simple issue. But there are small changes we can all make that will have a big effect on everyone's health.


Please join us in reducing antibiotic use.

Yours,

**PROFESSOR DAME SALLY C DAVIES  
CHIEF MEDICAL OFFICER**

\* Your practice's prescribing data are available online. Data were taken from <http://www.hscic.gov.uk/gpprescribingdata> and adjusted to take into account patient load and demographics. The 80% figure excludes outliers judged to be created by measurement error and does not include out-of-hours services. For more information on the consequences of antimicrobial resistance, see the UK 5 Year Antimicrobial Resistance Strategy.

Figure 2: Feedback Intervention: TARGET leaflet sent to General Practitioners



## Treating your infection

**Patient Name**

**Your doctor or nurse recommends that you self-care**  **Back-up antibiotic prescription issued**

Your infection	Usually lasts	How to treat yourself better for these infections, now and next time	When should you get help: Contact your GP practice or contact NHS 111 (England), NHS 24 (Scotland dial 111), or NHS Direct (Wales dial 0845 4647)
<input type="checkbox"/> Middle-ear infection	4 days	<ul style="list-style-type: none"> <li>Have plenty of rest.</li> <li>Drink enough fluids to avoid feeling thirsty.</li> <li>Ask your local pharmacist to recommend medicines to help your symptoms or pain (or both).</li> <li>Fever is a sign the body is fighting the infection and usually gets better by itself in most cases. You can use paracetamol (or ibuprofen) if you or your child are uncomfortable as a result of a fever.</li> <li>Other things you can do suggested by GP or nurse: ..... .....</li> </ul>	<p><b>1. to 8. are possible signs of serious illness and should be assessed urgently. Phone for advice if you are not sure how urgent the symptoms are.</b></p> <ol style="list-style-type: none"> <li>1. If you develop a severe headache and are sick.</li> <li>2. If your skin is very cold or has a strange colour, or you develop an unusual rash.</li> <li>3. If you feel confused or have slurred speech or are very drowsy.</li> <li>4. If you have difficulty breathing. Signs can include:                             <ul style="list-style-type: none"> <li>o breathing quickly</li> <li>o turning blue around the lips and the skin below the mouth</li> <li>o skin between or above the ribs getting sucked or pulled in with every breath.</li> </ul> </li> <li>5. If you develop chest pain.</li> <li>6. If you have difficulty swallowing or are drooling.</li> <li>7. If you cough up blood.</li> <li>8. If you are feeling a lot worse.</li> </ol> <p><b>Less serious signs that can usually wait until the next available GP appointment:</b></p> <ol style="list-style-type: none"> <li>9. If you are not improving by the time given in the 'Usually lasts' column.</li> <li>10. In children with middle-ear infection: if fluid is coming out of their ears or if they have new deafness.</li> <li>11. Other .....</li> </ol>
<input type="checkbox"/> Sore throat	7 days		
<input type="checkbox"/> Common cold	10 days		
<input type="checkbox"/> Sinusitis	18 days		
<input type="checkbox"/> Cough or bronchitis	21 days		
<input type="checkbox"/> Other infection: .....	..... days		

**Back-up antibiotic prescription to be collected after**  **days only if you do not feel better or you feel worse.**

**Collect from:**  **GP reception**    **GP or nurse**    **Pharmacy**

- Colds, most coughs, sinusitis, ear infections, sore throats, and other infections often get better without antibiotics, as your body can usually fight these infections on its own.
- The more we use antibiotics, the greater the chance that bacteria will become resistant to them so that they no longer work on our infections.
- Antibiotics can cause side effects such as rashes, thrush, stomach pains, diarrhoea, reactions to sunlight, other symptoms, or being sick if you drink alcohol with metronidazole.

**Never share antibiotics and always return any unused antibiotics to a pharmacy for safe disposal**

Figure 3: Patient-focused intervention: Poster



Figure 4: Patient-focused intervention: “Keep antibiotics in good health” leaflet



**A fact about antibiotics you may find hard to swallow.**

**If you or your family take them when you don't need them, they're less likely to work when you do. Don't let bacteria build up resistance.**

**Antibiotics don't work for infections like colds and flu. Follow your doctor's advice.**

Your doctor will only prescribe antibiotics to treat:

- conditions that are not especially serious but are unlikely to clear up without the use of antibiotics, such as moderately severe acne
- conditions that are not especially serious but could spread to other people if not promptly treated, such as the skin infection impetigo or the sexually transmitted infection chlamydia
- conditions where evidence suggests that antibiotics could significantly speed up recovery, such as a kidney infection
- conditions that carry a risk of more serious complications, such as cellulitis or pneumonia

**Keep antibiotics in good health**

Figure 5: Patient-focused intervention: “Treating your infection” leaflet



## Treating your infection

Patients Name .....

Your doctor or nurse recommends that you self-care

Back-up antibiotic prescription issued

The table below shows you how long these illnesses normally last, what you can do to ease your symptoms.

Your infection	Usually lasts	How to treat yourself better for these infections, now and next time
<input type="checkbox"/> Middle-ear infection	4 days	• Have plenty of rest.
<input type="checkbox"/> Sore throat	7 days	• Drink enough fluids to avoid feeling thirsty.
<input type="checkbox"/> Common cold	10 days	• Ask your local pharmacist to recommend medicines to help your symptoms or pain (or both).
<input type="checkbox"/> Sinusitis	18 days	
<input type="checkbox"/> Cough or bronchitis	21 days	
<input type="checkbox"/> Other infection		• Fever is a sign the body is fighting the infection and usually gets better by itself in most cases. You can use paracetamol (or ibuprofen) if you or your child are uncomfortable as a result of a fever.  • Other things you can do suggested by GP or nurse:

### When should you get help:

**Contact your GP practice or contact NHS 111 (England). 1. to 8. are possible signs of serious illness and should be assessed urgently. Phone for advice if you are not sure how urgent the symptoms are.**

1. If you develop a severe headache and are sick.
2. If your skin is very cold or has a strange colour, or you develop an unusual rash.
3. If you feel confused or have slurred speech or are very drowsy.
4. If you have difficulty breathing. Signs that suggest breathing problems can include:
  - breathing quickly
  - turning blue around the lips and the skin below the mouth
  - skin between or above the ribs getting sucked or pulled in with every breath.
5. If you develop chest pain.
6. If you have difficulty swallowing or are drooling.
7. If you cough up blood.
8. If you are feeling a lot worse.

**Less serious signs that can usually wait until the next available GP appointment.**

9. If you are not improving by the time given in the 'Usually lasts' column.
10. In children with middle-ear infection: if fluid is coming out of their ears or if they have new deafness.
11. Other

Back-up antibiotic prescription to be collected after ..... days only if you do not feel better or you feel worse.

Collect from:  GP reception  GP or nurse  Pharmacy

- Colds, most coughs, sinusitis, ear infections, sore throats, and other infections often get better without antibiotics, as your body can usually fight these infections on its own.
- The more we use antibiotics, the greater the chance that bacteria will become resistant to them so that they no longer work on our infections.
- Antibiotics can cause side effects such as rashes, thrush, stomach pains, diarrhoea, reactions to sunlight, other symptoms, or being sick if you drink alcohol with metronidazole.

**Never share antibiotics and always return any unused antibiotics to a pharmacy for safe disposal**

Leaflet developed in collaboration with these professional societies.

















Figure 6: Patient-focused intervention: Letter to General Practitioners and practice managers

To GPs and Practice Managers

November 2014

Dear colleagues,

**KEEP ANTIBIOTICS IN GOOD HEALTH – ANTIBIOTICS AWARENESS PILOT CAMPAIGN**

Public Health England is running a pilot campaign to help reduce inappropriate use of antibiotics. This is part of a wider drive to help keep antibiotics effective by slowing the rate of anti-microbial resistance. Primary care practitioners have a very important role to play and we want to support you with this.

The main message of the campaign is:

***“If you or your family take antibiotics when you don’t need them, they’re less likely to work when you do. Don’t let bacteria build up resistance. Follow your doctor’s advice.”***

Please find a campaign briefing sheet on the back of this letter. The following materials are also provided to support consultations with patients:

- A ‘Keep Antibiotics in Good Health’ patient poster
- ‘Keep Antibiotics in Good Health’ patient leaflets for the waiting room
- A ‘Treating your infection’ leaflet, developed by the Royal College of General Practitioners, for GPs to use within consultations for patients who do not require an antibiotic prescription. It includes information on illness duration and advice on self-care and when to re-consult

We need a wide range of health care professionals, including GPs, practice nurses and practice managers, to help make the campaign a success and ask for your support by:

- Making sure all colleagues know about the pilot campaign
- Using the ‘Treating your infection’ leaflet within consultations for patients who do not require an antibiotic prescription

Many thanks for your support.

Best regards

Ian Williams

Health and Wellbeing Directorate

Public Health England

[amrpilot2014@phe.gov.uk](mailto:amrpilot2014@phe.gov.uk)



## **KEEP ANTIBIOTICS IN GOOD HEALTH – PILOT CAMPAIGN BRIEFING SHEET**

### ***Why is a campaign needed?***

It is vital for the future of public health to keep antibiotics effective by reducing inappropriate prescriptions. In order to achieve this, primary health practitioners have a very important role to play.

Recent qualitative research commissioned by Public Health England shows that patients are often unsure about when antibiotics are needed and may expect or ask for them, even if they or their children do not have bacterial infections.

This pilot campaign has two aims:

- to educate the public that antibiotics should only be taken when essential
- to support clinicians with non-prescription of antibiotics when appropriate

### ***What is the key message of the campaign?***

The campaign message to patients is as follows:

*“If you or your family take antibiotics when you don’t need them, they’re less likely to work when you do. Don’t let bacteria build up resistance. Follow your doctor’s advice. Keep antibiotics in good health.”*

### ***What sort of activity does the campaign include?***

This campaign pack contains posters and two leaflet types, which have been developed in consultation with patients to encourage them to consider whether they really do need a prescription of antibiotics. IDS UK will supply materials to your surgery and help display items in the waiting room.

### ***What is the role of practitioners?***

In addition to the posters and patient leaflets, we enclose copies of a ‘patient antibiotic information leaflet’ called ‘Treating your infection’. This was originally developed by the Royal College of General Practitioners for GPs to use in their consultations for patients who do not require an antibiotic prescription. It includes information on illness duration and advice on self-care and when to re-consult. We hope you will find this useful to hand to your patients as appropriate.

For further copies of the original leaflet, please visit:

<http://www.rcgp.org.uk/clinical-and-research/target-antibiotics-toolkit/~media/Files/CIRC/TARGET/October%202014/RCGP-Revised-atb-leaflet-crystal-mark-EAAD-AMR-Letters-pdf.ashx>

Ends.

Table 1: Interventions coded according to Behaviour Change Technique (BCT) Taxonomy Version 1

<b>Intervention</b>	<b>Feature</b>	<b>Coding</b>	<b>Target</b>
<b>Feedback Intervention</b>	“Antimicrobial resistance is a serious and growing threat to our health.”	5.1 Information about health consequences	General Practitioner
	“public health catastrophe”	5.2 Salience of consequences	
	“The great majority (80%) of practices...”	6.2 Social comparison 2.2 Feedback on behaviour	
	“Many practices are already taking action...”	6.2 Social comparison 6.3 Information on others’ approval	
	“three simple actions”	4.1 Instruction on how to perform a behaviour	
	“Talk to other prescribers in your practice”	5.3 Information about social and environmental consequences	
	“Yours Professor Dame Sally C Davies”	9.1 Credible source	
<b>Patient-focused Intervention</b>	All	7.1 Prompt/cue	Patient
	Text at bottom of poster	5.1 Information about health consequences 5.2 Salience of consequences 5.5 Anticipated regret	
	“Follow your doctor’s advice...”	4.1 Instruction on how to perform a behaviour	
	Grey text on leaflet	4. Shaping knowledge (non-specific)	
	NHS Logo	9.1 Credible source	
<b>Prescribing leaflet (present in both interventions)</b>	Patient name	Personalisation	Patient
	All	12.5 Adding objects to the environment	GP/Patient
	Options for self-care and back-up prescribing	8.2 Behaviour substitution	GP/Patient
	How to treat yourself better for these infections now and next time section	4.1 Instruction on how to perform a behaviour	Patient
	When should you get help section	4.1 Instruction on how to perform a behaviour	Patient
	“Never share antibiotics...”	4.1 Instruction on how to perform a behaviour	Patient
	“Your infection usually lasts...”	5.1 Information on health consequences	Patient
	“When should you get	1.4 Action planning	Patient

	help” section		
	Back up prescription section	1.4 Action planning	Patient
	“Your doctor recommends”	6.3 Information on others’ approval	Patient
	Logos	9.1 Credible source	Patient