Supporting appropriate antibiotic prescribing in primary care

Professor Cliodna McNulty
Head, Public Health England Primary Care Unit
My talk:

- The general public’s opinions
- Evidence for different approaches
  - Communication, CRP, Back-up/delayed
- TARGET
- e-Bug
- Antibiotic Guardian
Misconceptions about antibiotics

Which of the following conditions, if any, do you think can be effectively treated by antibiotics? 1,625 respondents Jan 2014

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<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
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<tr>
<td>Bacterial infections</td>
<td>77%</td>
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<td>Viral infections</td>
<td>40%</td>
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<td>Fungal infections</td>
<td>26%</td>
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<td>Anti-inflammatory</td>
<td>17%</td>
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<td>Colds or flu</td>
<td>14%</td>
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<td>Allergic reactions</td>
<td>11%</td>
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<td>Pain</td>
<td>7%</td>
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<td>Hay feaver</td>
<td>4%</td>
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<td>Asthma</td>
<td>4%</td>
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<td>Headaches</td>
<td>4%</td>
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<tr>
<td>Other</td>
<td>1%</td>
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<tr>
<td>Don't know</td>
<td>2%</td>
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<tr>
<td>None of these</td>
<td>3%</td>
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Correct answer? Yes

Lower understanding

Aged 15-24

Social grade C2 or DE
58% had RTI in last 6 months

What did they do?

- 60% took OTC (50%) or alternative medicine (21%) for symptoms
- 37% took extra rest
- 20% Contacted or visited GP surgery
- 6% asked pharmacy for advice
- 1.4% used NHS direct
- 0.4% took left-over antibiotics
- 0% visited NHS walk in centre

1,767 ≥15y in England

McNulty, Nichols, French, Joshi & Butler. British Journal of General Practice, 2013 e429)
### The Patient Perspective: They visited their GP if they were worried

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<thead>
<tr>
<th>Percentage</th>
<th>Reason</th>
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<tr>
<td>51%</td>
<td>Symptoms severe</td>
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<td>47%</td>
<td>Symptoms not improved after several days</td>
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<td>14%</td>
<td>Family or friends suggestion</td>
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<td>11%</td>
<td>Other health problem</td>
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<td>9%</td>
<td>I usually visit GP with these symptoms</td>
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<td>5%</td>
<td>Worried will infect others who may get very ill</td>
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### What did they expect?

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<thead>
<tr>
<th>Percentage</th>
<th>Expectation</th>
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<tr>
<td>53%</td>
<td>Expected antibiotics</td>
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<td>24%</td>
<td>Advice about self-care</td>
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<td>7%</td>
<td>Information about illness duration</td>
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<td>3%</td>
<td>For referral to hospital/specialist</td>
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<td>22%</td>
<td>Other treatment for symptoms</td>
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<td>12%</td>
<td>Rule out more serious illness</td>
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<td>6%</td>
<td>A sick/fit note for work</td>
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<td>3%</td>
<td>For Tamiflu</td>
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93% who asked, got an antibiotic

McNulty, Nichols, French, Joshi & Butler. British Journal of General Practice, 2013 e429)
The Patient Perspective: A 2014 survey showed patients trust GPs and nurses’ advice

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<tr>
<th>Question</th>
<th>Strongly agree</th>
<th>Tend to agree</th>
<th>Neither / nor</th>
<th>Tend to disagree</th>
<th>Strongly disagree</th>
<th>Don’t know</th>
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<tbody>
<tr>
<td>I trust my GP’s advice as to whether I need antibiotics or not</td>
<td>53%</td>
<td>35%</td>
<td>7%</td>
<td>4%</td>
<td>1%</td>
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<tr>
<td>I trust my nurse's advice as to whether I need antibiotics or not</td>
<td>27%</td>
<td>42%</td>
<td>16%</td>
<td>11%</td>
<td>3%</td>
<td>1%</td>
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<tr>
<td>I trust the pharmacist's advice as to whether I need antibiotics or not</td>
<td>25%</td>
<td>41%</td>
<td>16%</td>
<td>13%</td>
<td>4%</td>
<td>1%</td>
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It’s worth sharing information about the need or not for antibiotics in consultations, and self care

McNulty, Butler, et al FIS 2014
Evidence for GP based interventions

Booklet to share with patients
Antibiotic prescription 20% v 40%
Intention to reconsult 55% v 76%

CRP and communication skills
Antibiotics in usual care  68%
communication  33%
CRP  39%
Both  23%
The patient: Back-up / delayed prescribing can reduce antibiotic use & patient expectations

English RCT comparing three treatment strategies for sore throat (n=582)

- Better by day 3
- Satisfied patients
- Think antibiotics are effective
- Would visit GP again for similar symptoms

[Graph showing percentages for each category for the three treatment groups: Given 10 days antibiotic treatment, Given NO antibiotics, Given DELAYED antibiotics]

How can we fit together this evidence and change behaviour during consultation with patients to improve antibiotic prescribing?
Changing antibiotic use

In order for prescribers and patients to change their antibiotic use they need to:

• Be convinced of the importance of antibiotic resistance and how their responsible antibiotic use can contribute to controlling resistance.

• Have the confidence and tools to use antibiotics responsibly.

www.rcgp.org.uk/TARGETantibiotics
TARGET: The TARGET antibiotic toolkit

This toolkit is here to help clinicians and commissioners to use antibiotics responsibility and meet CQC requirements

TARGET Antibiotics toolkit

- Training resources
- Self assessment checklist and audit
- Antibiotic management guidance
- Patient information leaflets
- Resources for clinicians
- External clinical resources

www.rcgp.org.uk/TARGETantibiotics
The TARGET Antibiotics Toolkit

- Includes a range of resources to support prescribers in optimising antibiotic prescribing in primary care
- Hosted on the Royal College of General Practitioners (RCGP) website [www.rcgp.org.uk/targetantibiotics](http://www.rcgp.org.uk/targetantibiotics)
- Developed collaboratively and launched in 2012
- Advocates a whole team approach
Whole team approach

Should we guide and advise?

Or cajole?

www.rcgp.org.uk/TARGETantibiotics
Planning implementation of TARGET

**Step 1:** Analyse current antibiotic prescribing practice at CCG and practice level alongside key indicators and targets

**Step 2:** Develop implementation plan at CCG level & select components of Toolkit.

**Step 4:** Support practices in developing individual action plans

**Step 3:** Visit practices and discuss practice use of Toolkit resources

**Step 5:** Practice and CCG monitoring of antibiotic use and effectiveness review of Toolkit implementation

www.rcgp.org.uk/TARGETantibiotics
TARGET resources: interactive presentation

- One hour presentation – workshop format
- Aimed at all primary care professionals (not just prescribers)
- Local prescribing data
- Based around clinical scenarios
- Action planning

www.rcgp.org.uk/TARGETantibiotics
## TARGET resources: self-assessment checklist

### What would be good practice now

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
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<tr>
<td>Does your practice use antibiotic guidance provided nationally or locally by the microbiologist or commissioners for treatment of common infections?</td>
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<td>Does your practice use delayed prescribing on a regular basis for uncomplicated respiratory tract infections?</td>
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<td>Is the latest antibiotic guidance made available to all temporary prescribers working in your surgery?</td>
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<td>Have you undertaken a practice wide antibiotic audit in the last two years?</td>
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<td>Do your clinicians record clinical indication for antibiotic prescribed in patient notes using read codes?</td>
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### What most practices should aim to do soon

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<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
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<td>Is there a GP within your practice who takes a lead for antibiotic stewardship in the practice?</td>
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<td>Do you analyse and discuss antibiotic prescribing at your surgery in comparison to local targets at least once a year?</td>
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<td>Do you keep a written record and surgery action plan resulting from antibiotic audits?</td>
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### What all antibiotic aware practices should be doing

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<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Does your practice use patient focused strategies to highlight the importance of responsible antibiotic use? For example patient information, leaflets and posters.</td>
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<td>Do your clinicians use patient information leaflets within your consultations?</td>
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<td>Is there a standard approach to antibiotic prescribing to avoid patients re-consulting with other clinicians within the practice, to obtain the antibiotic they expect?</td>
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<td>Have you or anyone in your practice undertaken any antibiotic related prescribing clinical courses, for example MArtI and MUsTs on the RCGP website?</td>
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[www.rcgp.org.uk/TARGETantibiotics](http://www.rcgp.org.uk/TARGETantibiotics)
TARGET: Patient Information Leaflets

All sections can be personalised and added to by the GP

“Usually lasts” section educates patients about when to consult

Safety netting

Back-up prescription

Information about antibiotics & resistance

Read codes: Delayed: 8CAk, Leaflet: 8CE

www.rcgp.org.uk/TARGETantibiotics
The TARGET website has audit templates for:

- Acute otitis media
- Sore Throat
- Acute cough
- Otitis externa
- UTI

www.rcgp.org.uk/TARGETantibiotics
TARGET: Training Resources

www.rcgp.org.uk/TARGETantibiotics/

Managing Acute Respiratory Tract Infections

Managing Urinary Tract Infections

Skin Infections

Stemming the Tide of Antimicrobial Resistance

TARGET toolkit on-line course
For patients: resources for clinical and waiting areas

Posters for display

Videos for patient waiting areas

www.rcgp.org.uk/TARGETantibiotics
What do professionals think about TARGET?

Interactive workshop presentation

“think we felt a little bit more encouraged to drive, to use antibiotics properly” - GP

“Talking about antibiotic resistance and stuff, is stuff that we’ve known about forever really, isn’t it?” - GP

“Focussing on the clinical areas like sore throat, ear infection and UTIs ...generated more interest than looking at the figures” - Stakeholder

www.rcgp.org.uk/TARGETantibiotics
What do professionals think about TARGET?

Treating your infection leaflet

“Actually being able to pass them a piece of paper. Instead of passing them a prescription but it’s something to take away. It’s good. I think it’s helpful because it looks official as well” - GP

“Here’s the problem, it’s not a click away” - GP

“Having hard copies of the leaflets would be a good idea. GPs are so busy & they've got so much going on in their heads, it's only the keen ones that will use it and remember. Having it to hand visually on the desk will help.” - Stakeholder

www.rcgp.org.uk/TARGETantibiotics
What do professionals think about TARGET?

“Surgeries needed to develop a plan. ...If you’re actually going to get the practice to do something there .... was enough time in the one hour allocated to do that.

You were left with the fact that it was raising awareness but not necessarily delivering a plan to reduce antibiotic use.” – Stakeholder 5

www.rcgp.org.uk/TARGETantibiotics
What’s new with TARGET?

New TARGET audits
(Updated UTI audit, acute cough audit, otitis media audit, otitis externa audit (in progress))

New Treating Your Infection leaflets
(For out of hours clinics, for community pharmacies, in 6 new languages)

Updated UTI eModule

New TARGET presentation/workshop format
(Now clinical scenario based, includes local action planning)

Updated National Antibiotic Management Guidance
(UTI, acute cough)

Planned update to the Guide to Resources

www.rcgp.org.uk/TARGETantibiotics
Implementation and adaptation: Southern Derbyshire CCG

- Established Antimicrobial Pharmacist (0.5 FTE) post to develop and implement a programme of work.

- Educational meetings for prescribers; support materials aimed at avoidance of prescribing or using back-up prescribing; improving patients’ knowledge in self-care of minor illnesses; and development of different treatment guidelines for prescribers.

- Education on antibiotics in over 180 primary schools was a novel approach to increase public awareness of the appropriate treatment of common illnesses without antibiotics.

www.rcgp.org.uk/TARGETantibiotics
e-Bug: The free microbe, hygiene and antibiotic resource for teachers and young people
Why educate young people about antibiotics?

- Although younger respondents less likely to consult a doctor: 69% 15-24 yrs vs 82% over 55 yrs.
- More likely to take antibiotics in past year: 46% 15-24 yr olds vs 39% over 55yrs

Special Eurobarometer 338 2010
Education in schools can help break the chain of infection

- Primary mode of illness transmission via contaminated hands
- Hand washing interventions reduce illnesses and absenteeism
- Respiratory transmission important especially during flu season

Master et al. Fam Med 1997;29(5):336-9
How was e-Bug developed
Focus groups with teachers

- MUST link closely to the National Curriculum
- MUST be adaptable
- Important to have IT links
- Cover a range of teaching styles
- Student and teacher friendly
Interviews and focus groups to explore young adults’ and teachers attitudes towards:

- antibiotics,
- antibiotic resistance
- antibiotic use
- vaccinations
### Why 9-11 years & 13-15 year olds?

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<tr>
<th>Student Age (years)</th>
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- **Pre school**
- **Primary**
- **Lower Secondary**
- **Upper Secondary**
- **Compulsory Full Time Education**

### Junior packs

### Senior packs
Draft pack and website activities, and learning outcomes discussed and agreed with teachers and partner countries at face to face meetings
Character development

Amy & Harry

Clothing

Hair styles
Bug development

Good Bugs

- Penicillium
- Lactobacillus

Bad Bugs

- Staphylococcus
- Campylobacter
- Influenza
- Dermatophyte
Pack content
Microbes

Introduction to microbes

- Useful microbes – Yeast race
  - Yogurt making

- Harmful microbes
Spread of infection

Hand hygiene

Senior Cycle of infection,
Grow microbes on agar plates

Respiratory hygiene

How clean are your hands?
Junior hand washing activity with soap and water and glo gel
Spread of infection continued

- Juniors - Food hygiene
- Juniors - Farm hygiene
Antibiotic use

junior schools: Treatment of Infection

Senior schools: Antibiotic resistance activity

It really hurts and I think I’m getting a cough.

Don’t you have any antibiotics at home you can take?
Draw a bacterial cell, circle areas where antibiotics are active.

Use data to plot a graph of % resistance by year, and age.

Peer education balloon activity.
Young adult example

So how do we use e-Bug to teach 15-18 year olds about antibiotics?

- Animations with teacher notes
- Debate kit on antibiotic resistance
- Lesson Plans
- Peer education
Vaccines

Animations of:
The bodies natural defences

Junior schools
Act out story of Jenner

Senior schools: Vaccine card game shows how vaccines can help control outbreaks

Susceptible  Infected  Recovering but still infectious  Immune  Vaccinated
The lessons can be modified for peers and plenty of material is available to use in these lessons including PowerPoint presentations and practical activities.
This is the e-Bug home page
For ages 7-10 year resources you can visit ‘Junior Student’
Junior online resources also have a variety of interactive activities.
For ages 11-15 year resources you can visit ‘Senior Student’
Fact of the Week
More antibiotics are given to animals than humans.

Disease Fact File
Click here to find out how deadly and disgusting microbes can be!

Quiz
Ready to test what you really know about microbes?

Revison Guide
Need to ace those exams? This is the section for you!

Picture of the Week
Helicobacter pylori
Helicobacter have long tails and like to swim around in your stomach all your life, but they can cause painful ulcers.

Downloads
Browse our gallery for images you can download.

Hall of Fame
Find out about legendary scientists and their discoveries.

Home Science
Investigate microbes with some experiments at home.

Hi! Welcome to e-Bug! Navigate through the sections to see what's on offer. Don't forget, the more you do, the more you will find out about the mysterious world of microbes!

What is Ebola?
Ebola (formally known as Ebola haemorrhagic fever) is a severe and often fatal virus in humans. The illness usually affects primates such as monkeys, gorillas and chimpanzees. Ebola is introduced into the human population through close contact with bodily fluids of infected animals including chimpanzees, gorillas, fruit bats and monkeys found in the rainforest.

The death rate is currently 50% in West Africa where the healthcare services are poor and limited.

How do I know I have it: what are the symptoms?
The first symptoms of the Ebola virus are: sudden onset of fever, fatigue, headache and sore throat. The next stages of symptoms are vomiting, diarrhea, rash, severe stomach pain and hiccups, which will follow onto symptoms of impaired kidney and liver function, and in some cases, both internal and external bleeding (e.g. ooze from the gums, bleed in stool). In worst cases, death can occur. The patient only becomes contagious when they start to show symptoms.

How does it spread?
The amount of virus in the body increases as symptoms increase so people are not infectious during the incubation period or when they first develop the virus. In contrast, when a person...
e-Bug partners 2015

Active partner (17)
Translated / no partner (4)
Partial translation/ no partner (3)
No translation / no partner (7)
ECDC partial translation (teacher website only) / no partner (6)
To attain e-Bug aim, of improving antibiotic use in our future generations

We need to reach as many children with the pack & website as we can

To do this we need your help and enthusiasm
Awareness & engagement Campaigns

18th November
EUROPEAN ANTIBIOTIC AWARENESS DAY
A European Health Initiative

ANTIBIOTIC GUARDIAN
UK SUPPORT FOR EUROPEAN ANTIBIOTIC AWARENESS DAY
Developed by Public Health England

Treat Yourself Better with Pharmacist Advice

SELF CARE WEEK

September to March
Find out more about the new joint Pharmacy Voice and PAGB winter campaign.
UK: Moving from awareness to engagement (HCP & public)

Focus on raising awareness over the years.
UK AMR Strategy focus: engagement and changing behaviour
Moving from awareness to engagement (HCP & public)

PHE in collaboration with multi-professional & organisation group developed the Antibiotic Guardian and European Antibiotic Awareness Day resources to provide individuals and organisation a key resource to engage, educate encourage others towards positive behaviour change with regards to antibiotic prescribing, expectation and use.
Calls on everyone in UK to become Antibiotic Guardians –

Behaviour change – ‘if-then’ approach

Antibiotic resistance is one of the biggest threats facing us today.

**Why it is relevant to you:** Without effective antibiotics, many routine treatments will become increasingly dangerous. Setting broken bones, basic operations, even chemotherapy and animal health all rely on access to antibiotics that work.

**What we want you to do:** To slow resistance, we need to cut the unnecessary use of antibiotics. We invite the public, students and educators, farmers, the veterinary and medical communities and professional organisations, to become Antibiotic Guardians.

**Call to action:** Choose one simple pledge about how you’ll make better use of antibiotics and help save these vital medicines from becoming obsolete.

Antibiotic Guardian supports the UK Antimicrobial Resistance strategy, European Antibiotic Awareness Day (18 November) and World Antibiotic Awareness Week (18-22 November).
Video created with TV doctor

Educates on antibiotic resistance; suggests three steps that public can take to help and a call to become an antibiotic guardian. Available for download
RESOURCES TOOLKIT FOR HEALTHCARE PROFESSIONALS IN ENGLAND

All resources and materials are available via http://bit.ly/eaad-resources
Gateway Publication Number: 2014483
EAAD & AG TOOLKIT: Digital for local adaptation
Leaflets, quizzes, crosswords, video & more
SOCIAL MEDIA GRAPHICS

To obtain the images and other messages for use on social media please request for a social media pack by emailing: socialmedia@phe.gov.uk.

They can also be shared from PHE Social media platforms
Twitter: https://twitter.com/PHE_uk   Facebook: www.facebook.com/PublicHealthEngland
BECOME AN ANTIBIOTIC GUARDIAN
CHOOSE YOUR PLEDGE NOW!

I AM A

HEALTHCARE PROFESSIONAL OR LEADER
Select from the list below

MEMBER OF THE PUBLIC
Select from the list below

STUDENT OR EDUCATOR
Select from the list below

One Health approach
Adults, families, pet owners, farmers

SELECT A PLEDGE MESSAGE
Messages will display below
EAAD (18th November) is an international collaboration with World Antibiotic Awareness Week and awareness weeks in USA, Canada & Australia (16-22 November)

USA Get Smart without Antibiotics

Canada Antibiotic Awareness week

Australia Antibiotic Awareness Week
You are invited to become an Antibiotic Guardian today and to ask others to join you (You can do so now via your mobile device)
What can you do now?

• Take a look online and plan a collaborative approach to optimising antibiotic prescribing in your area

• **Use a range of TARGET resources** and if appropriate adapt them to meet local needs

• Become an Antibiotic Guardian - choose a simple action based pledge and encourage others to join

• Encourage use of e-Bug in your schools and

• use the Near–peer e-Bug lesson plan

• Appoint an antibiotic champion

• Tell us what you think!

www.rcgp.org.uk/TARGETantibiotics
In summary

Reducing antibiotic prescribing

- Makes a difference to resistance amongst patients
- Helps to slow future antibiotic resistance
- Helps to reduce future consultations
- Increase patient self-care

www.rcgp.org.uk/TARGETantibiotics
The TARGET Antibiotics Toolkit

Thank you!

www.rcgp.org.uk/TARGETantibiotics
Any Questions?