AMR Awareness
Tools for schools

Promoting antimicrobial awareness to school-age children: A toolkit for local authorities

ANTIBIOTIC GUARDIAN
Keep Antibiotics Working

HANDLE ANTIMICROBIALS WITH CARE

World Antimicrobial resistance Awareness Week

18th – 24th November

UK Health Security Agency

NHS England East of England

How to use this toolkit

This toolkit aims to provide free, quick and ready-to-use resources to support local authorities to coordinate local antimicrobial awareness campaigns for children and young people during World Antimicrobial Awareness Week (WAAW) and beyond. It includes a wide variety of suggestions for engagement with healthcare professionals, educators, children, parents, carers and the public.

What is in the toolkit?

This toolkit provides a range of evidence-based public health interventions reviewed and selected from a range of different sources.

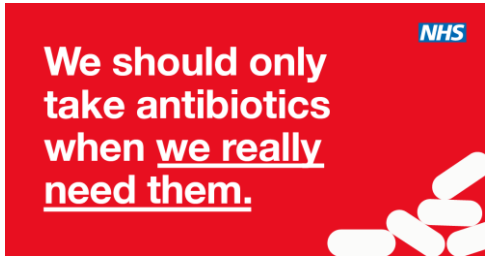
The toolkit focusses on digital messaging to support sustainability, and ease of communication.

Who is the toolkit for?

The toolkit was developed for Local Authority teams in the East of England with a lead for or interest in children and young people's health and wellbeing.

How should the toolkit be used?

Each page contains resources for a specific group who work with Children and Young People (CYP). Each resource can be accessed by clicking on the hyperlink. Local authorities can select a suite of activities from the different resources to promote good health practices and to prevent antimicrobial resistance across a number of community settings.



What sources does the toolkit use?

Sources include e-Bug, UK Health Security Agency (UKHSA) WAAW resources, UKHSA Antibiotic Guardian resources, NHS Health Education for England eLearning for Health, Imperial College London Health Protection Research Unit, the Seriously Campaign, and the UK Paediatric Antimicrobial Stewardship (UK-PAS) network.

Who developed the toolkit?

The toolkit was developed in partnership with East of England teams in NHS England, Integrated Care Boards, Local authorities and UKHSA.

Contents

Introduction to AMR
Tools for educators
Tools for primary school children
Tools for secondary school children
Tools for health care professionals
Tools for parents, carers, the public and community groups
Tools for local authorities
Tools for improving sustainability and addressing inequalities
Antibiotic Guardian Schools Ambassadors toolkit
Videos for children and young adults

Introduction to Antimicrobial Resistance (AMR)

There is a wealth of information available to support AMR awareness campaigns. This toolkit brings together these relevant, free, publicly available resources into one place to support local authorities to promote awareness of AMR to children and young people in their local communities

What is antimicrobial resistance (AMR)?

AMR occurs when microbes, such as bacteria, fungi or viruses, change in a way that makes the drugs used to treat them ineffective. Every time an antibiotic is used, we put pressure on bacteria to evolve and develop antibiotic resistance.

These resistant microbes can then survive, multiply and be passed on to other people and animals meaning that antimicrobial resistant infections can spread rapidly.

Without effective drugs, routine medical procedures, minor injuries and common illnesses can become life-threatening.

10 million people could die every year, by 2050, due to drug resistant infections.

Why is AMR in children important?

Children experience a greater burden from AMR and infections compared with adults. Antibiotic use in children is also high.

Antibiotics are prescribed to children for a range reasons including the perceived vulnerability of children, concern about a rapid change in clinical state, and to mitigate a perceived risk of future hospital admissions and complications

Yet, antibiotic use can have harmful short-term adverse effects, such as vomiting and diarrhoea, as well as long-term effects, including increased risk of atopic dermatitis, allergic symptoms, food allergies, allergic rhinoconjunctivitis, wheeze, asthma, increased weight gain, obesity, juvenile idiopathic arthritis, psoriasis, and neurodevelopment disorders and evidence shows that for some infections, the risk of complications is low and not prevented by prescribing antibiotics.

Reference: Antibiotic exposure and adverse long-term health outcomes in children: A systematic review and meta-analysis – ScienceDirect

What can we do to prevent AMR?

Raising awareness of AMR is important to encourage collective action to help us reduce the associated risks

Every year WAAW takes place from 18 to 24 November and is led globally by the World Health Organization (WHO). It aims to increase awareness of global AMR and to encourage best practices to avoid the further emergence and spread of drug-resistant infections

These campaigns support the aims of the UK 20-year vision for AMR and 5-year national action plan (NAP)

How can we raise awareness of AMR in Children and young people?

The key to raising awareness of AMR in children and young people is through engagement with and participation from local communities, building on local assets to educate and inform people about the global risks of AMR and the prevention and management of infection in children and young people. By working together we can reduce the risk of AMR in children and for future generations

Tools for educators

In building the resilience of future generations, educators can make a positive impact by communicating AMR messages to children and young people. To engage educators there are a number of resources we can encourage educators to use

Training: Encourage educators to Become an e-Bug educator to teach CYP how to prevent the spread of infections and how to use antibiotics responsibly

Letter to schools: Share a letter with school headteachers, introducing WAAW and how they can get involved to raise awareness of AMR.

Newsletter items:

Share a newsletter item to ensure the AMR message is shared across the school.

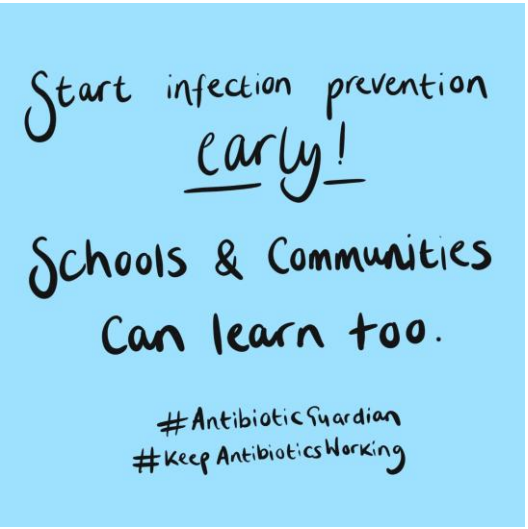
Share resources for parents with schools so they can be added to newsletters or communications

Lesson plans: Encourage schools to use e-Bug resources. e-Bug (operated by the UKHSA) provides lesson plans and resources for school-aged children split into Key Stage 1, Key Stage 2, Key Stage 3, Key Stage 4. These include:

- Instructions and discussion points for the presenter
- Interactive whiteboard sessions
- A range of activities
- Aids for discussion

Vaccination guidance: Ensure that educators have up to date guidance on routine childhood immunisations, flu vaccinations for CYP and the adolescent vaccination programme for secondary schools to share with parents and carers.

Vaccines can help prevent the spread of infections. Fewer infections mean fewer antimicrobials are used – reducing the risk of AMR and drug-resistant infections



Tools for educators and primary school-aged children

Resources can be used to introduce children aged 5-11 years to positive behaviours (such as hand washing, respiratory, and oral hygiene), microbes and the importance of vaccinations to help to prevent infection and reduce the need for antibiotics

Lesson plans

Suggested e-Bug lesson plans designed to complement the National Curriculum. Key Stage 1 and 2

KS1 Introduction to Microbes

KS2 Harmful Microbes

KS2 Antibiotics

KS2 Vaccinations

Activities

Additional e-Bug resources including sports games, experiments, word games, comic strips

Co-production opportunities

Co-production challenges can be run to engage children (see Box 1 for an example suggested by The Antimicrobial Guardian Campaign)

Box 1: Poster co-production for schools

Develop an eye-catching poster to show others how and why they should protect antibiotics.

Young people should be encouraged to focus on one area they feel strongly about:

- Microbes
- Hand Washing
- Respiratory Hygiene
- Spread of infection
- Not using antibiotics for viral infections
- Going to the pharmacy before a GP for colds, coughs and sore throats
- Getting vaccinated to prevent getting ill

How to use the posters:

- Make a display of posters in schools and newsletters.
- Encourage young people to take posters home and present to family
- Send to your local Public Health team, community centre, library pharmacy or hospital to share with others in the community

Tools for educators and secondary school aged children

Resources can be used with children aged 11-16 years to inform them about useful and harmful microbes; hand, respiratory and food hygiene; vaccinations, and antibiotics and the role these play in AMR

Lesson plans

Suggested lesson plans designed to complement the National Curriculum Key Stage 3 and 4

KS3 Antimicrobial Resistance

KS4 Antimicrobial Resistance

KS3 Vaccinations

KS4 Vaccinations

Activities

Additional eBug resources includes sports games, experiments, word games, comic strips

Quizzes and crosswords

Debate kits (with teacher instructions) on antibiotic resistance and vaccinations

Seriously AMR Education Campaign includes comic strips, word searches and board games

Training events

Antibiotic Guardian Schools Ambassador Toolkit use to connect with local schools and promote a toolkit of lesson resources.

Antibiotic Guardian Youth Badge (e-bug.eu) to engage young people on antibiotic resistance and motivate them to keep antibiotics working through reducing infections and using antibiotics responsibly.

Tools for educators and secondary school aged children

Resources can be used as part of sex education lessons for young people to highlight the implications of drug-resistant sexually transmitted infections (STIs).

Target groups

Young people aged 15 to 24 years old experience the highest diagnosis rates of the most common STIs.

Young women are more likely to be diagnosed with an STI than young men.

Lesson plans

Suggested lesson plans designed to complement the National Curriculum Key Stage 3 and 4

KS3 Sexually Transmitted Infections

KS4 Sexually Transmitted Infections

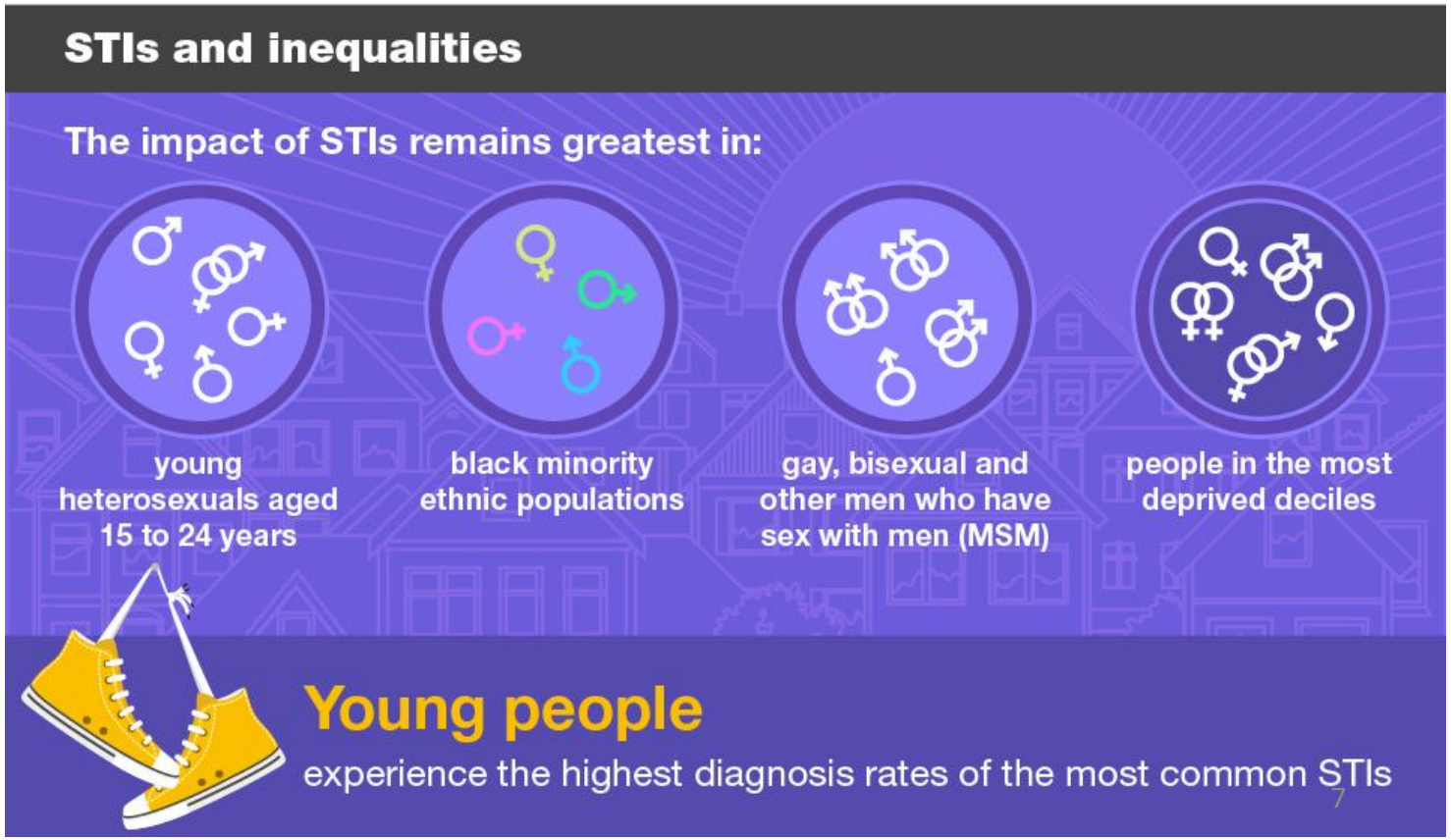
Communicable disease – BBC bitesize

Activities

#NotInOurLifetime includes films to watch focussed on AMR and the link to sexually transmitted infections

Further information

Health Matters: Preventing STIs



Tools for health care professionals working with CYP

By working in partnership with health care professionals we can prevent serious infections and AMR through promoting control measures, encouraging the uptake of vaccinations, and reducing inappropriate antibiotic use

Raise awareness of current guidance

To avoid inappropriate antibiotic prescribing, UKHSA recommend that healthcare professionals:

- Follow current NICE guidance - Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use
- Explain to patients that antibiotics do not prevent or treat viral infections, that antibiotics can cause side-effects, and that their use can increase the risk of spreading infections that are caused by bacteria resistant to antibiotics
- Encourage patients to return unused medicines to a pharmacy, not to share or keep unused medicines
- Consider the use of solid dosage forms when prescribing antibiotics for children: Using solid oral dosage form antibiotics in children – SPS - Specialist Pharmacy Service – The first stop for professional medicines advice

UK Paediatric Antimicrobial Stewardship

Encourage HCPs to Join a professional Network such as the UK Paediatric Antimicrobial Stewardship

Encourage HCPs to complete training

TARGET tools to train prescribers: TARGET antibiotic toolkit training resources | RCGP Learning

Learning resources for prescribers: Webinars | RCGP Learning

To improve their ability to teach CYP

Health Educator Training

e-Bug Educator Training

To help HCPs to understand the threats and management of antimicrobial resistance

Antimicrobial-Resistance and Infection Programme

Tools for parents, carers, the public and community groups

The outcome of AMR awareness campaigns with children and young people can be strengthened with the active engagement of the public, and in particular parents and carers.

Share guidance on tablet swallowing:

Swallowing tablets is preferable to IV antibiotics to reduce AMR and can be taught to children aged 4yrs+

Teaching your child to swallow tablets: Healthier Together

Helping your child to swallow tablets – Medicines For Children

Share guidance on managing infections:

Share this caring for children with cough leaflet as many coughs and respiratory tract infections do not respond to antibiotics

General guidance on antibiotics and AMR:

General advice about antibiotics leaflet

Antimicrobial Resistance - what can I do as a parent

Box 2: WAAW daily themes

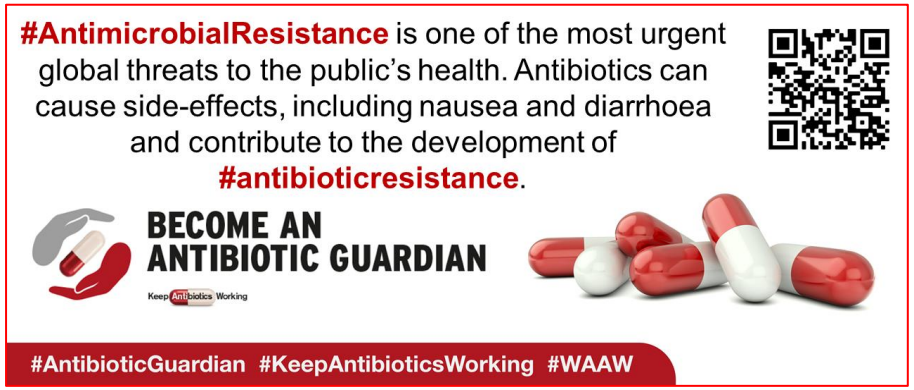
Day 1: 'Prevention' theme (including infection prevention and vaccination).

Day 2: 'Antimicrobials in clinical practice' and engagement with patients and the public.

Day 3: 'Optimising diagnostics'

Day 4: 'Tackling health inequalities'

Day 5: 'One Health and research'



Daily themes:

WAAW has one theme per day (see Box 2). Resources for the daily themes can be used for media communications each day

Media messaging resources:

Infographics

Twitter / X posts

Social media posts

Digital sticky notes for social media

Tips for working with your local comms teams

Tools for local authority workforce

AMR is an issue that can affect everyone. Additional resources are available to raise awareness among adult populations groups and those working in local authorities

Vaccines can also help prevent the spread of infections. Fewer infections mean fewer antimicrobials are used – therefore reducing the risk of antimicrobial resistance and drug-resistant infections. It is important to ensure that awareness campaigns include immunisation awareness information

Additional AMR toolkits and guidance

World Antimicrobial Resistance Awareness Week (WAAW) and European Antibiotic Awareness Day (EAAD) - GOV.UK

Dental antimicrobial stewardship: toolkit - GOV.UK

Vaccination guidance and resources

Adolescent vaccination programme: briefing for secondary schools 2024 to 2025 - GOV.UK

Flu vaccination in schools - GOV.UK

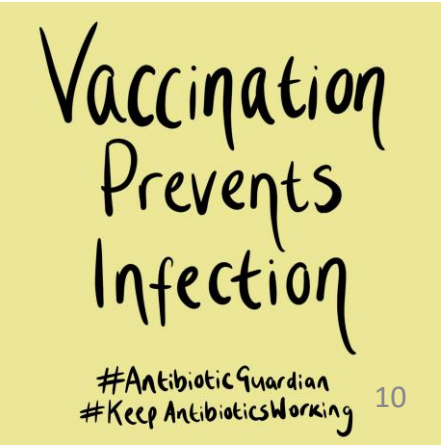
Childhood Immunisations Campaign Resource Centre - GOV.UK

Digital sticky note to use social media comms

Training for LA workforce

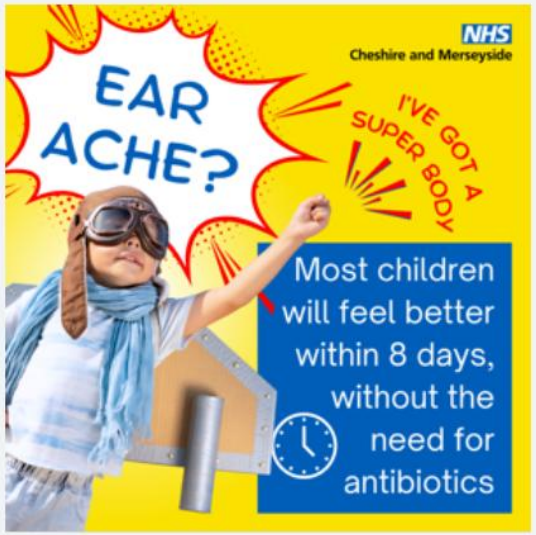
Beat the Bugs is a six-week community hygiene course aiming to equip people with information to keep themselves and others healthy by preventing the spread of infection and learning about treating infection

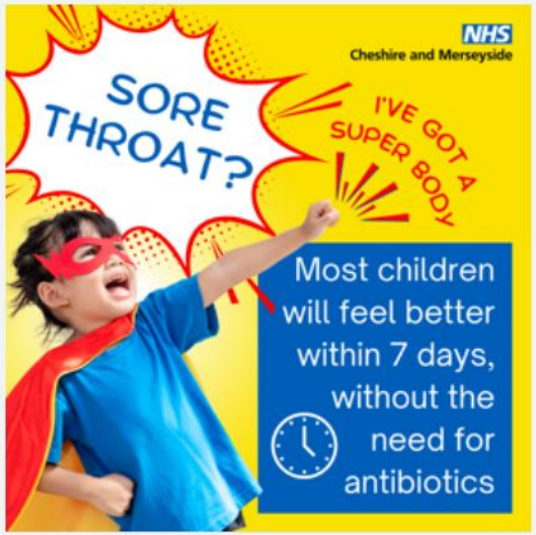
NHSE elfh Hub Antimicrobial Resistance Training Programme and Toolkit (free access but requires sign in)



Resources from local authority WAAW campaigns

WAAW is marked across the country. Here are some examples of good practice from local authority campaigns in different regions that can be adapted locally





[Web resource and posters - NHS Cheshire and Merseyside]

[Your Gut Friends Poster -Hampshire and Isle of Wight ICB]

[YouTube video - Portsmouth Hospital University]

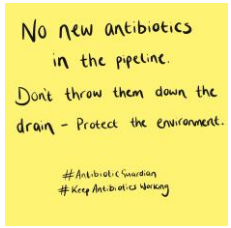
Tools for improving sustainability and addressing inequalities

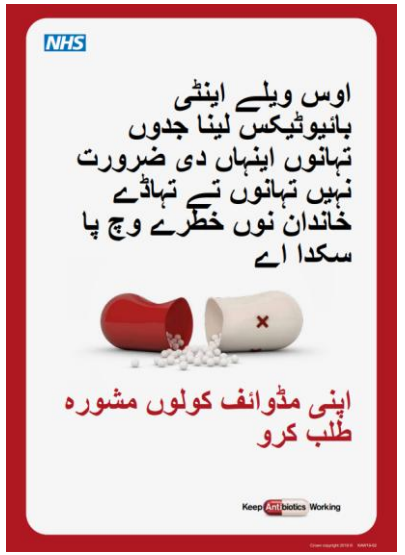
Improving sustainability and addressing health disparities and inequalities are two of the cross-cutting themes underpinning all 5 days of the WAAW campaign

Ways to help reduce environmental contamination:

The incorrect disposal of antimicrobials can have an adverse effect on the environment if they get into the ecosystem. Ways to help include:

- Raise awareness of the environmental effects of not disposing of antimicrobials safely
- Encourage individuals to return unused antimicrobials to a pharmacy for safe disposal and not to flush antimicrobials down the toilet
- Run a local antibiotic amnesty campaign
- Use Antibiotic Amnesty Resources
- Use AMR and environmental sustainability resources





Ways to help improve the sustainability of an AMR campaign

Try to reduce the environmental impact of the campaign by

- Going paperless
- Only using digital resources
- Conducting virtual webinars and meetings

Ways to address inequalities

Healthcare professionals, including those in the pharmacy profession, are ideally placed in community and hospital settings to raise awareness of how inequalities impact infection management and resistance rates (e.g., using standardised blood culture pathways), as well as advocating for equity of access in Core20PLUS5 populations

Use the WAAW key messages to reach out to certain populations and vulnerable groups to provide information that is clear and concise and can encourage conversations and raise awareness of AMR

Use the leaflets, poster and social media resources that have been translated into 12 languages to engage with different community groups

Use e-Bug Translated lesson plans

Antibiotic Guardian Schools Ambassadors toolkit

ANTIBIOTIC GUARDIAN
Keep Antibiotics Working

Through the Antibiotic Guardian Schools Ambassadors programme, public health and healthcare professionals, vets, vet nurses and scientists are invited to connect with local schools and community groups.

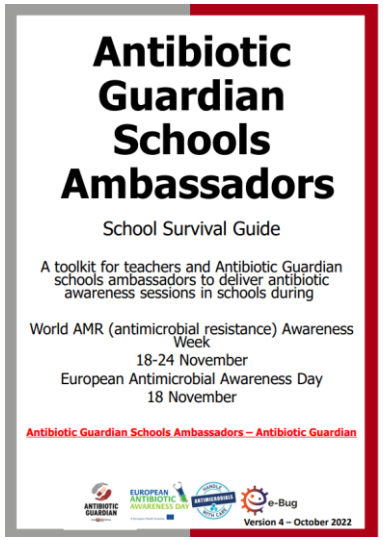
Ambassadors are encouraged to provide a teaching session, promote a toolkit of lesson planning resources, and/or provide an article on important public health topics such as microbes, hygiene, infection prevention and antibiotics for schools to include in their newsletter.

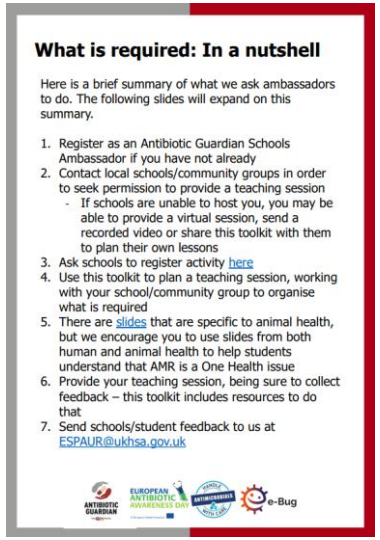
The toolkit and newsletter item resources will be provided automatically to those that register to become an AG Schools Ambassador. Further information on the programme and registration is available on the Antibiotic Guardian Schools Ambassadors: registration and feedback page.

Send schools/student feedback to us at ESPAUR@ukhsa.gov.uk

How will this benefit your local school/community?

- Improve hygiene and subsequent illness in schools/communities
- Use evidence-based resources linked to the English National Curriculum
- Receive expert advice and experience on important public health topics
- Support application for Healthy Schools status
- Raise awareness of the importance of responsible use of antibiotics in animals





Videos for children and young adults

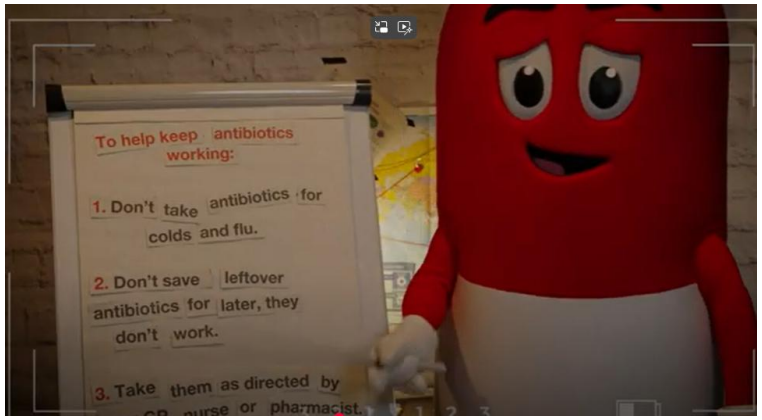
ANTIBIOTIC GUARDIAN
Keep Antibiotics Working

Antibiotic song [Keep Antibiotics Working 2018]

Keep Antibiotics Working

The Keep Antibiotics Working campaign offers a suite of digital, print and social assets to help raise awareness of the correct and incorrect ways to use antibiotics, supporting people to take antibiotics correctly, keep antibiotics working, and tackle antimicrobial resistance (AMR).

[Keep Antibiotics Working | Campaigns | Campaign Resource Centre]



https://youtu.be/UN_6kgjiNv0

https://youtu.be/YzrRpbURCyg

https://youtu.be/IZkJJtmn0p0

Developed in partnership across the East of England

Version 2 Published September 2025

For more information, please contact
caroline.wright2@dhsc.gov.uk naomifleming@nhs.net

UK Health Security Agency

Author: Caroline Wright

Infographic acknowledgements: University of Oxford in collaboration with the National Institute for Health and Care Research (NIHR) and families with children. UKHSA and NHS England Antimicrobial Guardian Campaign

NHS England East of England