



Antibiotic Awareness Key Messages

World Antibiotic Awareness Week
European Antibiotic Awareness Day
Antibiotic Guardian

Tackling antimicrobial resistance



About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. We do this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health, and are a distinct delivery organisation with operational autonomy to advise and support government, local authorities and the NHS in a professionally independent manner.

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Published October 2016
PHE publications gateway number: 2016408

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Key messages

General

- Antibiotics are essential medicines for treating bacterial infections in both humans and animals
- Antibiotics are losing their effectiveness at an increasing rate
- Bacteria can adapt and find ways to survive the effects of an antibiotic. They become 'antibiotic resistant' so that the antibiotic no longer works. The more you use an antibiotic, the more bacteria become resistant to it
- Antibiotics should be taken as prescribed, never saved for later or shared with others; it is important we use antibiotics in the right way, the right drug, at the right dose, at the right time for the right duration. Appropriate use of antibiotics will slow down the development of antibiotic resistance
- There are very few new antibiotics in the development pipeline, which is why it is important we use our existing antibiotics wisely and make sure these life-saving medicines continue to stay effective for us, our children and grandchildren
- The independent review of antimicrobial resistance, the AMR Review¹ commissioned by the Government in 2014 and chaired by Lord Jim O'Neill, in its analysis of the global issue estimated that a failure to address the problem of antibiotic resistance could result in:
 - ❑ an estimated 10 million deaths globally by 2050
 - ❑ a cost of £66trillion (\$100trillion) to the global economy

- **GLOBAL** A failure to address the problem of antibiotic resistance could result in:



10m
deaths
by 2050

Costing
£66
trillion

- Many antibiotics are prescribed and used for mild infections when they don't need to be. All colds and most coughs, sinusitis, otitis media (earache) and sore throats get better without antibiotics

¹ AMR Review. <http://amr-review.org/Publications>

- Community pharmacists are well placed to help provide advice on over the counter medicines to treat symptoms and help with self-care
- Individuals (the public, healthcare professionals, educators and leaders) can take action by choosing a pledge and becoming an Antibiotic Guardian



Strategy

- Antibiotic resistance is a complex global public health issue. An integrated cross-sector One Health approach (human, animal and environment) across national, European and international levels is required to combat the spread of antibiotic resistance
- The Department of Health published the **UK Five-Year Antimicrobial Resistance Strategy (AMR)** in 2013. The overarching goal is to slow the development and spread of AMR by: improving the knowledge and understanding of AMR; conservation and stewardship of the effectiveness of existing treatments; stimulating the development of new antibiotics, diagnostics and novel therapies
- The concerns around the impact of AMR led to AMR being added to the UK National Risk Register of Civil Emergencies in 2015²
- The UK supports the **WHO Global Action Plan on AMR** which aims to ensure, for as long as possible, continuity of successful treatment and prevention of infectious diseases with effective and safe medicines that are quality-assured, used in a responsible way, and accessible to all who need them.
- The independent AMR review³ commissioned by the Government published its final recommendations in May 2016
- The review, which discusses the mounting problem of resistance and why action is required to combat it, provides an overview of solutions that could be implemented to curtail unnecessary use and increase the supply of new antimicrobials. It highlights the need for public awareness campaigns and the need to improve sanitation and hygiene, reduce pollution from agriculture and the environment, improve global surveillance, introduce rapid diagnostics and vaccines and the need to increase the number of specialists working in the area

² Cabinet Office. 2015. National Risk Register of Civil Emergencies
<https://www.gov.uk/government/publications/national-risk-register-for-civil-emergencies-2015-edition/national-risk-register-of-civil-emergencies-chapter-1-main-types-of-civil-emergency>

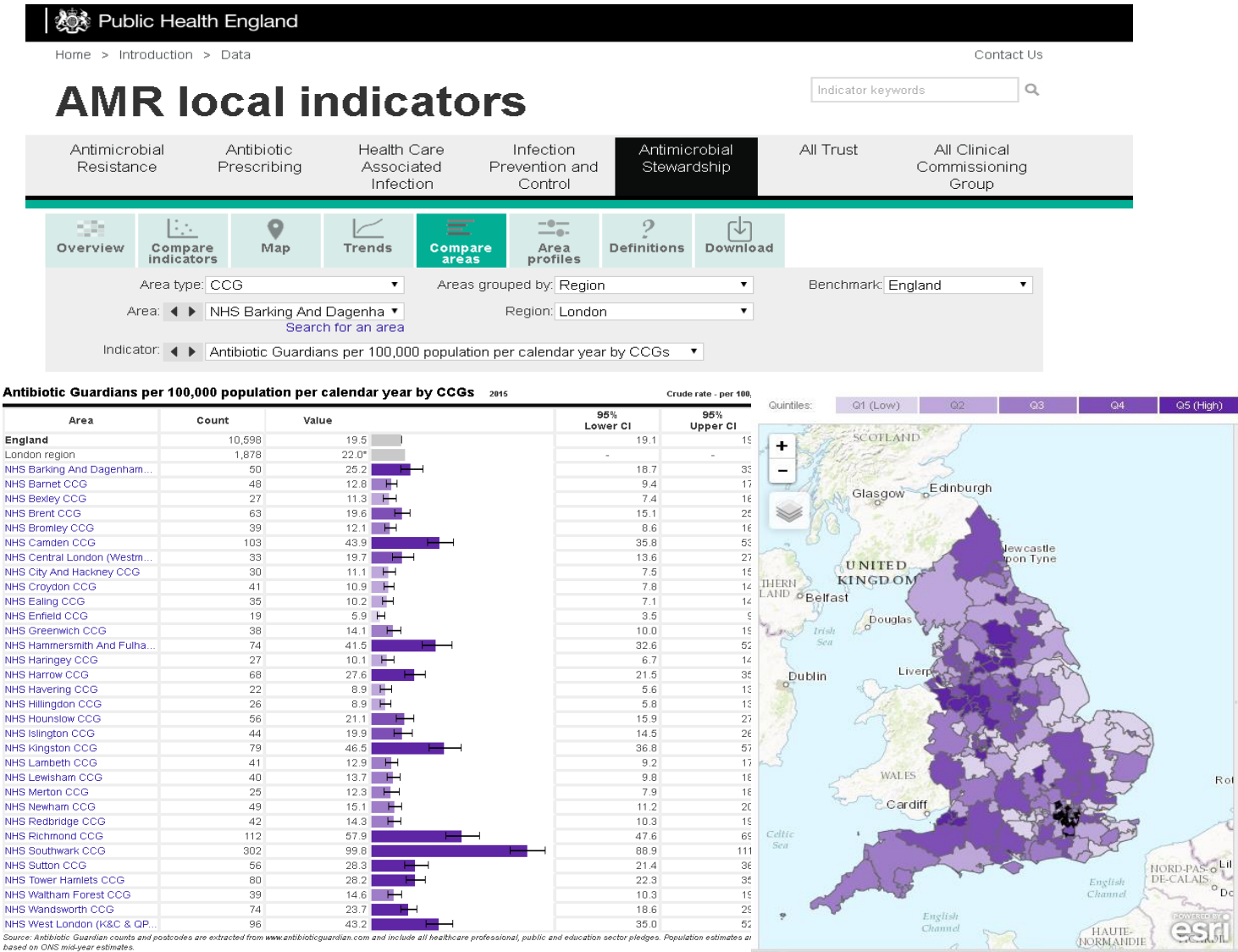
³ <http://amr-review.org/Publications>

Reports and tools

- PHE is responsible for coordinating the antimicrobial awareness activities in England and is working with Department of Health's Expert Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infections (ARHAI); the Veterinary Medicines Directorate (VMD) of the Department for Environment Food and Rural Affairs (Defra), the devolved administrations and professional bodies/organisations towards the "One Health"⁴ initiative
- The AMR resource handbook identifies current national policy, guidance and supporting materials in relation to the infection prevention and control of healthcare associated infections (HCAI) and antimicrobial stewardship in order to aid in the reduction of antimicrobial resistance. It is designed to assist local health and social care professionals in quickly retrieving relevant information provided by Public Health England, the Department of Health and a wide variety of key stakeholders
- In 2014, the **first report of the English Surveillance Programme for Antimicrobial Utilisation and Resistance (ESPAUR)** led by PHE brought together for the first time, national and regional surveillance of antibiotic resistance and antibiotic use trends in humans; the ESPAUR report is published yearly during World Antibiotic Awareness Week
- National Institute for Health and Care Excellence (NICE) guidance (NG15): Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use <https://www.nice.org.uk/guidance/ng15> provides good practice recommendations on systems and processes for effective use of antimicrobials
- The Royal College of General Practitioners hosts a **web-based TARGET antibiotics toolkit** which includes a patient information leaflet to assist primary care prescribers and aims to help influence prescribers' and patients' personal attitudes, social norms and perceived barriers to optimal antibiotic prescribing
- A dental antimicrobial stewardship toolkit has been developed by the Dental Subgroup of the English Surveillance Programme for Antimicrobial Utilisation and Resistance (ESPAUR) in collaboration with Faculty of General Dental Practice (FGDP) and British Dental Association (BDA)
- Antimicrobial Resistance Indicators: indicators on antimicrobial resistance, antibiotic prescribing, healthcare associated infections (HCAs), infection prevention and control (IPC) and antimicrobial stewardship are now available as part of the PHE Fingertips portal. The data can be used for local benchmarking and developing local AMR plans

There are variety of **resources for use and local adaptation** aimed at the public and healthcare professionals.

⁴ One Health is the collaborative effort of multiple disciplines — working locally, nationally, and globally — to attain optimal **health** for people, animals and the environment.



One Health⁵

- The **One Health Report** published in 2014 brought together the most recently available UK data from 2013, on antibiotic resistance in key bacteria that are common to animals and humans; it also included detail on the amount of antibiotics sold for animal health and welfare and antibiotics prescribed to humans
- The integrated **‘One Health’ approach** strategy includes surveillance of antibiotic resistant infections, promoting responsible prescribing and use of antibiotics, and good infection control measures to prevent their spread in both humans and animals

⁵ One Health is the collaborative effort of multiple disciplines — working locally, nationally, and globally — to attain optimal **health** for people, animals and the environment.

Antibiotic awareness campaigns

- The theme of the WAAW campaign, Antibiotics: Handle with Care, reflects the overarching message that antibiotics are a precious resource and should be preserved. They should be used to treat bacterial infections, only when prescribed by a certified health professional. Antibiotics should never be shared and should be taken as directed and not saved for the future
- European Antibiotic Awareness Day (EAAD) was initiated by the European Centre for Disease Prevention and Control (ECDC) in 2008 and is held on 18 November every year aiming to raise awareness on how to use antibiotics in a responsible way that will help keep them effective for the future
- As part of UK activities for antimicrobial awareness, and in support of the **UK 5-year AMR strategy**, PHE developed the **Antibiotic Guardian campaign**⁶ in 2014 as an ongoing resource to move from raising awareness to engagement and to stimulate behaviour change
- The Antibiotic Guardian campaign acts as a driver to increase engagement and provide an outcome measure. A pledge system will help people feel that they have taken concrete personal and collective action to help keep antibiotics active. This may in turn act as a catalyst for behaviour change that is measured through follow up
- The impact/evaluation study of the Antibiotic Guardian campaign demonstrated that the campaign increased commitment to tackling AMR in both healthcare professionals and members of the public, increased self-reported knowledge and changed self-reported behaviour particularly among people with prior AMR awareness⁷
- PHE developed a **public facing video with a presenter** highlighting the antibiotic resistance issue with a call to action to become antibiotic guardians through three key steps:
 - step 1: don't ask for antibiotics, consider alternatives to antibiotics and to ask a pharmacist about over the counter remedies that can help in the first instance.
 - step 2: take antibiotics exactly as prescribed, never save them for future use, never share them with others
 - step 3: to spread the word and share the video
- **Veterinary Medicines Directorate, Defra and a number of veterinary bodies** are raising awareness of these campaigns through various activities to further

⁶ <http://antibioticguardian.com>

⁷ Chaintarali et al Impact of a United Kingdom-wide campaign to tackle antimicrobial resistance on self-reported knowledge and behaviour change *BMC Public Health*. 2016 May 12;16:393
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4866421/>

promote responsible use of antibiotics by veterinarians, farmers and pet owners (animal keepers)

- PHE has published a range of materials on its website for use and local adaptation to help support EAAD activities and initiatives⁸

⁸<https://www.gov.uk/government/publications/european-antibiotic-awareness-day-key-messages-on-antibiotic-use>

Additional messages

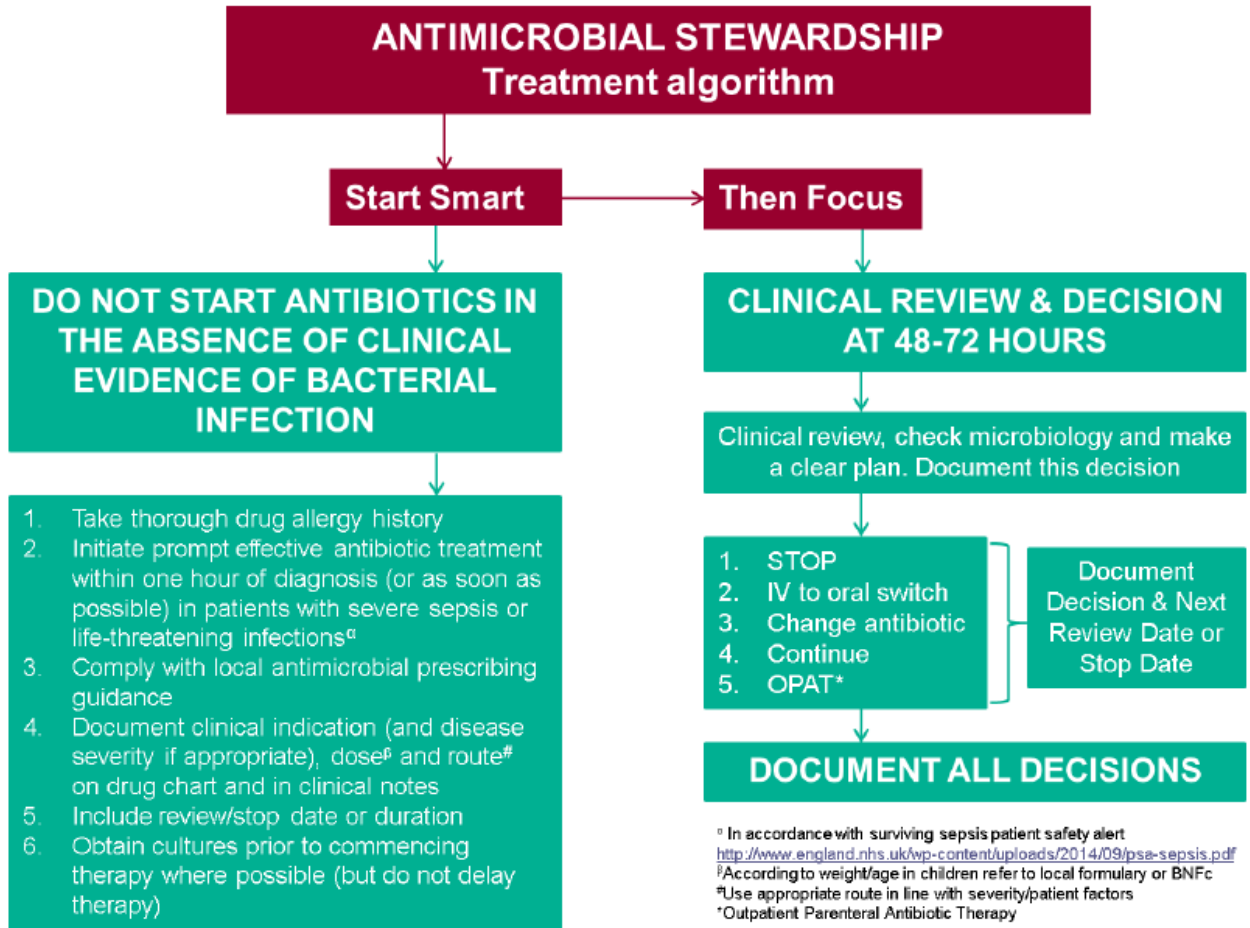
The table below is an excerpt of the TARGET Antibiotic Toolkit “Guide to treat your infection” and shows you how long these common illnesses normally last, what you can do to ease your symptoms and when you should go back to your GP or contact NHS Direct

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"> • Have plenty of rest. • Drink enough fluids to avoid feeling thirsty. • Ask your local pharmacist to recommend medicines to help your symptoms or pain (or both). • 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 is uncomfortable as a result of a fever. • Other things you can do suggested by GP or nurse. <p>.....</p> <p>.....</p>	<p>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.</p> <ol style="list-style-type: none"> 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 can include: <ul style="list-style-type: none"> o breathing quickly o turning blue around the lips and the skin below the mouth o 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 <p>Less serious signs that can usually wait until the next available GP appointment</p> <ol style="list-style-type: none"> 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 <p>.....</p> <p>.....</p>
<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		

⁹ <http://www.rcgp.org.uk/clinical-and-research/target-antibiotics-toolkit/patient-information-leaflets.aspx>

Antimicrobial stewardship in secondary care:

A Start Smart – then Focus approach is recommended for all antibiotic prescriptions in secondary care



Everyone has a role in tackling antimicrobial resistance



Patients

- Antibiotic resistance is a threat to your health
- Good hygiene is essential in reducing the risk of spread of infections and is especially important in households with individuals who have chronic illnesses
- Antibiotics do not work for ALL colds, or for most coughs, sore throats or earache. 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 are important medicines and should only be taken when prescribed by a health professional
- When antibiotics are prescribed by a health professional it is important that you always take them as directed
- Antibiotics can have side effects as they upset the natural balance of bacteria potentially resulting in diarrhoea and/or thrush. The use of inappropriate antibiotics may also allow other more harmful bacteria to increase. Antibiotics also cause other side effects such as rashes, stomach pains and reactions to sunlight
- Antibiotic resistant bacteria don't just affect you, they can spread to other people (and animals) in close contact with you and are very difficult to treat

Animal keepers/pet owners

- Animal keepers and pet owners: bacteria, including those carrying antibiotic resistance, can be transferred between animals and humans and vice versa, therefore it is important to practice good hygiene to minimise this
- Farmers and livestock keepers: Prevent diseases by implementing good herd or flock health and bio-security practices, good nutrition, hygiene and animal welfare
- Follow the advice given by your vet and use any antibiotics prescribed by your vet in accordance with their labelling instructions. Complete the full course prescribed and observe any withdrawal period
- Your vet may not necessarily prescribe newer antibiotics available as older classes of these medicines may be just as effective in treating your animal(s) and may reduce the development of resistance

Prescribers

- Use antibiotics responsibly, when antibiotic treatment is needed, the antibiotic should be tailored for the patient, the likely site of infection and causative organism
- Patients receiving antibiotics should receive the right drug, at the right dose, at the right time and the right duration for the individual
- It is important that antimicrobial therapy is administered within one hour of recognition of severe sepsis or septic shock
- Unnecessary lengthy duration of antibiotic treatment and inappropriate use of broad-spectrum antibiotics should be avoided
- Primary care prescribers continue to be encouraged to only prescribe antibiotics when they are needed for bacterial infections, and not for self-limiting mild infections such as colds and most coughs, sinusitis, earache and sore throats
- Communication is key. Studies show that patients are less likely to ask their GP for antibiotics if advised what to expect in the course of an illness and given a self-care plan. Discussing information on the guide to infection leaflet can facilitate this
- Consider backup/delayed prescriptions when appropriate
- Promote good infection prevention and control measures to reduce cross infection; proactively reducing the number of infections can in turn reduce the frequency of antibiotic prescriptions and have a positive impact on reducing antibiotic resistance
- Specific guidance for professionals is available in our '*Start Smart then Focus*' guidance. This aims to promote best practice on prescribing antibiotics in hospitals and is available at:
<https://www.gov.uk/government/publications/antimicrobial-stewardship-start-smart-then-focus>
- GPs are also encouraged to focus on antimicrobial stewardship and are assisted through an antibiotic toolkit '*TARGET*' (Treat Antibiotics Responsibly, Guidance, Education, Tools,) which is hosted on the Royal College of General Practitioners website at: <http://www.rcgp.org.uk/targetantibiotics/>

Dental prescribers

- Clinical intervention should normally be used to manage dental infections rather than the prescription of antibiotics. Antibiotics on their own are ineffective in eradicating infection and pain and dental treatment is normally required to remove the cause.
- Dental pain should be managed by definitive management of the cause and where appropriate the use of analgesics.
- It is important to discuss with patients the diagnosis and options for management of dental pain.
- A dental antimicrobial stewardship toolkit has been developed by the Dental Subgroup of the English Surveillance Programme for Antimicrobial Utilisation and Resistance (ESPAUR) in collaboration with Faculty of General Dental Practice (FGDP) and British Dental Association (BDA) and Dental Protection.

Veterinary prescribers

- Wherever possible use antibiotics at an early stage, when clinical signs of bacterial disease are first diagnosed and become evident
- Use a narrow spectrum antibiotics wherever possible
- The product's Summary of Product Characteristics (SPC) or product literature instructions and contra-indications must be clearly understood and taken into account. especially when deciding on the dosage and duration of treatment. Do follow the storage advice
- Emphasise to clients the need to follow the antibiotic product's labelling instructions
- Perform antibiotic sensitivity testing on causal bacteria against the antibiotics of choice where possible and particularly prior to treatment with broad spectrum and/or antibiotics considered critically important
- If a treatment does not appear to work, perform further diagnostic tests and report the treatment failure using a yellow form (available from: www.vmd.defra.gov.uk), as a Suspected Lack of Efficacy to the VMD. This is a valuable tool for veterinarians to be part of an alert system to bring an emerging resistance problem to the attention of interested parties