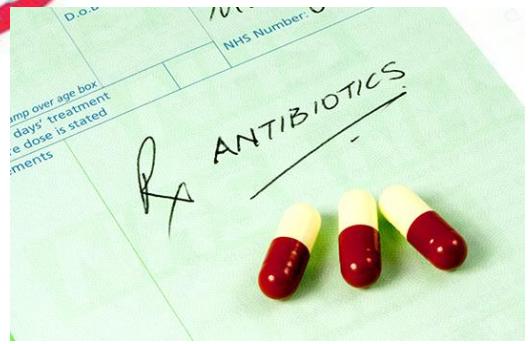
NHS
Lancashire and South Cumbria
Integrated Care Board

Bitesize Education and Training Session 1

Antimicrobial Stewardship

19th December 2023



Speakers: Kate Ward, Medicines Optimisation Pharmacist, Lancashire & South Cumbria ICB
Suzanne Penrose, Medicines Optimisation Pharmacist, Midlands & Lancashire CSU

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Welcome & Housekeeping

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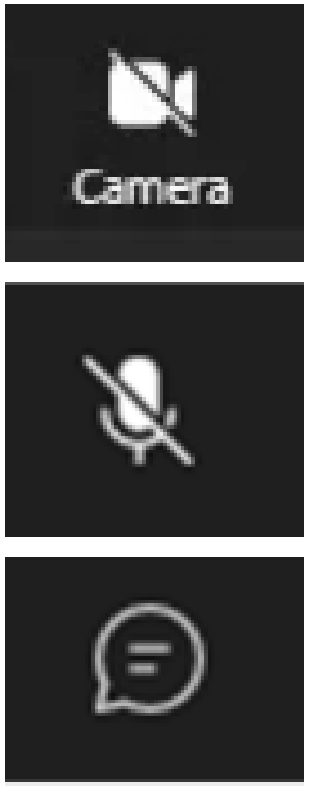
Thank you for joining us today!

- ✓ The session is for 30-minutes (20-minute presentation and 10-minute Q&A session).
- ✓ Please switch off your cameras and put yourselves on mute.
- ✓ Please use the chat function if you want to ask a question or for comments.
- ✓ Please respect others' views and opinions. (We have prescribers from across the system on the call – primary, secondary care and community).
- ✓ Please use the chat function to network with your peers and share ideas.
- ✓ At the end of the session there is a short feedback questionnaire – the link to access this will be put into the chat.



Please note the 20-minute presentation will be recorded, and the slides and the recording will be uploaded to the LSC Training Hub website for you to download.

Antimicrobial Stewardship

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- Antimicrobial Resistance (AMR)
- Local prescribing trends
- Principles of antimicrobial prescribing
- Shortest effective course
- Prophylaxis/Long term
- Skip the dip initiative
- Guidelines/Resources

Antimicrobial Resistance (AMR)

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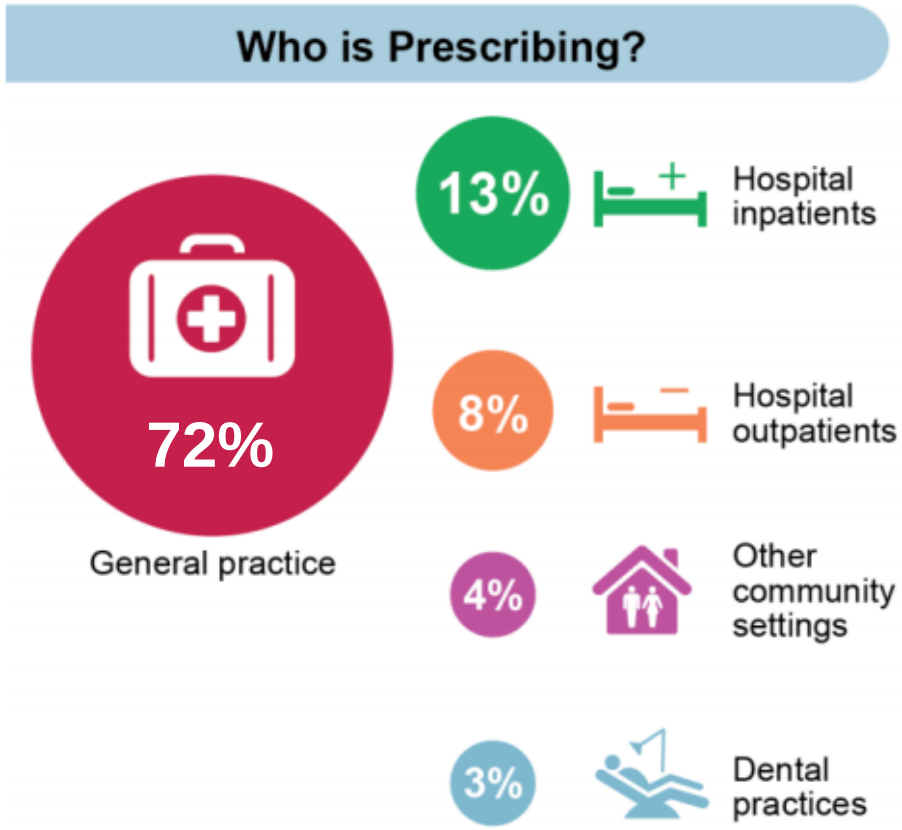
- WHO - AMR is one of the top 10 global public health threats facing humanity.
- The UK's 5-year National Action Plan has an ambition to reduce total UK antimicrobial consumption in humans by 15% by 2024, from a 2014 baseline.
- The majority of antibiotic prescribing occurs in general practice. (72% during 2022)
- In primary care, the Northwest region has the **second highest volume of antibiotic prescribing compared to any other region in England.**
- In Lancashire, the volume of antibiotic prescribing in the region over the past 12 months has increased compared to the previous 12 months - mainly due to concerns around group A streptococcal infections.



Secondary care metrics

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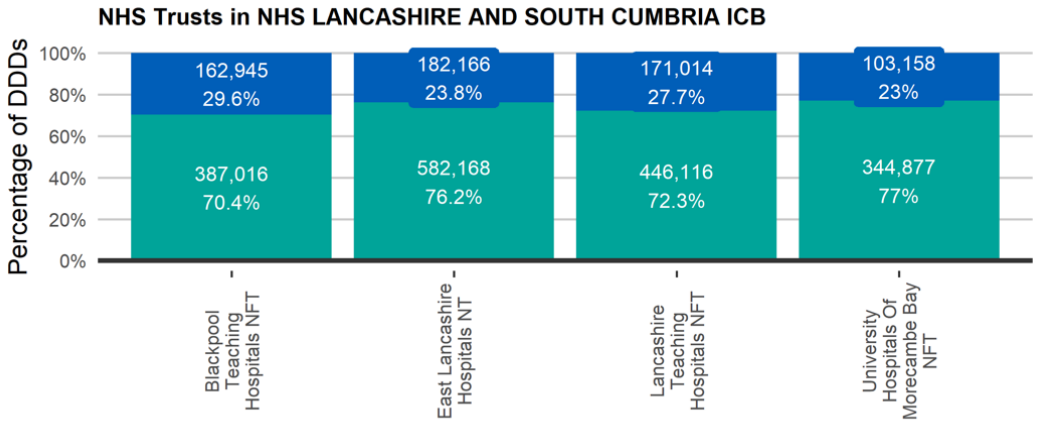
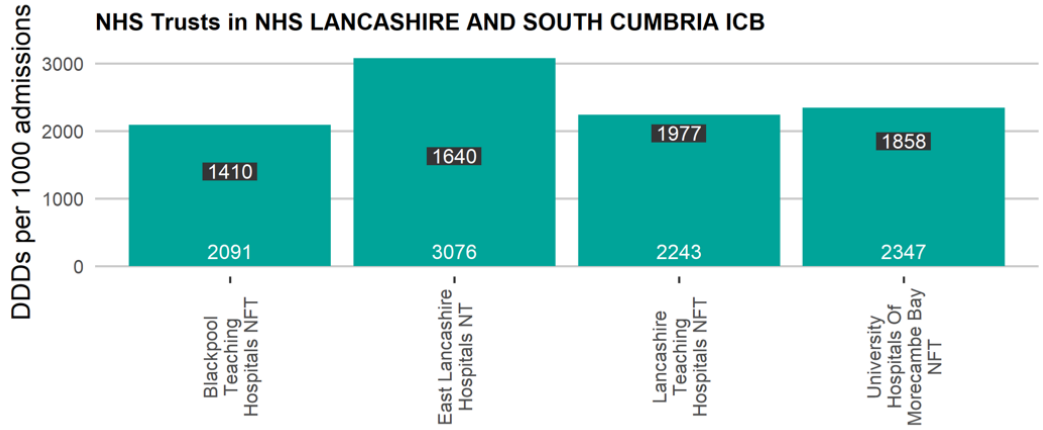
Antibacterial oral to IV ratio (DDD%) (Secondary Care) in the 12 months ending October 2023



Watch & Reserve DDDs per 1,000 admissions. For the four quarters ending Q2 23/24



ICB Data – antibiotic consumption & broad spectrum

Primary care: Antibacterial consumption: October 2022 to September 2023

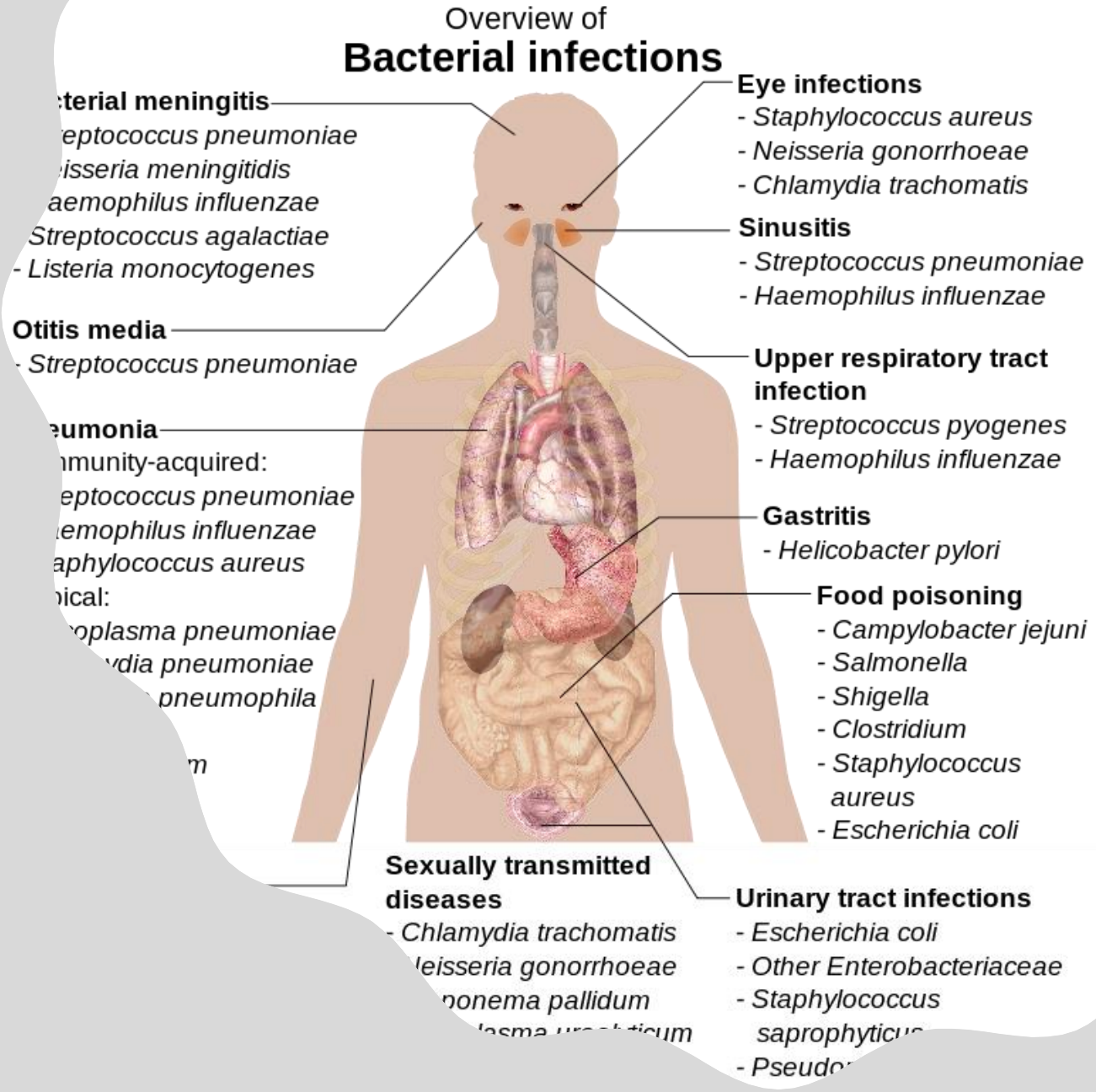
L&SC Sub ICB	Target	Antibacterial items/STAR-PU
West Lancashire	0.871	0.963
East Lancashire	0.871	1.017
Chorley & South Ribble	0.871	1.022
Morecambe bay	0.871	1.024
Fylde and Wyre	0.871	1.145
Greater Preston	0.871	1.151
Blackburn with Darwen	0.871	1.182
Blackpool	0.871	1.238
L&SC ICB	**0.871**	**1.082**

Primary care: Cephalosporins, quinolones and co-amoxiclav: October 2022 to September 2023

L&SC Sub ICB	Target	Proportion of cephalosporins, quinolones & co-amoxiclav
Blackburn with Darwen	≤ 10%	5.39%
East Lancashire	≤ 10%	5.49%
Chorley & South Ribble	≤ 10%	7.47%
Blackpool	≤ 10%	7.74%
Greater Preston	≤ 10%	7.96%
West Lancashire	≤ 10%	8.35%
Fylde and Wyre	≤ 10%	8.86%
Morecambe bay	≤ 10%	9.31%
L &SC ICB	**≤ 10%**	**7.50%**

Principles of antimicrobial prescribing: Sources of infection

- **Questions: Does my patient have an infection which requires antimicrobial therapy? If yes, where is it?**
- Find/establish the source of infection: This is helpful because the most appropriate antimicrobial can be commenced.
- We need the spectrum of activity to cover the pathogens/organisms likely to be causing the infection in that anatomical organ
- We need the antimicrobial agent to be able to get to the site of infection in sufficient concentration to kill the pathogen
- Choice: – Use narrower spectrum where recommended and if possible. Avoid broader spectrum whenever possible – use only when indicated
- Following antibiotic guidelines is important (and especially in preventing CDI)



Shortest Effective Course Length

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Shorter courses:

- reduce the selective pressure for bacteria to develop resistance
- are associated with fewer adverse effects
- are more likely to be completed by the patient
- have demonstrated equivalence to longer courses for most infections
- Traditional course lengths are based on convention of 7 days

Why focus on shorter courses for antibiotic stewardship?

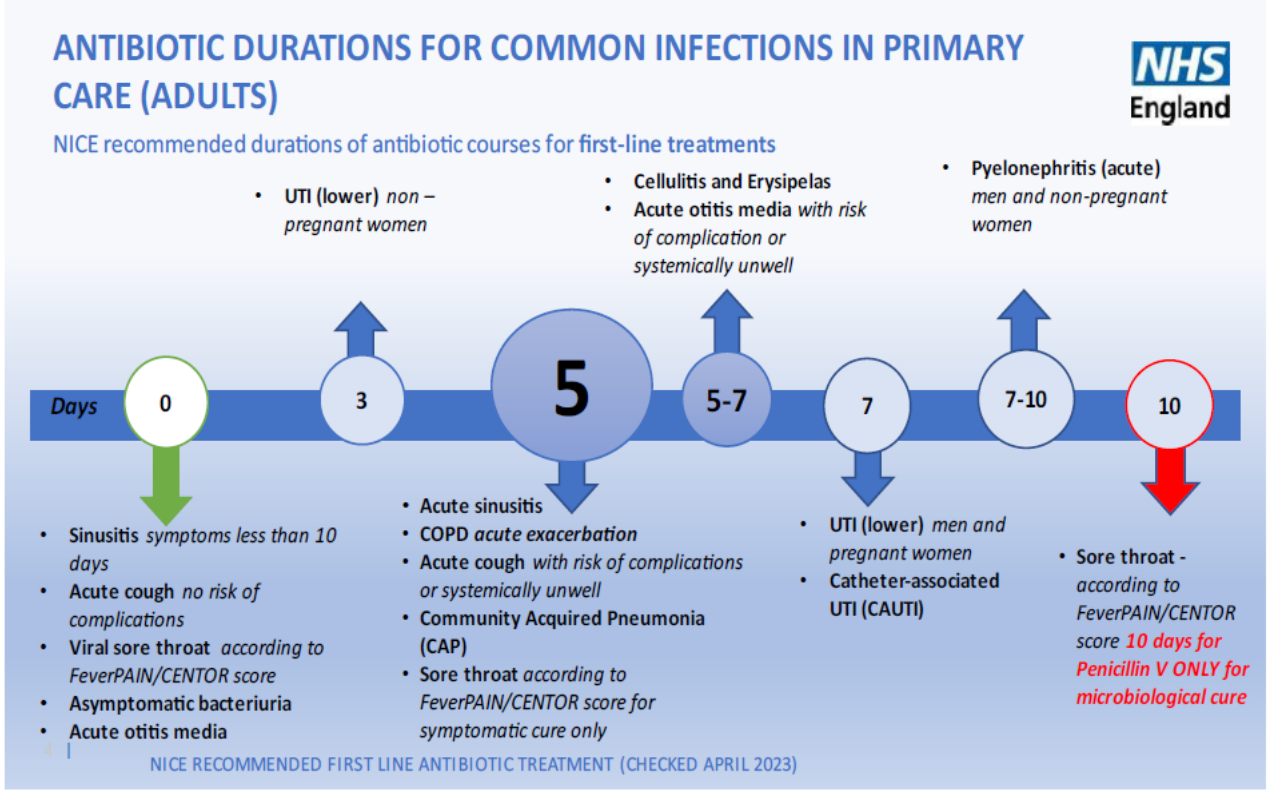
- Aligning prescription durations to guidelines can result in substantial reductions in antibiotic use
- A BMJ study (2019) reviewed 931,015 consultations in England resulting in an antibiotic prescription issue.
- On average, people were spending an extra two days on antibiotics for bronchitis and four additional days for acute cystitis when compared with the duration advised within NICE guidance.
- **The authors concluded that substantial reductions in antibiotic use in primary care could be achieved by closer compliance with recommended treatment durations.**

Antibiotic duration for common infections in primary care

Visual timeline to show course lengths for common infections for adults. In line with NICE guidance for first line treatments only. (1)

A recent meta-analysis estimated that each additional day of antibiotic therapy is associated with a 4% increase in risk of side effects and a 3% increase in risk of resistance. (1) (2)

This list is not exhaustive. To see a full list, please see: NICE / UKHSA antimicrobial summary guidance.



KEY: Green for 0 days for some self-limiting conditions which don't warrant antibiotics. Circle filled in blue for 5-day course lengths. Red for sore throat to prescribe with caution for persistent symptoms and/or confirmed Group A Streptococcus or Scarlet fever.

1. FutureNHS. Antimicrobial resistance programme Resources from South East RMOC and APMO. Accessed 26/9/23.
2. Estimating daily antibiotic harms: an umbrella review with individual study meta-analysis. Curran J et al. Clin microbiol infect. 2022 Apr; 28(4):479-490 doi: 10.1016/j.cmi.2021.10.022.

ICB Data: Amoxicillin and Doxycycline 5-day duration

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Primary care 5-day duration data: October 2022 - September 2023

L&SC Sub ICB	Amoxicillin 500mg capsules: % of total items as 5 day course	Doxycycline 100mg capsules: % of total items as 5 day course
Greater Preston	64.24%	17.99%
Chorley & South Ribble	59.62%	19.43%
Fylde and Wyre	56.05%	15.20%
East Lancashire	50.41%	18.28%
Blackburn with Darwen	48.66%	11.33%
Blackpool	45.90%	10.17%
West Lancashire	33.32%	7.57%
Morecambe bay	30.86%	5.51%
L&SC ICB	**48.76%**	**13.29%**

5-day courses of amoxicillin & doxycycline

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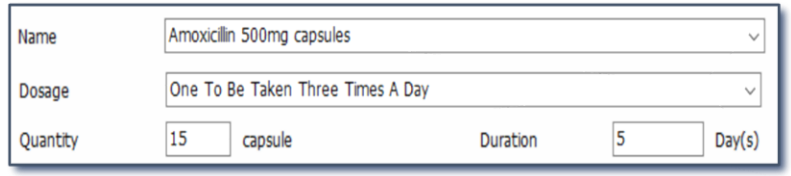
- Where amoxicillin/doxycycline are the first line treatment options, NICE guidelines recommend a 5-day course for many indications. (some exceptions)
- **NHSE aims for ≥ 75% of total amoxicillin 500 mg prescriptions as 5-day courses by March 2024 (1)**
- At a 'place' level for L&SC ICB the percentage of 5-day courses varies from 31% to 64% for amoxicillin, and 5.5% – 18% for doxycycline
- More amoxicillin/doxycycline prescribing could be as 5-day courses.
- Practices consider promotion of this data to prescribers and other mechanisms to promote shortest effective courses.
- The number of tablets in a pack is rarely the same as the length of a course.
- The pack size can be adjusted to ensure the quantity issued corresponds with the intended duration - your EMIS formulary may have 21 capsules (7 days) first in the picking list.



1. NHSE National medicines optimisation opportunities 2023/2024. 31/7/2023

Longer-term antibiotics - prophylaxis

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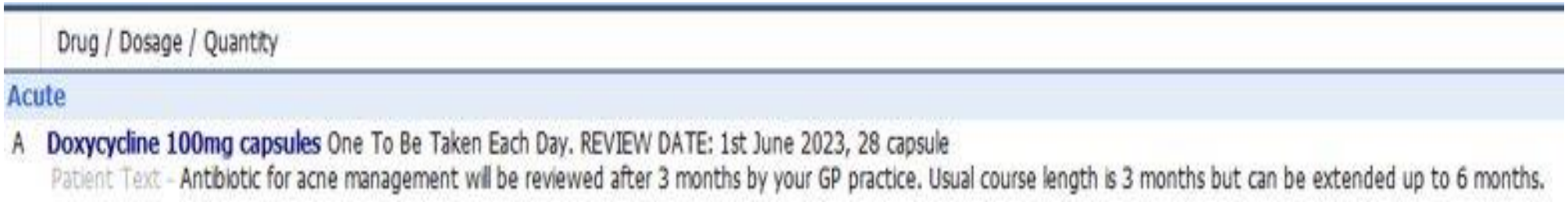
- Recurrent UTI, acne

Good practice points:

- If a longer-term antibiotic has been given as part of the treatment plan:

➢ A clear date for review is important. This can be added in the ‘dose directions’ box

- If the plan for antibiotic is e.g., 3/12: Add to ‘Acute’ section in preference to 'Repeat'. A suggested entry is shown below
- Utilise ‘*pharmacy text’* and/or ‘*patient text’* – acts as a prompt for all practice staff
- By using the *'patient text’* function, the community pharmacy can relay & re-enforce your message with regards to indication, duration and need for review.
- Timely review for all longer-term antibiotics as per guidelines (trial without)



Skip the dip

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- Do not use in ≥65s or in catheterised patients
  - 100% of people with long-term catheters will have asymptomatic bacteriuria (ASB)
  - 30-40% of older people (males-females) will have ASB
- ASB is the presence of bacteria in the urine, but does not cause symptoms
- ASB is not harmful to the patient and doesn't need antibiotic therapy
- May miss the real diagnosis and lead to unnecessary antibiotic use
  - Increases the risk of antibiotic resistant infections in the future
  - These are harder and more costly to treat, and can put patients at risk of harm (3)

- Exclude vaginal or urethral causes of urinary symptoms (4)
- Diagnosis based on presence of key urinary symptoms
- Typical features may be absent in elderly women with cognitive impairment
  - Consider alternative sources of infection
  - Rule out other causes of delirium – pain, constipation, dehydration, nutrition, hydration, medication, environment (PINCH ME)

3. NHSBSA RightCare UTI Focus Pack
4. NICE QS90 Urinary Tract Infections in Adults

Back-up/delayed antibiotics

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Back-up/delayed antibiotic prescriptions may be helpful (instead of an immediate antibiotic prescription) when:

- You are uncertain about how an infection might progress.
- The patient remains concerned about illness progression and is requesting antibiotics despite discussion
- You are concerned that the patient may need antibiotics when they will have limited access to medical care.

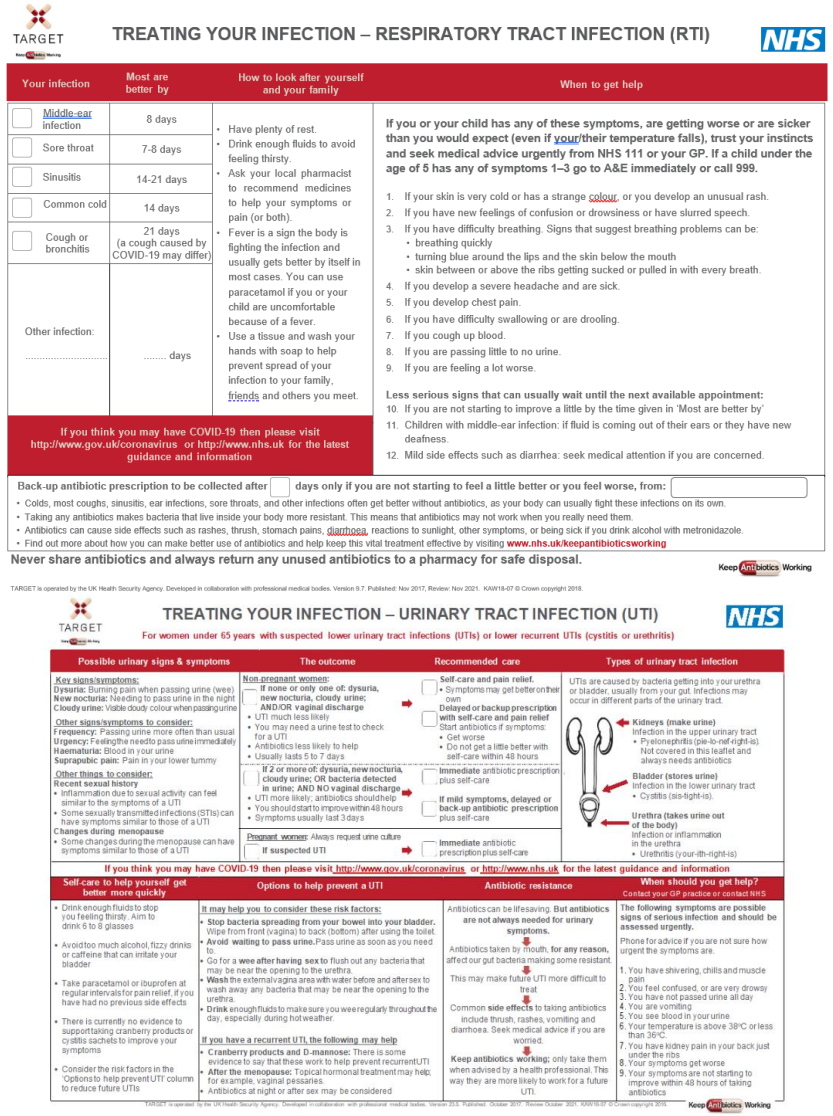
Simple infections in straightforward patients. RTI's and possibly UTIs.

Evidence of benefits

- Evidence has shown that using back-up/delayed antibiotic prescriptions with a good explanation is a safe and effective strategy for managing common respiratory tract infections to:
- **Reduce re-consultations** more effectively than immediate antibiotic prescriptions, saving both patient and practice time.
- **Prevent complications** as effectively as immediate antibiotic prescriptions.
- **Reduce antibiotic use** as only around one third of patients use antibiotics when given a back-up/delayed prescription.
- **Increase patients' ability to self-manage** their infection (patients report no significant worsening in the duration of illness or experience of pain). Evidence suggests that only up to 40% of patients get their back up antibiotic prescriptions dispensed and can be a useful method of safety netting when used with patient information.
- **Reduce future consultations** for similar illnesses.

Little et al. 2014a, Little et al. 2014b, Little et al. 2017) and (Spurling et al. 2017) from UK-based studies and a Cochrane systematic review

Back-up/delayed antibiotics



TARGET

TREATING YOUR INFECTION – RESPIRATORY TRACT INFECTION (RTI)

NHS

Your infection	Most are better by	How to look after yourself and your family	When to get help
☐ Middle-ear infection	8 days	• 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 if you or your child are uncomfortable because of a fever. • Use a tissue and wash your hands with soap to help prevent spread of your infection to your family, friends and others you meet.	**If you or your child has any of these symptoms, are getting worse or are sicker than you would expect (even if your/their temperature falls), trust your instincts and seek medical advice urgently from NHS 111 or your GP. If a child under the age of 5 has any of symptoms 1–3 go to A&E immediately or call 999.** 1. If your skin is very cold or has a strange colour, or you develop an unusual rash. 2. If you have new feelings of confusion or drowsiness or have slurred speech. 3. If you have difficulty breathing. Signs that suggest breathing problems can be: • 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. 4. If you develop a severe headache and are sick. 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 passing little to no urine. 9. If you are feeling a lot worse. **Less serious signs that can usually wait until the next available appointment:** 10. If you are not starting to improve a little by the time given in 'Most are better by' 11. Children with middle-ear infection: if fluid is coming out of their ears or they have new deafness. 12. Mild side effects such as diarrhea: seek medical attention if you are concerned.
☐ Sore throat	7-8 days		
☐ Sinusitis	14-21 days		
☐ Common cold	14 days		
☐ Cough or bronchitis	21 days (a cough caused by COVID-19 may differ)		
Other infection:	..... days		

If you think you may have COVID-19 then please visit http://www.gov.uk/coronavirus or http://www.nhs.uk for the latest guidance and information

Back-up antibiotic prescription to be collected after ☐ days only if you are not starting to feel a little better or you feel worse, from: ☐

- 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.
- Taking any antibiotics makes bacteria that live inside your body more resistant. This means that antibiotics may not work when you really need them.
- 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.
- Find out more about how you can make better use of antibiotics and help keep this vital treatment effective by visiting **www.nhs.uk/keepantibioticsworking**

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

Keep Antibiotics Working

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TREATING YOUR INFECTION – URINARY TRACT INFECTION (UTI)

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For women under 65 years with suspected lower urinary tract infections (UTIs) or lower recurrent UTIs (cystitis or urethritis)

Possible urinary signs & symptoms	The outcome	Recommended care	Types of urinary tract infection
Key signs/symptoms: **Dysuria:** Burning pain when passing urine (wee) **New nocturia:** Needing to pass urine in the night **Cloudy urine:** Visible cloudy colour when passing urine **Other signs/symptoms to consider:** **Frequency:** Passing urine more often than usual **Urgency:** Feeling the need to pass urine immediately **Haematuria:** Blood in your urine **Suprapubic pain:** Pain in your lower tummy **Other things to consider:** **Recent sexual history** • Inflammation due to sexual activity can feel similar to the symptoms of a UTI • Some sexually transmitted infections (STIs) can have symptoms similar to those of a UTI **Changes during menopause** • Some changes during the menopause can have symptoms similar to those of a UTI	**Non-pregnant women:** ☐ **If none or only one of: dysuria, new nocturia, cloudy urine; AND/OR vaginal discharge** • UTI much less likely • You may need a urine test to check for a UTI • Antibiotics less likely to help • Usually lasts 5 to 7 days ☐ **If 2 or more of: dysuria, new nocturia, cloudy urine; OR bacteria detected in urine; AND NO vaginal discharge** • UTI more likely; antibiotics should help • You should start to improve within 48 hours • Symptoms usually last 3 days **Pregnant women:** Always request urine culture ☐ **If suspected UTI**	☐ **Self-care and pain relief.** • Symptoms may get better on their own ☐ **Delayed or backup prescription with self-care and pain relief** Start antibiotics if symptoms: • Get worse • Do not get a little better with self-care within 48 hours ☐ **Immediate** antibiotic prescription plus self-care ☐ **If mild symptoms, delayed or back-up antibiotic prescription** plus self-care ☐ **Immediate** antibiotic prescription plus self-care	UTIs are caused by bacteria getting into your urethra or bladder, usually from your gut. Infections may occur in different parts of the urinary tract. **Kidneys (make urine)** Infection in the upper urinary tract • Pyelonephritis (pie-lo-nef-right-is) Not covered in this leaflet and always needs antibiotics **Bladder (stores urine)** Infection in the lower urinary tract • Cystitis (sis-tight-is). **Urethra (takes urine out of the body)** Infection or inflammation in the urethra • Urethritis (your-ith-right-is)

If you think you may have COVID-19 then please visit http://www.gov.uk/coronavirus or http://www.nhs.uk for the latest guidance and information

Self-care to help yourself get better more quickly	Options to help prevent a UTI	Antibiotic resistance	When should you get help? Contact your GP practice or contact NHS
• Drink enough fluids to stop you feeling thirsty. Aim to drink 6 to 8 glasses • Avoid too much alcohol, fizzy drinks or caffeine that can irritate your bladder • Take paracetamol or ibuprofen at regular intervals for pain relief, if you have had no previous side effects • There is currently no evidence to support taking cranberry products or cystitis sachets to improve your symptoms • Consider the risk factors in the 'Options to help prevent UTI' column to reduce future UTIs	**It may help you to consider these risk factors:** • **Stop bacteria spreading from your bowel into your bladder.** Wipe from front (vagina) to back (bottom) after using the toilet. • **Avoid waiting to pass urine.** Pass urine as soon as you need to. • Go for a **wee after having sex** to flush out any bacteria that may be near the opening to the urethra. • **Wash** the external vagina area with water before and after sex to wash away any bacteria that may be near the opening to the urethra. • **Drink** enough fluids to make sure you wee regularly throughout the day, especially during hot weather. **If you have a recurrent UTI, the following may help** • **Cranberry products and D-mannose:** There is some evidence to say that these work to help prevent recurrent UTI • **After the menopause:** Topical hormonal treatment may help; for example, vaginal pessaries. • Antibiotics at night or after sex may be considered	Antibiotics can be lifesaving. **But antibiotics are not always needed for urinary symptoms.** Antibiotics taken by mouth, **for any reason,** affect our gut bacteria making some resistant. This may make future UTI more difficult to treat. Common **side effects** to taking antibiotics include thrush, rashes, vomiting and diarrhoea. Seek medical advice if you are worried. **Keep antibiotics working;** only take them when advised by a health professional. This way they are more likely to work for a future UTI.	**The following symptoms are possible signs of serious infection and should be assessed urgently.** Phone for advice if you are not sure how urgent the symptoms are. 1. You have shivering, chills and muscle pain 2. You feel confused, or are very drowsy 3. You have not passed urine all day 4. You are vomiting 5. You see blood in your urine 6. Your temperature is above 38°C or less than 36°C 7. You have kidney pain in your back just under the ribs 8. Your symptoms get worse 9. Your symptoms are not starting to improve within 48 hours of taking antibiotics

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Keep Antibiotics Working

- Back-up and delayed antibiotic prescription TARGET webinar provides an excellent summary of the evidence and how this can be delivered within practices.
- For more details regarding back up antibiotics see TARGET toolkit back-up antibiotic prescribing. Key points include patient advice on being **specific regarding number of days to wait and safety netting advice**. Patient information leaflets are available to aid this.

Guidelines/Resources

National guidance: [NICE/UKHSA antimicrobial prescribing guidance - managing common infections] - rapid reference containing recommendations around antimicrobial prescribing

Locally: In Lancs each area either follows their own antimicrobial guidelines or NICE guidelines

L&SC Useful resources for NMPs in primary care soon to be hosted on the L&SC Training Hub website

[Independent Prescribing - Lancashire and South Cumbria Training Hub (lscthub.co.uk)]

NICE National Institute for Health and Care Excellence | UK Health Security Agency

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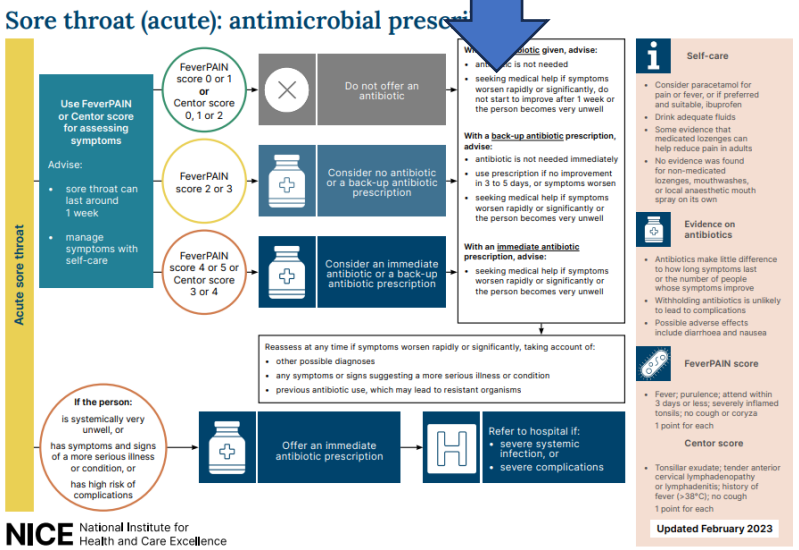
Summary of antimicrobial prescribing guidance – managing common infections

- See BNF for appropriate use and dosing in specific populations, for example, hepatic impairment, renal impairment, pregnancy and breastfeeding.

Key: Click to access doses for children | Click to access NICE's printable visual summary

Jump to section on: Upper RTI | Lower RTI | UTI | Meningitis | GI | Genital | Skin | Eye | Dental

Infection	Key points	Medicine	Doses Adult	Doses Child	Length	Visual summary
Upper respiratory tract infections						
Acute sore throat NICE UK Health Security Agency Last updated: Feb 2023	Advise paracetamol, or if preferred and suitable, ibuprofen for pain. Medicated lozenges may help pain in adults. Use FeverPAIN or Centor to assess symptoms: **FeverPAIN 0-1 or Centor 0-2**: no antibiotic; **FeverPAIN 2-3**: no or back-up antibiotic; **FeverPAIN 4-5 or Centor 3-4:** immediate or back-up antibiotic. **Systemically very unwell or high risk of complications:** immediate antibiotic. *5 days of phenoxymethylpenicillin may be enough for symptomatic cure; but a 10-day course may increase the chance of microbiological cure. For detailed information click the visual summary icon.	**First choice**: phenoxymethylpenicillin	500mg QDS or 1000mg BD		5 to 10 days*	
		Penicillin allergy: clarithromycin **OR**	250mg to 500mg BD		5 days	
		erythromycin (if macrolide needed in pregnancy; consider benefit/harm)	250mg to 500mg QDS or 500mg to 1000mg BD		5 days	



How can I support AMS as a clinician?

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- **National/local guidelines** – follow recommended guidelines whenever possible, increase familiarity and encourage uniform antibiotic prescribing across your GP practice.
- Record reasons for prescribing outside of guidance in your consultation
- Telephone prescribing: keep to a minimum.
- Clear documentation of allergies and reaction in the records – NICE.
- **Peer review audit/Internal audits** – HCPs in practice audit each others broad spectrum abx prescribing & feedback. Recurrent Antibiotic audit, UTI treatment audit etc. RCGP audit toolkits.
- Peer review and reflection on prescribing data reports - antimicrobial chapter

Thank you for listening

Please complete our short feedback questionnaire by clicking on the link that has been put into the chat.

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Suzanne Penrose suzanne.penrose@nhs.net

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Question and Answer

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Please note: all feedback will be anonymous

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