

Antimicrobial resistance (AMR) in Leeds: Protect our Present, Secure our Future

PUBLIC BOARD 26/3/26

Presented for:	Decision & Information
Presented by:	Dr Magnus Harrison, Chief Medical Officer
Author:	Dr Jessica Martin, Medical Lead for IPC and AMR Gillian Hodgson, Deputy Director of Infection Prevention and Control
Previous Committees:	None

Link to Strategic Objective	Focus on care quality, effectiveness and patient experience
Link to Provider Capability Assessment	Strategy, leadership and planning
Link to CQC Well-led Statement	Governance, Management and Sustainability
Regulatory Impact	Regulation 12: Safe care and treatment

Key points	Purpose
1. This paper is the LTHT response to a letter from NHS England requesting the following actions by March 2026: • Board level review and executive oversight of AMR • Risk and Capability assessment • NHS organisations to agree 3 priorities for AMR improvement	Information
2. Recommended priorities for AMR improvement in LTHT: • AMR data reporting to board (annually), IPC-SC (quarterly) and CSUs • Training and education on AMR for LTHT clinical, estates and facilities workforce • New ambitious antimicrobial prescribing targets	Decision

Risk Appetite Framework (use the RAF to complete the below table)			
Level 1 Risk	Level 2 Risks	(Risk Appetite Scale)	Impact
Workforce Risk	Choose an item.	Choose an item	Choose an item.
Operational Risk	Choose an item.	Choose an item	Choose an item.
Clinical Risk	Choose an item.	Choose an item	Choose an item.
Financial Risk	Choose an item.	Choose an item	Choose an item.
External Risk	Choose an item.	Choose an item	Choose an item.

1. Summary

Antimicrobial resistance (AMR) as one of the top global public health and development threats, current risks in LTHT include rising rates of antimicrobial resistance in clinical samples, outbreaks of AMR pathogens, partial compliance with board-assurance framework and antimicrobial use exceeding national targets. A new approach is recommended to better control the risk AMR to LTHT, using a combined infection prevention and control (IPC) and antimicrobial stewardship (AMS) model, with new AMR data reporting to board, DIPC and CSUs, a new educational approach focused on AMR and introduction of more ambitious targets for the improvement of antimicrobial use.

2. Proposal

Background

The World Health Organisation has declared antimicrobial resistance (AMR) as one of the top **Global Public Health** and development threats, and AMR is listed on the UK government's National Risk Register. In November 2025, NHS England wrote to NHS trusts and integrated care boards (ICB) with a **call to action**, seeking practical changes to meet the targets in the National Action Plan for AMR.¹

The UK government's **National Action Plan (NAP)**, 'Confronting AMR 2024-29' recognises the importance of both infection prevention and control (IPC), and optimising the use of antimicrobials in the fight against AMR.² IPC can control AMR both by reducing the incidence of infectious disease through maintaining high standards of care and cleanliness, and by preventing transmission of AMR in healthcare settings. Optimising the use of antimicrobials is also a key intervention, and includes antimicrobial stewardship (AMS; judicious use of antimicrobial treatment), workforce training, antimicrobial governance and AMR diplomacy.

In the UK, the **clinical impact of AMR** is already part of healthcare experience for many patients and their families. AMR is associated with twice as many deaths annually as breast cancer. It makes infections harder, or sometimes impossible to treat, prolonging illness and increasing the risk of harm or death.¹ AMR also drives up healthcare costs and threatens the delivery of safe and effective care across the NHS. The overall burden of AMR, estimated from cases of resistant bloodstream infection, rose by 13.1% from 2019 to 2024, reaching 20,484 episodes in 2024 in England and Wales.³ AMR is an issue linked to health inequalities and varies with ethnicity, age, healthcare exposure and deprivation, incidence is higher in patients who have experienced healthcare, especially if outside the UK.⁴

AMR as a healthcare-associated infection risk

At LTHT, AMR rates are higher in patients who are exposed to healthcare compared to patients newly admitted from the community. For example, Figure 1 shows that resistance rates in *Klebsiella* sp. (a bacteria commonly detected in urine and blood samples) are higher in hospital compared to community samples in Leeds, and shows that our first-line antibiotic treatments may not always be effective, with rising resistance antibiotics often used for sepsis, such as co-amoxiclav, cefuroxime, ciprofloxacin and piperacillin-tazobactam.

AMR transmission can occur between patients, via staff and to the health and care clinical environment. This can lead to outbreaks of infection. Recent evidence has demonstrated that the healthcare built-environment is an important niche for AMR, and this is especially relevant to water and waste-water; in a large study of 29 UK hospitals (including LTHT) AMR organisms were shown to colonise 40% of NHS sinks.⁵ Leeds has been a national leader in our multi-disciplinary response to environmental AMR.

Carbapenemase-producing organisms (CPOs) are a specific AMR threat to patients, there is a deteriorating epidemiological picture across the UK and Europe with respect to CPOs.⁷ In LTHT, 6 CPO outbreaks have occurred between 2020 and 2025, compared to just one outbreak between 2010 and 2020. These outbreaks have significant impact clinically, operationally and financially. Simultaneously, over recent years there has also been an increase in sporadic (unlinked) cases of CPO at LTHT (>150 cases per year)

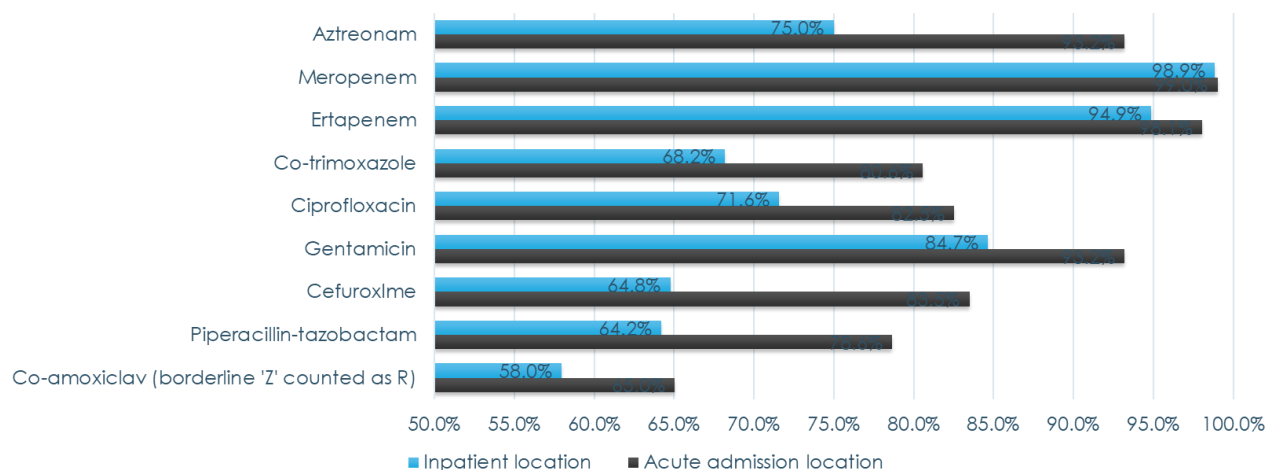


Figure 1 Klebsiella sp. susceptibility to antibiotics by location May 2024 to August 2025

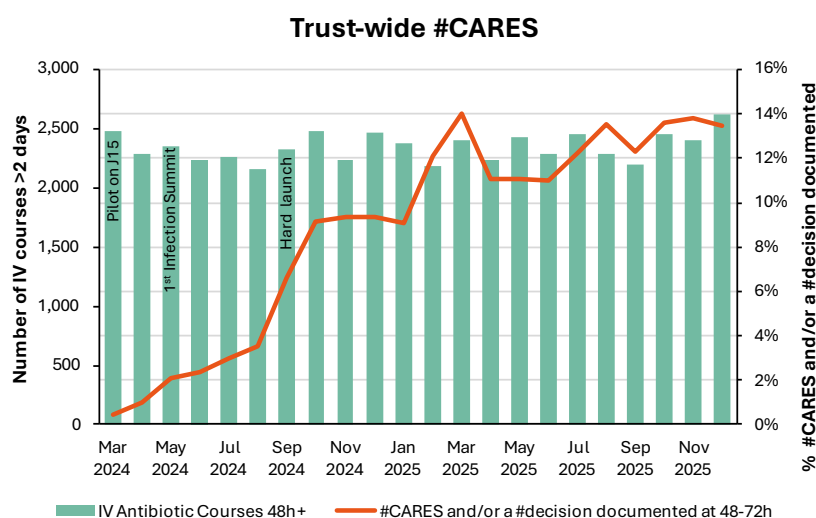
AMR is a consequence of antimicrobial use

A key tool in tackling AMR is antimicrobial stewardship (AMS), which is a core professional responsibility across all healthcare disciplines.⁴ AMS describes best-practice in the use of antimicrobials, such as prescribing antibiotics only to patients who need them, early diagnostic testing to target therapy, correct use of surgical prophylaxis, and minimising the use of novel or broad-spectrum agents (e.g. WHO AWaRe campaign).⁵ National data shows that AMS implementation remains inconsistent across the UK, with only 24% of ICBs achieving targets to reduce overall antibiotic prescribing, and 20% of NHS trusts achieving a reduction in their use of 'Watch & Reserve' antibiotics.⁵ In LTHT, significant progress in curbing antimicrobial use has been made of the past few years against NAP targets² (Appendix i), yet further improvements are much needed, and we are yet to meet the standards set out in the national board assurance framework (Appendix ii).

Our response to the risk of AMR

At LTHT, we believe that our strategy is ahead of the national curve with changes over recent years reflecting that IPC, AMS and AMR require a combined trust-wide approach:

- In 2023, we introduced a 'Dyad IPC model' which enhances the role of medical staff in IPC, and enhances nursing expertise in AMS; leading to shared responsibility for AMR
- We respond to AMR outbreaks collaboratively combining essential IPC, environmental review/sampling and AMS, again using the dyad model for accountability and response
- We have implemented a novel successful mechanism for monitoring and reporting antimicrobial stewardship (#CARES, a digital robotic monitoring system), providing monthly KPI metrics. Figure 2 shows an example of the current compliance with this.
- Clinicians from the ICB and LTHT are participating in a pilot of the national LEAP ([Leadership to Embed Antimicrobial stewardship in Practice](#)) programme
- We introduced the Eolas app. in 2024 which enables our adult and paediatric antimicrobial guidance to be responsive, up-to-date and readily available to all staff
- We co-produced an HCAI PSIRF model blending IPC, AMS and AMR for CSUs
- We work with estates and facilities, recognising their role in environmental AMR control



Figures 2. For the #CARES audit, compliance is met by documenting #CARES or a #decision on day 2 or 3 (48-72 hours) of IV antibiotics, in line with UKHSA "Start smart then focus" national toolkit. However, daily documentation is strongly recommended to reflect the recommended daily IV review and to avoid compliance issues with stopped/restarted prescriptions.

Risk and capability assessment

In his 2025 report on infection, Chief Medical Officer, Professor Chris Whitty, shares a strong message that AMR is everybody's problem.⁴ His paper calls for the entire NHS workforce to protect the effectiveness of antimicrobials for future generations. One of the themes of the report is the need to develop a training and education programme for AMS and AMR. This is much needed at LTHT, and we recommend a new workstream to provide education and training for clinical and non-clinical staff in IPC, AMS and AMR, aligned to the national IPC educational framework and incorporating local risks and learning.⁹

Quality and Performance Implications

To date, there has been no local or national recommendations for AMR data reporting or antimicrobial prescribing metrics for NHS boards. This paper outlines new recommendations to embed regular reporting of both AMR clinical, training and antimicrobial prescribing metrics at CSU (monthly), IPC sub-committee (quarterly) and board level (annually) to ensure senior leaders in the organisation are sighted on the local AMR risk level.

3. Financial Implications

There are no immediate financial implications related to the recommendations included in this paper. However, any future increase in AMR rates may incur costs related to

- i) Outbreaks of AMR pathogens
- ii) Increased cost of antimicrobial use for difficult-to-treat infections
- iii) Increased laboratory capacity for patient and environmental sampling

4. Risk

Risks from AMR include clinical, operational, financial and reputational risks. However, there are no material changes or impact to the risk appetite. This is a proactive recommendation responding to national risk data, and does not relate to a change in local AMR epidemiology.

5. Communication and Involvement

AMR is an umbrella term that describes a broad range of viral, bacterial and fungal pathogens and diverse clinical risks and scenarios. The IPC and AMS teams recognise the importance of good communication for staff, patients and visitors in relation to AMR. A

patient partner works to support us at the IPC sub-committee (January 2026) and we agree that a new approach to simple and clear language for patients regarding AMR. The IPC team also have access to the 'Fighting infection group', a patient group based in the University of Leeds, focused on supporting project work for AMR. A survey for patients and staff is being launched in April 2026 and the outcome will inform the included recommended workstream on improving AMR communication at LTHT.

6. Improving Health Equity

In the UK, there is good evidence that AMR is linked to age, ethnicity, deprivation and travel history (and/or time lived outside the UK). Information and health beliefs about antimicrobial therapy and AMR is variable between patient groups and communities, concepts can be complex and likely to be more challenging to communicate to certain patient groups including those who have little or no English, those with poor literacy, poor health literacy and those who experience digital exclusion. Patients arriving in Leeds from areas of conflict, are recognised to have greater risk of AMR, specific sampling and source isolation measures have been recommended by UKHSA in recognition of these risks. A collaborative approach across city partner organisations continues to build strength. It is recommended that new approaches to surveillance and reporting of AMR in this paper, aligned with IPC work on admission risk assessment, will start to address these inequalities.

7. Publication Under Freedom of Information Act

This paper has been made available under the Freedom of Information Act 2000.

8. Recommendations

Board level review and executive oversight

- Annual report of antimicrobial resistance metrics to board including trend analysis
- Quarterly report of CPO transmission, incidence and healthcare onset to IPC-SC
- Monthly review of new CPO cases for each CSU, differentiating healthcare onset

Risk and capability assessment

- Current blended leadership and governance for IPC, AMS and AMR to be rolled out, formalising CSU level medical and nursing shared accountability for AMR and the NHS board assurance framework
- Clinical staff to receive education and training on AMR including
 - The impact of health inequalities and patient-level risk factors
 - The role of the built environment and equipment in AMR transmission
 - The role of prescribing and local AMR selection & development
- Environmental AMR training for estates and facilities colleagues

Setting priorities and delivering improvement

- Target - #CARES review completed for 50% of IV antibiotic prescriptions by 2027, 60% by 2028 and 70% by 2029
- Target – watch and reserve antibiotics comprise ≤30% of consumption by 2029
- Target – 80% patients have appropriate IV to Oral switch by 2029

9. Supporting Information

Appendix i LTHT antimicrobial stewardship metrics

1. Antimicrobial consumption.

- a. Total antibiotic consumption (measured in daily delivered doses/1000 admissions) should reduce by 5% compared to the 2019 baseline, by 2029.
- b. Overall consumption* at LTHT is up by 3.9% compared to the 2019 baseline for FY 25/26 but this is an improvement on previous financial years: 4.7% increase in FY 24/25 and 16.6% increase in FY 23/24.

2. Reduction in 'watch and reserve' antibiotics.

- a. In FY 25/26, we achieved a 13% reduction compared to the 2019 baseline.
- b. The target is that watch and reserve agents should be no more than 30% of total antibiotic usage. Currently watch and reserve antibiotics are 40.4% of total, down from 50.8% in 2019, and reducing annually.

*NB: *reducing watch and reserve antibiotics can increase overall consumption due to the use of multiple agents in a single treatment regime*

3. Review of IV antibiotics at 48-72 hours (Start Smart Then Focus campaign)⁸

- a. #CARES has been introduced as a decision aid and audit tool, providing data to CSUs for discussion at quality meetings.
- b. There is a trust-wide rate of 14% of 48-72 hour review, with some CSUs achieving over 20%.

4. Intra-venous to oral switch (IVOS). This has been a CQUIN in recent years.⁹

- a. The target of 80% of patients having an appropriate and timely IVOS.
- b. At LTHT this target was met in all quarters of FY 24/25 and 25/26.

Appendix ii LTHT compliance with NHS infection prevention and control board assurance framework



There are 4 areas of partial compliance with the board assurance framework

Question 1 Systems to manage and monitor the prevention and control of infection. These systems use risk assessments and consider the susceptibility of service users and any risks their environment and other users may pose to them

That there is a culture that promotes incident reporting, including near misses, while focusing on improving systemic failures and encouraging safe working practices, that is, that any workplace risk(s) are mitigated maximally for everyone.

*This is shown as partial compliance as it is felt that we don't have a **culture everywhere** that promotes incident reporting, including near misses, while focusing on improving systemic failures and encouraging safe working practices, that is, that any workplace risk(s) are mitigated maximally for everyone.*

All staff receive the required training commensurate with their duties to minimise the risks of infection transmission.

This partial compliance is principally related to Asepsis training

Question 3 Ensure appropriate antimicrobial stewardship to optimise service user outcomes and to reduce the risk of adverse events and antimicrobial resistance

Ensure clarity of responsibility for AMR within governance responsibilities, including how antimicrobial stewardship (AMS) aspects of Care Quality Commission (CQC) Regulation 12 to prevent individuals from receiving unsafe care and treatment and prevent avoidable harm or risk of harm.

This is shown as partial compliance

To optimise patient outcomes and minimise inappropriate prescribing:

- *Monitor and improve compliance with NICE Guideline NG15 'Antimicrobial Stewardship: systems and processes for effective antimicrobial medicine use'*
- *Ensure adherence to the principles of Start Smart, Then Focus is implemented and monitored in secondary care.*
- *Ensure AMS is included in mandatory training using national materials such as 'Start Smart, Then Focus' and 'Treat Antibiotics Responsibly, Guidance, Education, Tools (TARGET)'.*

Contractual reporting requirements are adhered to, progress with incentive and performance improvement schemes relating to AMS are reported to the board where relevant, and boards continue to maintain oversight of key performance indicators for prescribing, including:

- total antimicrobial prescribing.
- broad-spectrum prescribing.
- intravenous route prescribing.
- treatment course length.

This is shown as partial compliance

Resources are in place to support and measure adherence to good practice and quality improvement in AMS. This must include all care areas and staff (permanent, flexible, agency, and external contractors)

This is also shown as partial compliance

Question 3 is the main AMS/AMR part of the BAF

Question 6 Systems are in place to ensure that all care workers (including contractors and volunteers) are aware of and discharge their responsibilities in the process of preventing and controlling infection

If clinical staff undertake procedures that require additional clinical skills, for example, medical device insertion, there is evidence staff are trained to an agreed standard, and the staff member has completed a competency assessment which is recorded in their records before being allowed to undertake the procedures independently.

Our partial compliance here is related to Asepsis training

Question 8 Provide secure and adequate access to laboratory/diagnostic support as appropriate

Patient/service user testing on admission, transfer, and discharge should be in line with national guidance, local protocols and results should be communicated to the relevant organisation.

This partial compliance is related to the gap in the national CPE guideline implementation .

There should be protocols agreed between laboratory services and service user organisations for the transportation of specimens including routine/ novel/ emerging/high risk pathogens. This protocol should be regularly tested to ensure compliance.

The partial compliance here has been assigned to our gap in ability to deliver The target for 4 hours - point of bleed to analyse incubation for blood cultures. Audit has shown that this is only achieved in 60% of samples

References:

1. Enclosure 1: Letter from NHS England November 2025 'Protect our Present, Secure our Future.
2. [UK National Action Plan for AMR 2024 to 2029](#)
3. [English Surveillance System for Antimicrobial Utilisation and Resistance*](#)
4. [Chief Medical Officer Annual Report 2025 - Infections](#)
5. [World health organisation AWaRe classification of antimicrobials](#)
6. [European Centre for Disease Prevention and Control CPE update 2025](#)
7. [UKHSA antimicrobial stewardship for inpatient settings start smart then focus](#)

Leeds benchmarking used the latest English surveillance programme for antimicrobial utilisation and resistance (ESPAUR) report and AMR information found on Model Health System, together with the thresholds for each trust to reduce exposure to antibiotics, announced in the Medium Term Planning Framework1