LUNGS EUROPE

Combating antimicrobial resistance to protect lung health in Europe

Lungs Europe, a partnership of the European Respiratory Society[1] and European Lung Foundation[2], calls for coordinated action against antimicrobial resistance (AMR). More than 35,000 people die each year in Europe because common infections no longer respond to antibiotics[3], while antimicrobial resistance is also undermining the effectiveness of treating respiratory infections, such as pneumonia and tuberculosis[4].

Lungs Europe calls on the European Union (EU) to strengthen prevention, improve diagnosis, promote prudent antibiotic use and accelerate development of new antimicrobials to safeguard European lung health.

1. Healthcare-associated infections

An estimated 70% of infections with antibiotic-resistant bacteria in the EU are contracted from hospitals[5]. These include particularly dangerous resistant bacteria such as MRSA, carbapenem-R Enterobacterales, or MDR Acinetobacter baumannii. While frameworks to address this issue exist, like the 2009 Council recommendations on patient safety (including prevention of healthcare-associated infections)[6], and HERA's (Health Emergency

[1] The European Respiratory Society (ERS) is the leading medical organization in the respiratory field. ERS prioritises science, education and advocacy in order to promote lung health, alleviate suffering from disease and drive standards for respiratory medicine globally.

[2] The European Lung Foundation (ELF) is a patient-led organisation that works internationally to bring patients and the public together with healthcare professionals to improve lung health and advance diagnosis, treatment and care.

[3] CIDRAP. Report estimates 35,000 deaths a year from antimicrobial resistance in Europe. https://www.cidrap.umn.edu/antimicrobial-stewardship/report-estimates-35000-deaths-year-antimicrobial-resistance-europe#:~:text=With%20AMR%20causing%20roughly%20100,HIV%2FAIDS%20combined%2C%20the%20ECDC%20said. Date last updated: November 17 2022. Date last accessed: February 17 2024.

[4] European Lung Foundation. Antimicrobial resistance (AMR). https://europeanlung.org/en/information-hub/living-with-a-lung-condition/antimicrobial-resistance-amr/#:~:text=Antimicrobials%20are%20used%20to%20treat,fungal%20infections%2C%20such%20as%20aspergillosis. Date last updated: 2023. Date last accessed: February 17 2024.

[5] European Council. *Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach 2023/C 220/01*. *https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023H0622(01)#:~:text=,in%20the%20EU%2FEEA%20as%20a*. *Recital 1, pp 1*.

[6] European Council. Council Recommendation on patient safety, including the prevention and control of healthcare associated infections 2009/C 151/01. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009H0703(01). Articles 8 and 9, pp. 4-6.

Preparedness and Response) recognition of [7], gaps in implementation and enforcement persist.

The EU and its Member States should take action to improve infection control across Member States, including strict hand hygiene policies, routine screening for resistant bacteria, and isolation of high-risk patients. Specifically, there is a need to fully implement the Council recommendations on stepping up EU actions to combat antimicrobial resistance through a One Health approach. Additionally, Lungs Europe supports the European Commission's (EC) proposal to develop EU infection prevention and control (IPC) guidelines for hospitals and long-term care facilities[8]. Furthermore, **infection-control requirements should be incorporated into existing EU health legislation or funding mechanisms, such as EU4Health,** to drive the implementation of AMR control measures.

2. Vaccination programmes

Vaccines reduce the need for antibiotics by preventing the onset of infectious diseases. The EU recognises the importance of vaccination for AMR in the EC One Health Action Plan against AMR (2017) and in the European Council's draft Recommendation on AMR. Vaccination is highlighted as a priority, including in animal health, to reduce the need for antimicrobials[9]. Furthermore, disease-specific programmes, such as efforts to increase the rates of flu and COVID-19 vaccines uptake, are supported at the EU level. However, key vaccines that can reduce antibiotic use, such as pneumococcal conjugate vaccine or the influenza vaccine, have suboptimal coverage in most of the EU Member States. This is a missed opportunity to curb antibiotic use. Research shows that universal pneumococcal vaccination could save hundreds of thousands of lives from pneumonia and cut antibiotic use by an estimated 47%.[10]

Increased funding for vaccination campaigns via EU4Health, Horizon Europe or the Recovery and Resilience Facility has the potential of scaling up vaccine coverage, decreasing antibiotic use and therefore reducing AMR. Moreover, public awareness

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[7] Anderson M, Panteli D, Mossialos E. Strengthening the EU response to prevention and control of antimicrobial resistance (AMR): policy priorities for effective implementation. Copenhagen: WHO Regional Office for Europe; 2024: 63.

[8] European Council. *Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach 2023/C 220/01*. *https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023H0622(01)#:~:text=,in%20the%20EU%2FEEA%20as%20a*. Article 10, pp. 10.

[9] European Council. *Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach 2023/C 220/01*. *https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023H0622(01)#:~:text=,in%20the%20EU%2FEEA%20as%20a*. Recital 30 and article 8, pp. 6 and 9.

[10] European Commission. A European One Health Action Plan against Antimicrobial Resistence (AMR). https://health.ec.europa.eu/system/files/2020-01/amr_2017_action-plan_0.pdf#:~:text=universal%20coverage%20by%20a%20pneumococcal,the%20use%20of. Date last updated: January 2020. Date last accessed: February 18 2024.

campaigns to counter vaccine hesitancy are crucial to prevent outbreaks of infections, helping to safeguard public health and reduce healthcare costs and antibiotic use.

3. Early and accurate diagnosis of infections

The deployment of rapid diagnostic tools across healthcare settings – particularly in primary care, where 80% of antibiotic prescriptions are issued – is essential to help healthcare professionals distinguish bacterial from viral infections and to identify drug-resistant pathogens. The EU Council's 2023 Recommendation [11] urges Member States to increase the use of diagnostic tests in primary care to improve antibiotic treatment. However, stronger EU-level action is still needed. Investing in laboratory capacity through Horizon Europe and EU4Health will help healthcare professionals prescribe the right treatments. The EU should also support training on how to interpret and use diagnostic results in treatment decisions.

4. Responsible use of antimicrobials

Responsible use of existing antimicrobials is essential to extending their effectiveness. EU-wide guidelines for common infections **(as planned by the Commission) to standardise best practices in antibiotic prescribing across Member States**[12] have the potential to reduce overuse and misuse of antibiotics. These guidelines should align with the World Health Organization's (WHO) AwaRe classification to help clinicians choose narrow-spectrum agents when appropriate and reserve broad-spectrum drugs for last-resort situations. Additionally, hospitals and clinics should implement active and responsible antimicrobial stewardship programmes alongside infection control measures.

Public awareness campaigns are a necessary tool to educate and empower citizens on the proper use of antibiotics. Alarmingly, almost one in ten EU citizens report taking antibiotics without a prescription[13]. Campaigns highlighting the dangers of misuse, building on initiatives like European Antibiotic Awareness Day, are essential. Patients should be partners in responsible use: informed patients are less likely to demand antibiotics inappropriately and more likely to follow prescribed treatments correctly.

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[11] European Council. *Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach 2023/C 220/01*. *https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023H0622(01)#:~:text=,in%20the%20EU%2FEEA%20as%20a*. Article 11, pp. 10.

[12] European Council. *Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach 2023/C 220/01*. *https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023H0622(01)#:~:text=,in%20the%20EU%2FEEA%20as%20a*. Article 11, pp. 13.

[13] European Council. *Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach 2023/C 220/01*. *https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023H0622(01)#:~:text=,in%20the%20EU%2FEEA%20as%20a*. Recital 22, pp. 5.

5. Fostering development of new treatments and alternatives

Bacteria inevitably develop resistance to antibiotics, making broader infection management through innovative approaches essential. Expanding research and development of antimicrobials and alternatives to antibiotics is key. There is a growing need for EU investment in:

- Vaccines for drug-resistant infections[14]
- Non-antibiotic therapies, such as phage therapy, immunotherapies and anti-virulence agents
- Improved diagnostics and biomarkers

The EU's research programmes (Horizon Europe, Innovative Health Initiative) and agencies (HERA, ECDC, EMA) should prioritise AMR in their agendas, from funding late-stage antimicrobial research[15] **to speeding up regulatory approval for novel therapies**. They must also address access challenges and supply chain vulnerabilities to reduce gaps between Member States.

[14] WHO. Another good reason to vaccinate – to keep life-saving medicines working. 2024. https://www.who.int/europe/news-room/25-04-2024-another-good-reason-to-vaccinate---to-keep-life-saving-medicines-working#:~:text=effective%20in%20preventing%20infections%20and,multiple%20benefits%20for%20AMR%20control. Date last updated: April 25 2024. Date last accessed: February 19 2024.

[15] European Council. *Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach 2023/C 220/01*. *https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023H0622(01)#:~:text=,in%20the%20EU%2FEEA%20as%20a*. Article 29, pp. 12.