CANCER PATIENTS EUROPE

WHITE PAPER

Combating AMR in Oncology: A Strategic Imperative for EU Health Policy

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Developed in consultation with members of the AMR & Cancer Advisory Board.

INTRODUCTION: AMR AND CANCER CARE

Antimicrobial resistance (AMR) occurs when bacteria and other pathogens, including viruses, fungi and parasites, no longer respond to the medicines designed to treat them.

All pathogens can develop resistance. AMR encompasses:

- Antibiotics directed against bacteria
- Antifungals directed against fungi
- Antivirals directed against viruses
- Antiparasitics directed against parasites

AMR is one of today's major global health threats and endangers access to safe care for all patients. It has particularly serious consequences for cancer patients and other heavily immunocompromised individuals.

Almost all cancer treatments, including chemotherapy, radiotherapy, surgery, stem cell transplantation and advanced therapies, weaken the immune system and increase the risk of serious infections. When these infections occur, timely access to effective antimicrobials is life-saving. It allows cancer complications to be treated, treatment cycles to continue safely, and invasive diagnostic or therapeutic procedures to be carried out without unacceptable risk. Across Europe, rising rates of resistant infections are already affecting cancer care.

Cancer patients increasingly face infections that are harder and sometimes impossible to treat. This leads to prolonged hospital stays, long-term complications or disability, delays or cancellations of treatment, and in some cases preventable deaths. These disruptions undermine treatment effectiveness and fuel anxiety, isolation and loss of trust in the health system, particularly among the most vulnerable. Without reliable antimicrobials, decades of progress in cancer prevention, diagnosis and treatment risk being reversed, and existing inequalities in access to safe, high-quality care are likely to widen.

CALL TO ACTION SUMMARY

For Policymakers

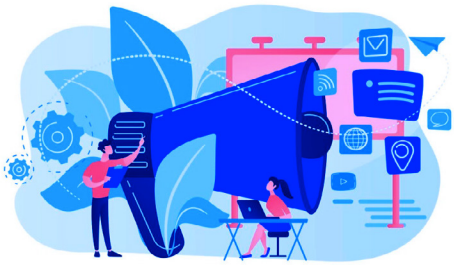
- Embed AMR in cancer plans
- Strengthen surveillance and prevention
- Secure access to effective antimicrobials

For Healthcare Professionals

- Apply strong stewardship in oncology
- Use rapid diagnostics
- Protect patients through infection control

For Patients and Patient Organisations

- Raise awareness on AMR
- Engage in decisions and advocacy
- Support coordinated action



WHY THIS WHITE PAPER MATTERS?

AMR means infections no longer respond to treatment.

For cancer patients, this can mean:

- Unsafe chemotherapy or surgery
- Treatment delays
- Higher risk of severe infection

THE CURRENT EU POLICY FRAMEWORK ON AMR

The European Union has recognised AMR as a major cross-border health threat and is promoting a One Health approach linking human health, animal health, the agri-food system and the environment. This approach is reinforced globally by the 2024 UN Political Declaration on AMR, which explicitly recognises the link between AMR and cancer and calls for strengthened, coordinated action.

At EU level, the 2017 EU One Health Action Plan against AMR and the 2023 Council of the European Union Recommendation on stepping up EU actions to combat AMR set a clear direction. They focus on reducing antimicrobial consumption, strengthening surveillance, improving infection prevention and control, and accelerating research and development, including through new economic incentives to support the development and sustainable availability of effective antimicrobial treatments.

Building on this foundation, several major EU policy initiatives currently under negotiation make this an especially timely moment for the cancer community to engage. The Critical Medicines Act and the forthcoming Biotech Act aim to reinforce Europe's resilience in essential medicines, secure supply chains, and stimulate innovation in strategic health technologies. In addition, the European Commission is planning a review of the implementation of the 2023 Council Recommendations on AMR to assess Member States' progress. The latest European Centre for Disease Prevention and Control (ECDC) report, published on European Antibiotic Awareness Day, shows worrying trends, including an increase in antibiotic consumption compared to 2024 and a rise of more than 60% in bloodstream infections caused by carbapenem-resistant Klebsiella pneumoniae.

Despite these important initiatives, global and European AMR strategies still insufficiently address the realities faced by people with cancer. Cancer patients are at particularly high risk of drug-resistant infections due to immunosuppression, intensive treatments, and frequent contact with healthcare systems. Yet AMR strategies at EU and national levels largely treat them as part of the general population. Oncology-specific surveillance data remain limited, antimicrobial stewardship is not consistently

WHAT PATIENTS SHOULD KNOW

AMR is recognised in Europe as a cross-border health threat.

2024 UN Declaration links AMR and cancer.

EU ACTION IN PLACE

EU action focuses on:

- Reducing misuse
- Monitoring resistance
- Prevention
- Research & supply security

Cancer-specific protection remains limited.

LATEST WARNING SIGNAL

+60%

Increase of bloodstream infections caused by carbapenem-resistant Klebsiella pneumoniae

Antibiotic consumption rising again in Europe.

adapted to cancer care, and AMR is rarely integrated into Europe's cancer and health security frameworks. Without targeted action, resistant infections will continue to undermine cancer outcomes. European policies on AMR, cancer and health preparedness must therefore become better aligned and mutually reinforcing.

Ensuring that AMR-sensitive cancer care is fully embedded within these frameworks and EU patient safety initiatives is crucial. This is necessary not only to safeguard access to life-saving antimicrobial treatments, but also to support antimicrobial R&D and prevent widening inequalities in treatment safety and outcomes across Member States. Without explicit attention to AMR within these flagship initiatives, the needs of vulnerable cancer patients risk being overlooked at a decisive moment for European health policy.

This White Paper seeks to ensure that the specific needs of cancer patients are fully reflected in ongoing efforts. To protect heavily immunocompromised populations, the cancer community must understand the impact of AMR, why urgent action is required, and how coordinated, cancer-sensitive policies can preserve the safety and effectiveness of cancer diagnosis and treatment across Europe.

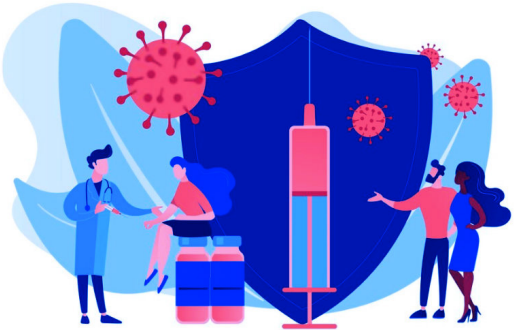
THE ISSUE: AMR IS A THREAT TO CANCER TREATMENT AND PATIENT SAFETY

AMR is rapidly making common infections harder and sometimes impossible to treat, placing cancer patients at particularly high risk of lethal sepsis. Because their immune systems are weakened, they depend on effective antimicrobials to safely receive chemotherapy, radiotherapy, surgery, transplants, biopsies and other invasive procedures. At the same time, repeated or prolonged antimicrobial use during cancer treatment can contribute to resistance in endogenous microbes, increasing the risk that future infections become difficult or impossible to treat.

This highlights the urgent need for strengthened infection prevention and control, research into protective strategies that reduce reliance on antimicrobials, and wider access to rapid, reliable diagnostics that enable early detection and targeted treatment. Cancers such as acute leukaemia or

WHEN INFECTIONS STOP RESPONDING

- Common infections are becoming harder to treat, increasing risk of sepsis.
- Cancer treatment depends on effective antimicrobials.
- Repeated antibiotic use during treatment can also fuel resistance.



THE NUMBERS PATIENTS NEED TO SEE

50%
Infections and sepsis contribute to around half of all cancer patient deaths.

3×
Cancer patients are three times more likely to die from infection or sepsis than people without cancer.

1 in 3
Patients with a resistant infection die within one month, usually from sepsis.

multiple myeloma cannot be treated safely without reliable antimicrobials.

The evidence is clear: infections and sepsis play a primary or contributing role in around 50% of all cancer patient deaths, yet AMR infections and sepsis are rarely recorded as the official cause of death. Cancer patients are three times more likely to die from infections and sepsis than individuals without cancer. Around one-third of patients who test positive for an AMR pathogen die within the first month following diagnosis of the resistant infection, usually from sepsis.

Clinicians are already raising concerns about the future. In a poll of 100 UK oncologists, 46% reported worrying that chemotherapy will soon become unviable due to AMR. If resistance continues to grow, whether driven by transmission of resistant pathogens or resistance acquired during treatment, Europe risks reaching a point where standard cancer treatments and essential diagnostic procedures can no longer be delivered safely.

Beyond clinical outcomes, AMR profoundly affects patients' daily lives. The threat of resistant infections and sepsis leads to prolonged hospital stays, repeated treatment cancellations and significant anxiety. Infections or sepsis may also cause long-term cognitive or physical sequelae, compromising recovery and optimal cancer treatment. Even without an active infection, fear of AMR can lead to social isolation and reduced quality of life. AMR also exacerbates existing health inequalities, as access to new or effective antibiotics varies widely across Europe.

WHY IT MATTERS: IMPLICATIONS FOR PATIENTS AND HEALTH SYSTEMS

Uncontrolled AMR will seriously compromise cancer care across Europe. Approximately 50% of deaths in cancer patients are directly or indirectly linked to infection and sepsis, and mortality rises sharply when these are related to multidrug-resistant pathogens.

The consequences extend beyond individual patients. For those who develop infections caused by AMR pathogens, one-third will die within a month from sepsis,

A SYSTEM UNDER STRAIN

46%

Nearly half of surveyed UK oncologists worry chemotherapy could soon become unviable due to AMR.

WHAT THIS MEANS

Without stronger prevention, smarter antibiotic use and rapid diagnostics, **resistant infections will continue to undermine both survival and quality of life for cancer patients**.

IMPACT ON PATIENTS AND HEALTH SYSTEMS

50%

Of cancer patient deaths are linked to infection and sepsis. Risk is even higher with multidrug-resistant infections.

placing immense emotional and economic strain on families. Health systems face rising costs due to longer hospitalisations, intensive care admissions, additional diagnostic testing, repeated rehospitalisations, and increased monitoring when treatment interruptions worsen an immunocompromised patient's condition. This represents significant additional pressure in times of budgetary constraint.

At the same time, limited availability of effective antimicrobial options and insufficient access to rapid diagnostics reduce clinicians' ability to manage infections appropriately and use treatments responsibly. The limited availability of new antibiotics further restricts effective responses.

At a global level, the scale of the challenge is stark: "AMR is expected to cause 10 million additional direct deaths annually by 2050. This equals the number of deaths caused globally by cancer in 2020."

Protecting cancer patients requires urgent action to ensure antimicrobials remain effective, accessible and responsibly used. Without coordinated efforts, AMR will undermine cancer treatment and diagnosis, widen inequalities and place modern oncology at risk.

REAL LIFE IMPACT

- Longer hospital stays
- ICU admissions
- Treatment interruption
- Emotional & financial strain

SYSTEM PRESSURE

Health systems face rising costs and limited resources. At the same time:

- Fewer effective antibiotics available
- Limited access to rapid diagnostics
- Very few new antibiotics reaching patients

GLOBAL SCALE

10 M

Projected AMR deaths per year by 2050.

CPE'S CALL TO ACTION ON AMR

Cancer Patients Europe calls on the EU and Member States to adopt a comprehensive, cancer-sensitive strategy to address antimicrobial resistance and protect vulnerable patients. Key priorities include:

For Policymakers

- Recognise AMR as a threat to safe cancer care and integrate it with sepsis care into disease-specific control plans at EU and national levels, including national cancer plans and broader health strategies, with measurable targets, indicators, and evaluation systems that address the specific vulnerabilities of immunocompromised patients.
- Advance pan-European indicators and surveillance systems to assess resistant infections in oncology and other high-risk disease areas, including systematic collection of cancer-specific AMR data, to enable harmonised monitoring, early risk detection, and targeted resource allocation.
- Invest in infection prevention systems, including strengthened infection prevention and control measures, adapted hospital infrastructure, vaccination strategies for cancer patients and caregivers, expanded laboratory capacity, and wider access to rapid and reliable diagnostic tools.
- Support the research and development of new antimicrobials and preventive or therapeutic solutions through a lifecycle approach, including push and pull incentives where necessary. This should include pricing and reimbursement frameworks that delink revenue from sales and recognise the broader societal value of antimicrobials in safeguarding cancer care.
- Establish procurement models that de-risk innovation, such as subscription models and advanced purchase agreements, with access and availability clauses to promote equitable access to antimicrobials across Europe.
- Introduce EU-wide standards and harmonised frameworks on prevention protocols, AMR categorisation, and access models to reduce inequities, improve preparedness, and support predictable uptake of new antibiotics.
- Support equitable access to existing antibiotics, recognising that shortages of first-line and older molecules drive inappropriate use of reserve antibiotics and accelerate resistance.

SAFE TREATMENT MUST BE PROTECTED

Cancer care must remain safe – from diagnosis to chemotherapy, surgery and transplant.**AMR policies must explicitly protect immunocompromised patients.**

This must guarantee:

- Infections prevented whenever possible
- Resistant infections detected early
- Effective antibiotics available when urgently needed
- No treatment delays due to shortages
- Equal protection across all EU countries

BUILD A SAFER SYSTEM

Stronger prevention, cancer-specific monitoring, rapid diagnostics, sustainable antibiotic supply and fair access across Europe are all essential to keep cancer treatment safe and reduce infection risk.

- Promote cross-disease collaboration and patient involvement in policymaking, bringing together representatives from oncology and other disease areas with AMR stakeholders to strengthen coordinated responses.

For Healthcare Professionals

- Strengthen antimicrobial stewardship in oncology practice, supported by investment in workforce training and capacity building in infection prevention, diagnostics, and oncology-specific AMR management.
- Develop and regularly update cancer- and treatment-specific AMR guidance, including for surgery, radiotherapy, and supportive care, and consider opportunities to reduce prophylactic antibiotic use when clinically appropriate while maintaining optimal patient outcomes.
- Expand the use of rapid and reliable diagnostics to enable earlier detection of infections and targeted antimicrobial treatment, reducing inappropriate prescribing and limiting resistance development.
- Implement robust infection prevention and control measures in oncology care settings to protect immunocompromised patients and reduce transmission of resistant pathogens.
- Engage patients in shared decision-making and provide clear information about AMR risks, prevention strategies, and measures in place to protect patient safety during cancer treatment.

For Patients and Patient Organisations

- Increase awareness and education on AMR, including prevention strategies, responsible antibiotic use, and the One Health approach, with tailored communication for underserved populations and people with lower health literacy.
- Empower cancer patients with accessible information about how AMR may affect their treatment and the measures taken within healthcare settings to prevent and mitigate infection risks.
- Promote meaningful patient involvement across the AMR continuum, including participation in guideline development, policy discussions, research initiatives, and care decision-making.
- Strengthen collaboration between patient organisations and AMR stakeholders, building alliances across disease areas to advocate for coordinated and patient-centred AMR policies.

SAFE CARE IN PRACTICE

Responsible antibiotic use, updated oncology-specific guidance, strict infection control and clear patient communication are critical to protect immunocompromised patients during treatment.

PATIENT VOICE MATTERS

Patients and organisations must:

- Be informed about AMR risks
- Participate in policy and guideline discussions
- Advocate for coordinated European action

Protecting antimicrobials means protecting every cancer patient's right to safe and effective treatment.

CONCLUSION

AMR poses a growing threat to the safety and effectiveness of cancer treatment. By acting now, strengthening surveillance, promoting responsible antimicrobial use, driving innovation and meaningfully involving patients, Europe can protect vulnerable populations and safeguard the future of cancer care.

Without strong AMR stewardship, decades of progress risk being reversed. The time to act is now.

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AMR & Cancer Advisory Board members

- **Prof. Djillali Annane** - Professor of Intensive Care Medicine, Université Paris-Saclay; Head of ICU, AP-HP; Member, European Sepsis Alliance
- **Prof. Matteo Bassetti** - Professor of Infectious Diseases, University of Genoa, Italy
- **Dr. Fatima Cardoso** - President, The ABC Global Alliance, Lisbon, Portugal
- **Vanessa Carter** - Patient with lived experience of AMR; Executive Director, The AMR Narrative
- **Dr. Nveed Chaudhary** - Founder & Chair, Jibraan Chaudhary Sepsis Research (JCSR) Foundation
- **Prof. Oliver Cornely** - Professor of Translational Research & Infectious Diseases, University of Cologne
- **Claudia Louati** - Head of Policy, European Patients' Forum (EPF)
- **Simone Mancini** - Regional Alliances Coordinator, Global Sepsis Alliance
- **Prof. Nikolaos V. Sipsas** - Professor of Pathophysiology and Infectious Diseases, School of Medicine, National and Kapodistrian University of Athens, Greece
- **Dr. Henry Skinner** - Chief Executive Officer, AMR Action Fund

Team Members

- **Antonella Cardone**, CEO
- **Juan Ventura,** Research and Patient Engagement Director
- **Josephine Mosset**, Senior Policy Officer
- **Chiara Kuby**, Policy Officer

CANCER PATIENTS EUROPE

Rue de l'Industrie 24
1000 Brussels, Belgium

info@cancerpatientseurope.org
www. cancerpatientseurope.org

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