

Cancer and antimicrobial resistance (AMR)

- Antimicrobial resistance happens when microorganisms (such as bacteria, fungi, viruses, and parasites) develop the ability to continue to grow, even when they are exposed to antimicrobial medicines that are meant to kill them or limit their growth (such as antibiotics, antifungals, antivirals, antimalarials, and anthelmintics).
- As a result, the medicines become ineffective and infections persist in the body, increasing the risk of spread to others. While antimicrobial resistance refers to all microbes that resist treatments designed to destroy them, antibiotic resistance specifically deals with bacteria that are resistant to antibiotics
- **Anti-microbial resistance was associated with 4.95 million deaths in 2019 and a reported 1.27 million people died** as a direct result of drug-resistant infections.
- By 2050, **this number could reach ten million** and cost more than USD 100 trillion without collective action.
- **if the issue of AMR is not addressed urgently**, tens of millions more people will be forced into extreme poverty, hunger and malnutrition.
- Overuse and misuse of anti-microbial medicines are major factors that have contributed to the development of drug-resistant microbes. In many places, antibiotics are overused and misused in people and animals, and often given without professional oversight.
- Examples of misuse include when they are taken by people with viral infections like colds and flu, and when they are given as growth promoters in animals or used to prevent diseases in healthy animals.
- People with cancer are more susceptible to infections due to the lowering of immune defences, while surgery and treatments like bone marrow transplants, radiotherapy and chemotherapy put the immune system under immense pressure.
- AMR is undermining key advances being made in cancer care by adversely affecting cancer treatment outcomes and threatening the survival of people living with cancer.
- **As many as 1 in 5 cancer patients** undergoing treatment are hospitalised due to infection, and antibiotics are the main line of defence.
- It is estimated that **8.5% of cancer deaths are due to severe sepsis**. Pneumonia and sepsis (as a result of bacterial infection of the blood) are among the most frequent causes of admission to intensive care units for cancer patients. "
- **A study on AMR** in the US estimates that a 30% reduction in the efficiency of antibiotics used for cancer patients (in relation to surgery or chemotherapy) would cause an additional 120,000 infections and 6,300 deaths each year.
- In 2022, UICC release a comprehensive "**AMR Control Supplement**." Written by over 50 experts committed to researching the scale of AMR and to finding workable solutions, the supplement is a key resource for for the cancer community, advocates

and decision makers, which focuses on reducing misuse and overuse, data collection and surveillance.

Recommendations include:

- **Improve public awareness.** The message that AMR concerns everyone must be conveyed widely to limit the misuse of certain drugs.
- **Create visibility.** As the COVID-19 pandemic illustrated perfectly, when numbers are reported daily, and everybody acknowledges the threat, powerful action follows.
- **Engage the health workforce.** Health-care personnel have an active role to play in drawing attention to AMR, ensuring the appropriate use of medicines and strong infection control practice in medical settings, as well as providing key input to national policy on AMR.
- **Address over prescription.** There needs to be stronger regulatory mechanisms to address over-the-counter sales of antimicrobials (including antibiotics), and to share best practices and encourage training among the healthcare community to ensure appropriate and prudent use of these medicines.
- **Ensure access to diagnostics and treatment.**
- **Encourage the development of new medicines.** As successful antimicrobials are destined to be replaced and to be successful, they must be used sparingly, innovative funding initiatives and reimbursement models for new medicines are needed, for example de-linking reimbursement from volume and paying instead based on social value. These concepts have been put into place now in the United Kingdom and have been endorsed by the G7 Health Ministers in 2022.
- **Design a centralised and specialised surveillance system for people living with cancer** to predict and prevent the emergence of antibiotic resistance. Finding better ways to predict, prevent, and treat antibiotic-resistant infections will have a major positive impact on the care of those living with cancer.
- **Strengthen infection prevention and control (IPC)**

See UICC's dedicated webpage