



Antimicrobial Resistance

What is Antimicrobial Resistance (AMR)?

Antimicrobial resistance (AMR) happens when germs, including bacteria, viruses, fungi, or parasites, survive drugs meant to kill them, making infections harder to treat, more likely to cause complications, and easier to spread to others.

How AMR Develops

AMR develops when antimicrobial drugs kill most germs (both helpful and harmful ones) but leave behind those with resistance traits, which then multiply and can pass resistance to other germs.

Misuse and overuse of these drugs, such as taking them when they are not needed or not following prescribed directions, give resistant germs more chances to emerge and spread.

Burden of AMR

Globally, antimicrobial resistance is estimated to be associated with millions of infections and hundreds of thousands of deaths each year.

AMR and Red Meat

In the U.S. and worldwide, a substantial share of medically important antimicrobials is used in food-producing animals—especially cattle and pigs—often for routine disease prevention or growth promotion rather than only to treat animals that are already sick.

How AMR Spreads from Food Animals

Antimicrobial-resistant germs can spread from food animals to people through direct contact, exposure to animal manure, consumption of undercooked meat, contact with raw meat and contaminated surfaces, during slaughter and

processing, and through contamination of the broader environment and food system.

Prevention

- Health professionals can help prevent AMR by prescribing antibiotics only when necessary and using the correct drug, dose, and duration, and by explaining to patients why they must follow directions and finish the full course.
- The public can help by practicing good hygiene (especially handwashing), handling food safely, staying current on vaccines, and choosing more sustainable foods, such as plant-based proteins or meat from producers that limit medically important antibiotics.

References

- Centers for Disease Control and Prevention (CDC). Antimicrobial resistance. January 31, 2025. Accessed March 20, 2026. <https://www.cdc.gov/antimicrobial-resistance/index.html>
- Food and Drug Administration (FDA). 2022 Summary Report on Antimicrobials Sold or Distributed for Use in Food-Producing Animals. December 7, 2023. Accessed March 20, 2026. <https://www.fda.gov/animal-veterinary/antimicrobial-resistance/2022-summary-report-antimicrobials-sold-or-distributed-use-food-producing-animals>
- Martin et al. Antibiotics Overuse in Animal Agriculture: A Call to Action for Health Care Providers. *Am J Public Health*. 2015;105(12):2409-2410.

This fact sheet provides basic information only. For specific health concerns, please contact a healthcare provider. Updated March 2026.