

How does antibiotic resistance spread?

Antibiotic resistance is the ability of bacteria to combat the action of one or more antibiotics. Humans and animals do not become resistant to antibiotic treatments, but bacteria carried by humans and animals can.

1 **Animals** may be treated with antibiotics and they can therefore carry antibiotic-resistant bacteria. 2 **Vegetables** may be contaminated with antibiotic-resistant bacteria from animal manure used as fertilizer. 3 **Antibiotic-resistant bacteria** can spread to humans through **food** and direct contact with animals.



4 **Humans** sometimes receive antibiotics prescribed to treat **infections**. However, bacteria develop resistance to antibiotics as a **natural, adaptive reaction**. Antibiotic-resistant bacteria can then **spread** from the treated patient to other persons.



5 **Humans** may receive antibiotics in **hospitals** and then carry antibiotic-resistant bacteria. These can spread to other patients via **unclean hands** or **contaminated objects**. 6 Patients who may be carrying antibiotic-resistant bacteria will ultimately be sent **home**, and can spread these resistant bacteria to other persons.



7 **Travellers** requiring hospital care while visiting a country with a high prevalence of antibiotic resistance may **return** with antibiotic-resistant bacteria.

8 Even if not in contact with healthcare, travellers may **carry and import** resistant bacteria acquired from food or the environment during travel.

