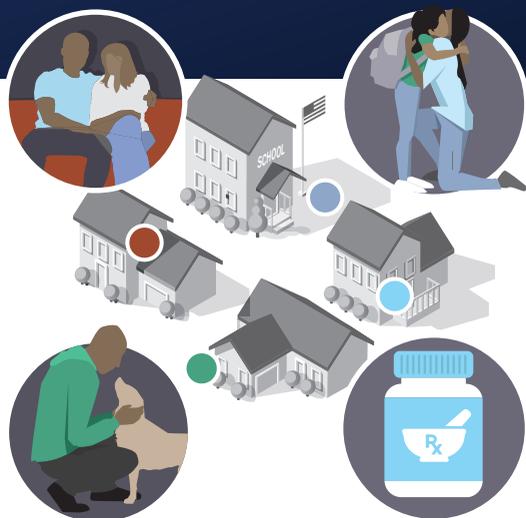


A Complex Web: Everything is Connected Community

Germs, like bacteria and fungi, including antibiotic-resistant germs, live and spread within our community and sometimes make people sick. Human activity can introduce antibiotics and antibiotic-resistant germs into the environment (soil, water). More needs to be done to better understand how germs in the environment impact human and animal health.



- ◀ Germs spread from person to person, even during activities like handshaking, working out, having sex, or going to school.
- ◀ Resistant germs can spread between people and animals, including pets and animals in petting zoos.
- ◀ Antibiotics save lives. However, any time antibiotics are used, the drugs can cause side effects and contribute to the development of antibiotic resistance.
- ◀ When traveling internationally, people can get infections from other people, animals, contaminated food or water, or through receiving medical care. People can also spread germs when they return.

CDC is concerned about antibiotic-resistant infections in the community*



↑ **50%**

Extended-spectrum beta-lactamase (ESBL)-producing Enterobacteriaceae

Spread rapidly, cause infections in healthy people



→ **50%**

Clostridioides difficile

Community-associated cases are not declining and contributed to nearly 50% of the national burden of *C. difficile* infection in 2017



↑ **315%**

Erythromycin-resistant group A *Streptococcus*

Most common cause of sore throat, can cause severe infection



STABLE

Drug-resistant tuberculosis disease

One of the world's most deadly infectious diseases



↑ **124%**

***Neisseria gonorrhoeae* (gonorrhea)**

Passed through sex, increases risk of HIV

*Since the 2013 AR Threats Report.



Learn more about CDC's
AR Solutions Initiative:
www.cdc.gov/DrugResistance

Scan with your smartphone camera to watch a video on the biggest AR threats and how you can help



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

CDC Fights Antibiotic Resistance (AR) in Our Communities

The United States is positioned for a better and faster AR response because of the strategic leadership and investment of CDC's AR Solutions Initiative in national infrastructure to detect, respond, contain, and prevent resistant infections across healthcare, community, and the environment.

CDC ACTIVITIES

Preventing Infections

- **Screening groups at risk** for tuberculosis and gonorrhea to prompt treatment.
- **Improve infection prevention and control**—like safer sex practices and safe food handling and preparation by providing education and guidance.
- **Supporting vaccinations** for AR pathogens to prevent infections and reduce the need for antibiotics.

Improving Antibiotic Use

- Using CDC's Antibiotic Stewardship Core Elements to **implement stewardship programs** in outpatient and other community settings.
- **Collaborating with states** to improve antibiotic use across healthcare settings and communities.

Enhancing Detection Nationwide

- **Expanding data sources** of antibiotic-resistant sexually transmitted infections, enteric diseases, respiratory illness, and more.
- Growing state and local expertise with **tools and technology** to detect, respond to, and contain AR.
- **Tracking resistance** to guide community prevention.

Innovating to Protect Communities

- **Funding research** domestically and internationally to understand AR risks.
- Supporting predictive analytics to **track and prevent the spread** of AR within communities.



In the next five-year National Action Plan to Combat AR (CARB), CDC aims to:

Build a vaccine data platform to accelerate and evaluate new vaccines, stopping infections before they start. Support basic and applied research and development for new antibiotics, therapeutics, and vaccines

Improve antibiotic use in outpatient settings

Help bring new AR preventatives to market

Double state and local AR infrastructure

CDC IN ACTION

Protecting Vulnerable Populations



Since a vaccine was introduced in 2000, strains of invasive pneumococcal infections decreased **97%** in children—also reducing antibiotic use.



Antibiotic prescribing declined **5%** in outpatient settings. **13%** of this decline occurred in prescriptions written for children (2011-2016).

15K

CDC's AR Lab Network sequenced nearly **15,000** gonorrhea and tuberculosis isolates (2011-2017)—identifying threats before they spread.



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