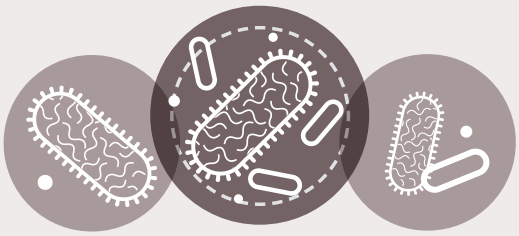
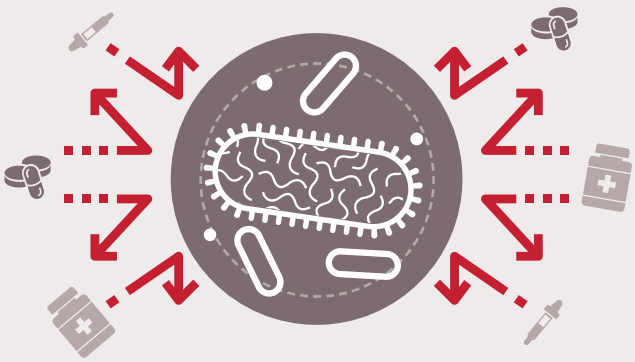
Antimicrobial Resistance (AMR)



AMR Is a process in which microbes, including bacteria, evolve to be able to resist the action of drugs, making drugs ineffective.



These next generations are then resistant to the drugs designed to kill them, lowering the effectiveness of medicines such as antibiotics used to treat TB.

Also known as:

- drug-resistant infections
- multi-drug resistant
- superbugs
- antibiotic resistance

AMR Challenges

Drug-resistant infections are a cross-cutting threat across all of medicine, which undermines treatments that we have come to rely on.

Since the 1940's antimicrobials have allowed us to routinely survive operations, endure cancer treatments, common illnesses, minor injuries, and survive infections diseases.
As more drugs stop working, common infections and injuries that were once curable risk becoming more dangerous and killing us once again.

Recent years have seen a High Level Meeting on AMR in 2016, during which member states unanimously passed a resolution to tackle drug resistant infections, calling for an international response.

The G20 has seen AMR on the agenda since 2015 and a group of global organisations and experts were tasked with reporting to the UN Secretary General in 2019.

01

Challenges modern medicine

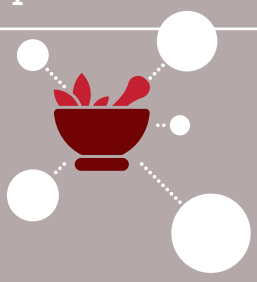
02

Research and development

03

Historical lack of political attention

04



One Health

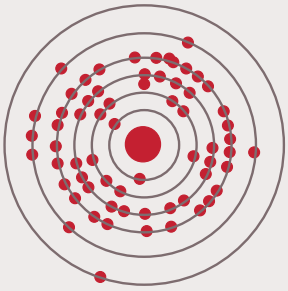
Despite antimicrobials under-pinning many medical procedures, investment into research of new tools is limited

Vaccines play a role by reducing disease burden as well as reducing antimicrobial usage and therefore selection pressure on pathogens.

The rising threat of AMR requires a holistic and multisectoral approach antimicrobials used to treat various infectious diseases in animals may be the same or similar to those used for humans.

Resistant bacteria arising in humans, animals or the environment may spread from one to the other, and from one country to another. AMR does not recognize geographic or human–animal borders. antimicrobial usage and therefore selection pressure on pathogens.

Multidrug Resistant Tuberculosis (MDR-TB)



TB bacteria have certain attributes which make them more likely to develop resistance to antibiotics.

There are two ways people develop multidrug resistant TB (MDR-TB).

01 InadequateTB treatment.

02 Direct transmission from one person to another.

Strains of TB resistant to one or more drugs have been found in every country of the world.

MDR-TB can be cured. But, the cost is much higher, takes longer and has a higher mortality rate.

Extremely drug resistant TB (XDR-TB), leaving no further treatment options.

MDR-TB Challenges

01

Global scale

TB is the world's only major airborne drug-resistant epidemic.

484,000 people were affected by multi-drug resistant TB (MDR-TB) **in 2018**

Ultimately causing

1/3 of AMR deaths

By 2050, it is estimated that AMR will be responsible for

10m deaths per year

1/4 from MDR-TB

This means, over the next 35 years, there will be an estimated

75m MDR-TB deaths or

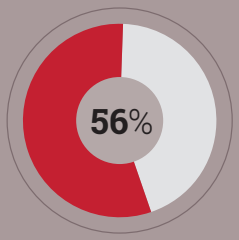
1 person every 12 seconds

02

Difficult to treat

Longer treatment, with more expensive and toxic drugs.

Latest treatment outcome data for people with MDR-TB shows:



GLOBAL SUCCESS RATE

03

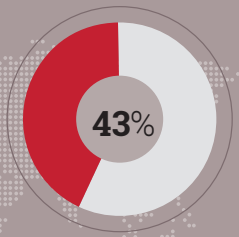
Global treatment gap

Despite some progress in testing, detection and treatment:

Only **1 in 3** people with MDR-TB enrolled in treatment **in 2018**

10 countries accounted for a **75%** global treatment gap

These countries will have a strong influence on progress in closing the gap



OF THE GLOBAL GAP WAS ACCOUNTED FOR BY CHINA AND INDIA

- China
- India
- Indonesia
- Mozambique
- Myanmar
- Nigeria
- Pakistan
- The Philippines
- The Russian Federation
- Viet Nam