


Task Two:

Thursday, January 26, 2017 6:14 PM

TOPIC

Antibiotic Resistance

This issue is said to be the top health concern of the coming generations and many people are unaware that it is even an issue.

 [How do bacteria become antibiotic resistant?](#) (youtube, Creative Commons)



and yet many people are

mons)



How it works:

<http://neurodojo.blogspot.com/2016/12/misunderstanding-antibiotic-resist>

Have to keep in mind how evolution actually works, bacteria do not evolve based on spite but certain mutations were already present in small population!

GLOBAL

A failure to address the problem of antibiotic resistance could result in



10m
deaths
by 2050

Costing

£6
trillion



[ance.html](#) (public domains)

t evolve resistance
amounts within the

n of
lt in:

ng

6

on

Attribution: DES Daughter, flickr, cre



Attribution

Fighting S

It is going
common
be in the
be simple

We need



<http://www.ip-watch.org/2016/09/22/against-grave-challenge-to-un-agrees-political-declaration-on-antibiotic-resistance/> (public do

"The membership of the United

creative commons

credit: Ullly Bleil, flickr, creative commons

SuperBugs in Truro Hospital

g to become increasingly more
for friends and family to
hospital due to what should
e illnesses and infections.

to think about SUPERBUGS.

[achievements-of-20th-century-](#)
(main)

Nations today

THE MEMBERSHIP OF THE UNITED
agreed a political declaration on
resistance, elevating the global
overuse and misuse of antibiotics
new antibiotics – to the highest



institutions today
in antimicrobial
fight against
infectious diseases – and lack of
political level."



Attribution: Microbe World, flickr

Mycobacterium tuberculosis

A colorized scanning electron micrograph of Mycobacterium tuberculosis bacteria.

Tuberculosis (TB)

Tuberculosis, commonly known as TB, is a bacterial infection. TB typically affects the lungs. It is usually treated with a regimen of antibiotics. TB infection.

Multidrug-Resistant Tuberculosis (MDR TB)

MDR TB is a form of drug-resistant tuberculosis. It is resistant to the two best antibiotics, isoniazid (INH) and rifampin. The treatment of the disease is more difficult than for drug-susceptible TB.

Extensively Drug-Resistant Tuberculosis (XDR TB)

XDR TB is a less common form of drug-resistant tuberculosis. It is resistant to the two best antibiotics and also to a third, fluoroquinolone. To circumvent the two best antibiotics, second-line drugs are used against MDR TB. These second-line drugs include three injectable anti-TB drugs: amikacin, kanamycin, and capreomycin. Treatment of XDR TB typically requires 2 years of extensive drug treatment.

Credit: NIAID

www.microbeworld.org

ckr, creative commons

Micrograph of Mycobacterium tuberculosis, the bacteria that cause TB.

Tuberculosis (TB) is a contagious and an often severe airborne disease caused by a bacterium that primarily affects the lungs, but it also may affect any other organ of the body. It is typically treated with a combination of drugs taken for 6 months to 2 years, depending on the type of

resistant TB (MDR TB)

Multidrug-resistant TB in which TB bacteria can no longer be killed by at least the two most effective drugs, isoniazid (INH) and rifampin (RIF), commonly used to cure TB. As a result, this form of TB is more difficult to treat than ordinary TB and requires up to 2 years of multidrug

Extensively drug-resistant tuberculosis (XDR TB)

Extensively drug-resistant TB in which TB bacteria have changed enough to resist treatment with isoniazid (INH), rifampin (RIF), fluoroquinolones, and at least one of the other second-line drugs. Second-line drugs include any fluoroquinolone, and at least one of the other drugs: ethambutol, kanamycin, or capreomycin. As a result, XDR TB needs up to 2 years of treatment and is the most challenging to treat.

WE NEED TO START LOOKING TO AND IDEAS FOR PREVENTION

"The theory is simple: if farmers have access to a simpler, cheaper, one-off vaccine instead of multiple antibiotic treatments."

"And it works. There has been a 90 per cent reduction in the use of antibiotics on the farm."

"We are very lucky in Australia to have mandatory antimicrobial stewardship programs and the tools to measure and report the appropriate use of antibiotics," says Professor McKenna.



<https://pursuit.unimelb.edu.au/articles/the-tiny-drop-fighting-the-big-problem>

domain



[Maryn McKenna: What do we do when antibiotics don't work any more?](#) (youtube, public domain)

OWARDS THE FUTURE

ENTION

accine to protect their flock or herd, they will no longer need

on poultry farms where the vaccine has been introduced."

ograms in our public and private hospitals, and fantastic
Thursky.

[-of-antibiotic-resistance](#), google advance search, public

Antibiotic class



An
an

Date
resis
iden

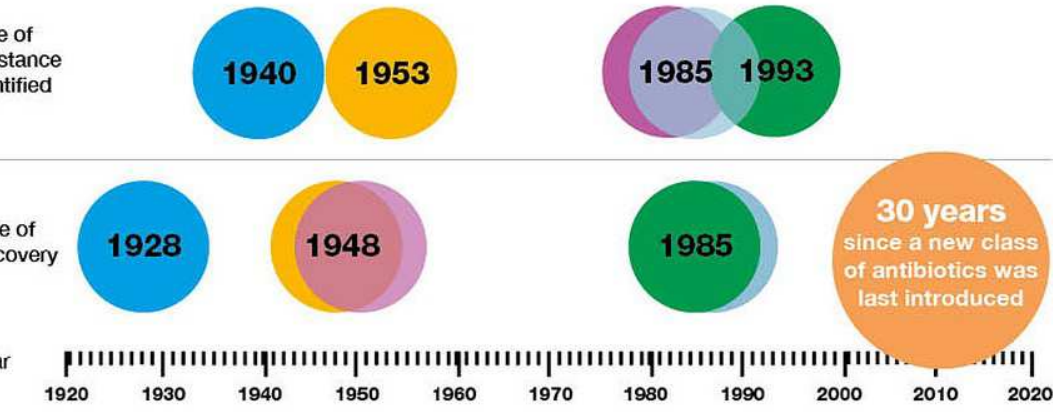
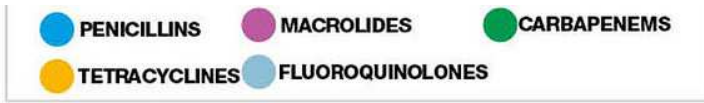
Date
disc

Yea



Attribution: D

Antibiotic discovery and resistance timeline



Attribution: DES Daughter, flickr, creative commons



DES Daughter, flickr, creative commons

THIS IS NOT ALTERNATIV

ES Daughter, Tikkr, creative commons

E FACTS. IT'S SCIENCE.