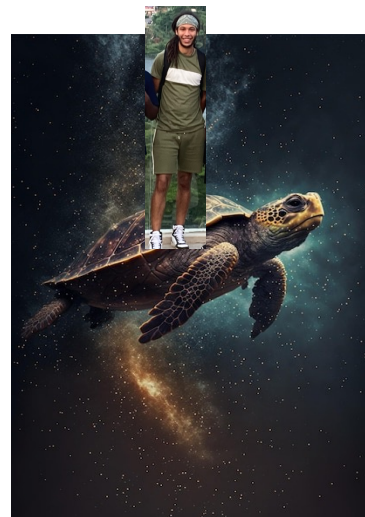


Michael Ansah – Sanger Excellence Fellow



# How many times did Michael change his mind on what career he wanted to do?

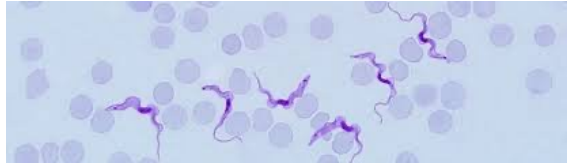
- A. 0
- B. 1
- C. 3
- D. I am still changing my mind



Answer: D

**NHS**

**England**



A-Levels: Biology,  
Chemistry,  
Physics and P.E

Master's:  
Parasitology

Sanger Excellence  
Fellow



Played for Crewe Alexandra FC.  
GCSEs: Science, French, History, RE,  
PE.

Undergraduate:  
Degree in  
Biochemistry

PhD: Biomedical  
Science



Trigger Warning!

# Neglected Tropical Diseases

“Diverse group of conditions that are mainly prevalent in tropical areas, where they thrive among people living in impoverished communities”



Snake Bites



Elephantiasis



Bilharzia



River Blindness

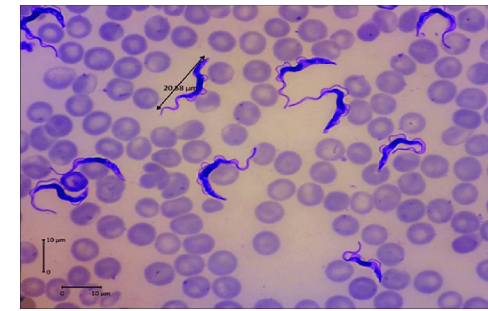


How much does it cost to develop a drug from scratch?

- A. 8 thousand pounds
- B. 8 million pounds
- C. 80 million pounds
- D. 800 million pounds

Answer: D

# What have I worked with? **Surra**



*Trypanosoma evansi*

## Hosts



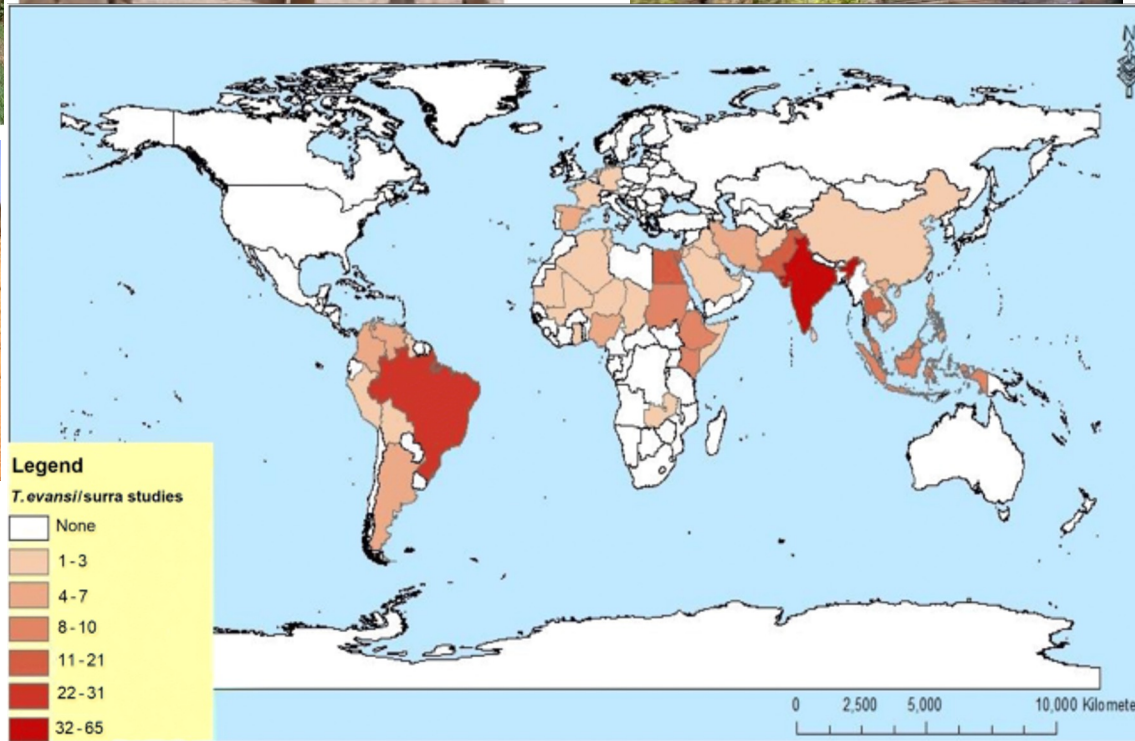
## Vectors/Transmission



Mechanical (Vampire Bat)



Oral Transmission



# How many cases of Surra are there annually?

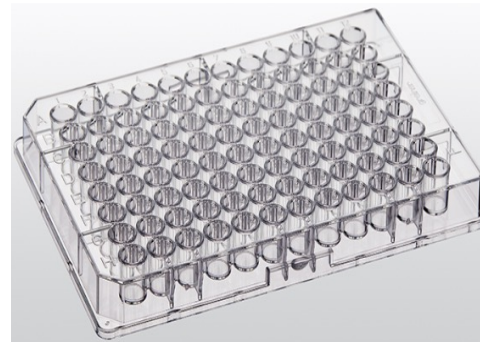
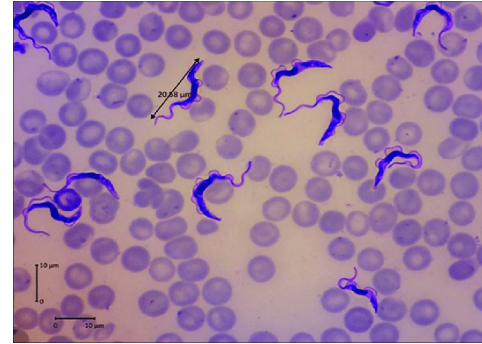
- A. We don't know
- B. 1 thousand
- C. 100 thousand
- D. 1 million

Answer: A

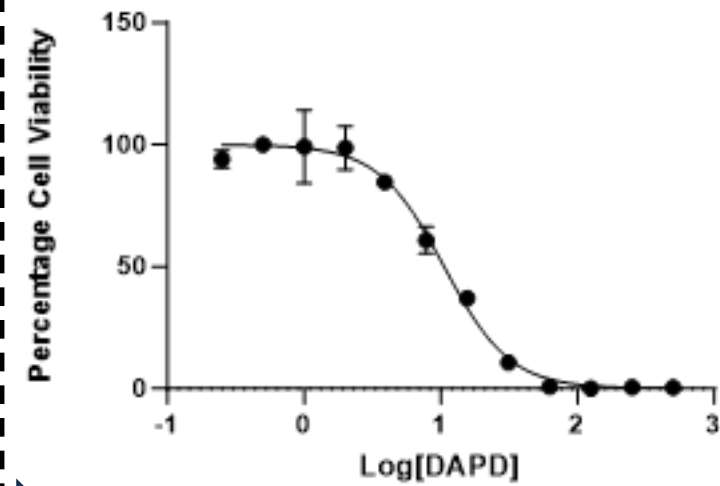
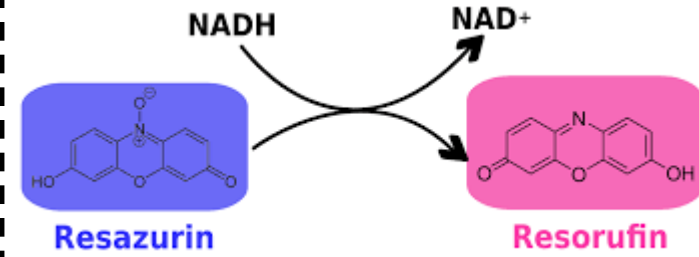
# Drug Screening



Drug Library



IC50 Assay





# What have I worked with? Cutaneous Leishmaniasis

Trigger  
Warning

Hosts



Humans



Dogs

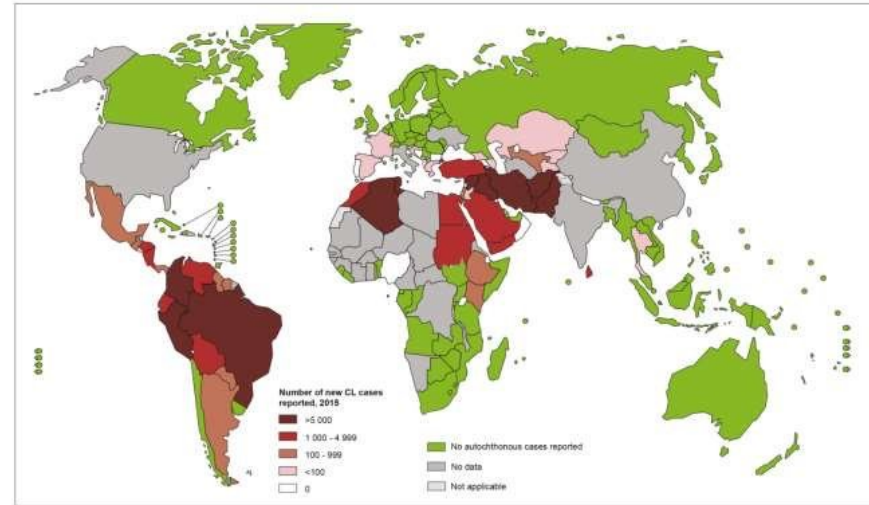
Vectors/Transmission



Sandfly

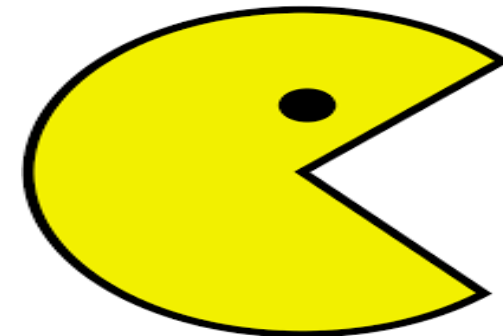
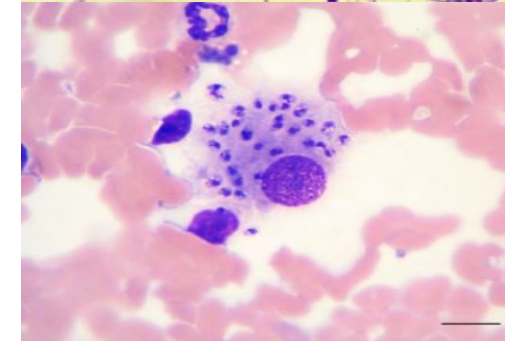
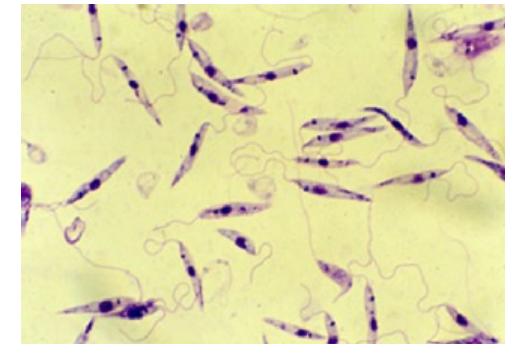
Epidemiology

Status of endemicity of cutaneous leishmaniasis worldwide, 2015



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement. © WHO, 2017. All rights reserved.

Data Source: World Health Organization  
Map Production: Control of Neglected  
Tropical Diseases (CNTD)  
World Health Organization

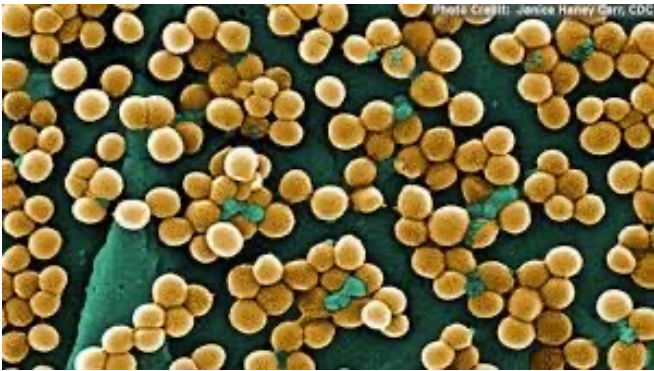


# How many cases of leishmaniasis are there annually

- A. 1 thousand
- B. 10 thousand
- C. 100 thousand
- D. 1 million

Answer: D

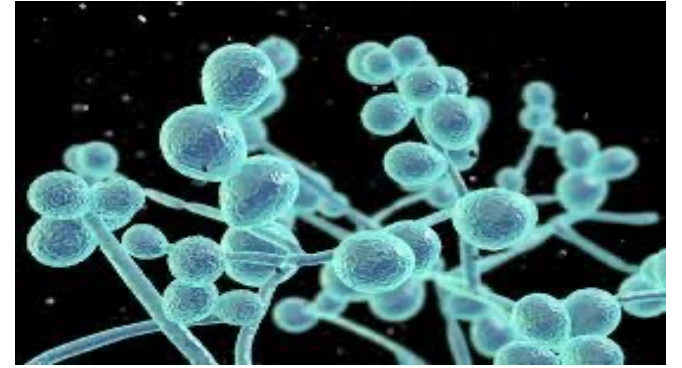
# What have I worked with? Multi-Drug Resistant Diseases



*Staphylococcus aureus*

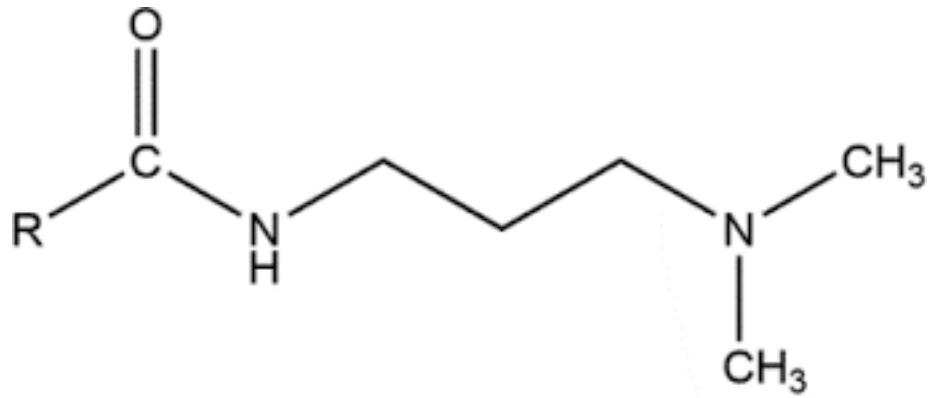


*Pseudomonas aeruginosa*

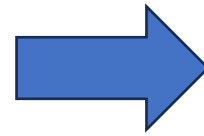


*Candida albicans*

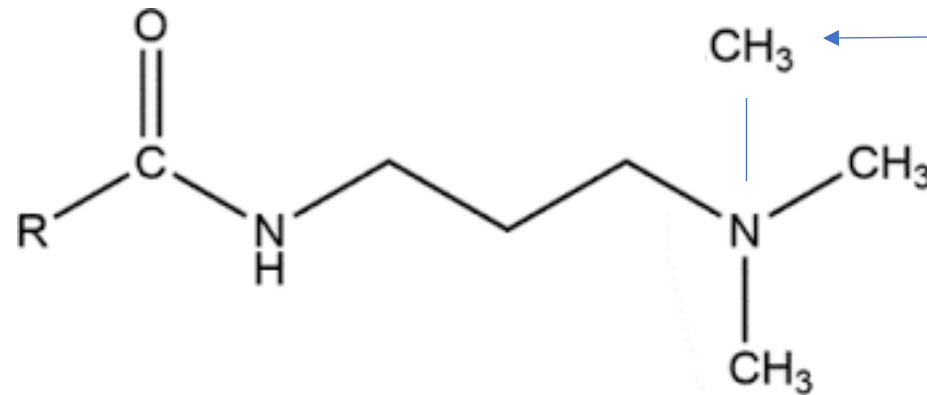
# Making Drugs



Amidopropyl dimethylamine



Making this bit longer makes the drug better



Adding this extra CH3 makes the drug better against some species but worse against others



Trigger  
Warning

# What am I working on? *Acanthamoeba*

Hosts



Humans

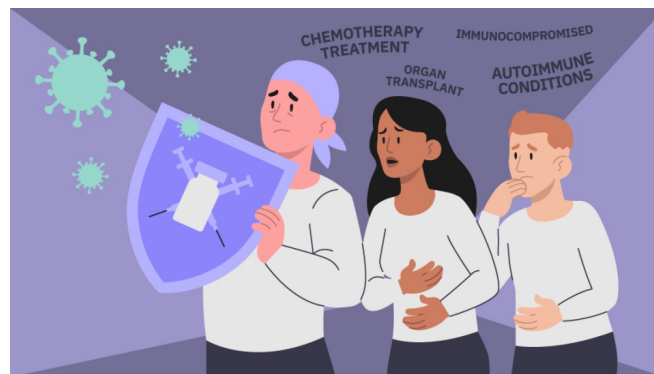
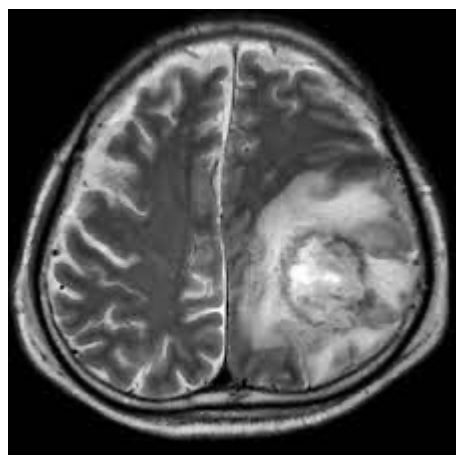
Transmission



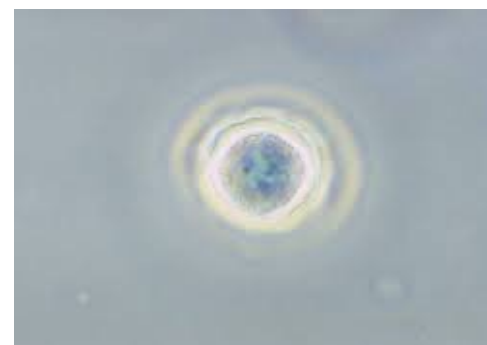
Contact Lenses



Trophozoite



Immunocompromised



Cyst

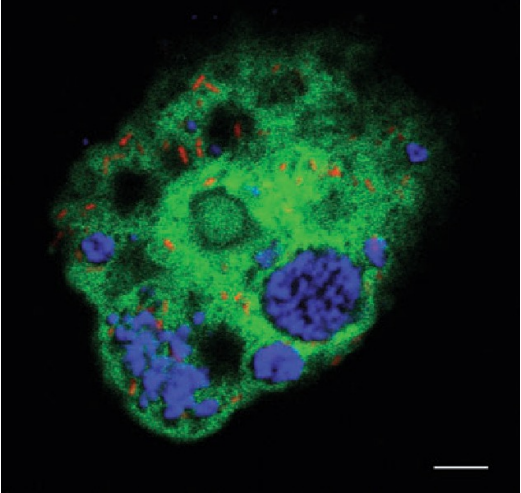
Where do we find *Acanthamoeba*?

- A. Only in Africa
- B. Only in South America
- C. Everywhere
- D. Only in fresh water

Answer: C

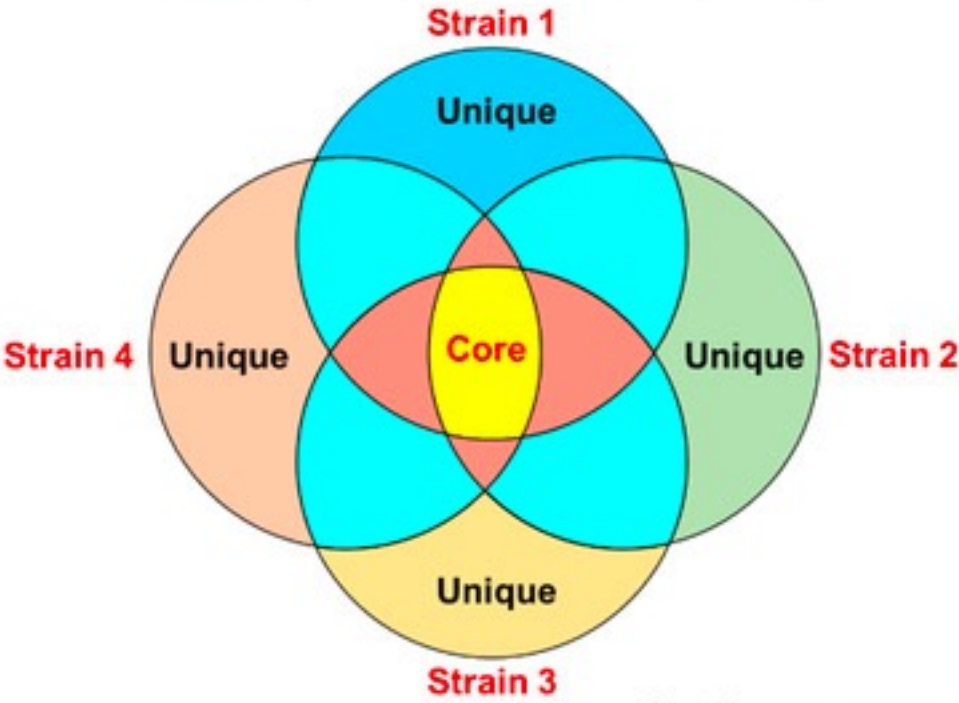
# Acanthamoeba genomics

Endosymbionts



**NHS**  
England

Pathogenicity

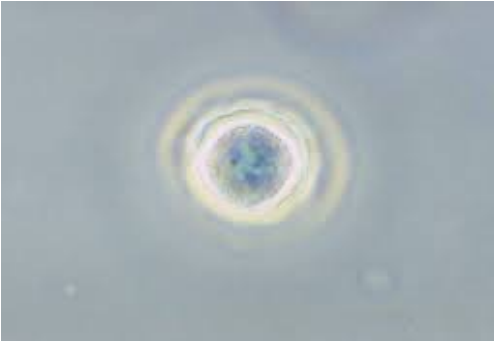


Transcriptomics



Trophozoite

Genes turned on? ↓ Genes turned off?



Cyst



# You can do anything!\*

\*But you must put in the work!

Contact me!

Email: [ma29@sanger.ac.uk](mailto:ma29@sanger.ac.uk)

Twitter: @MLKAnsah97