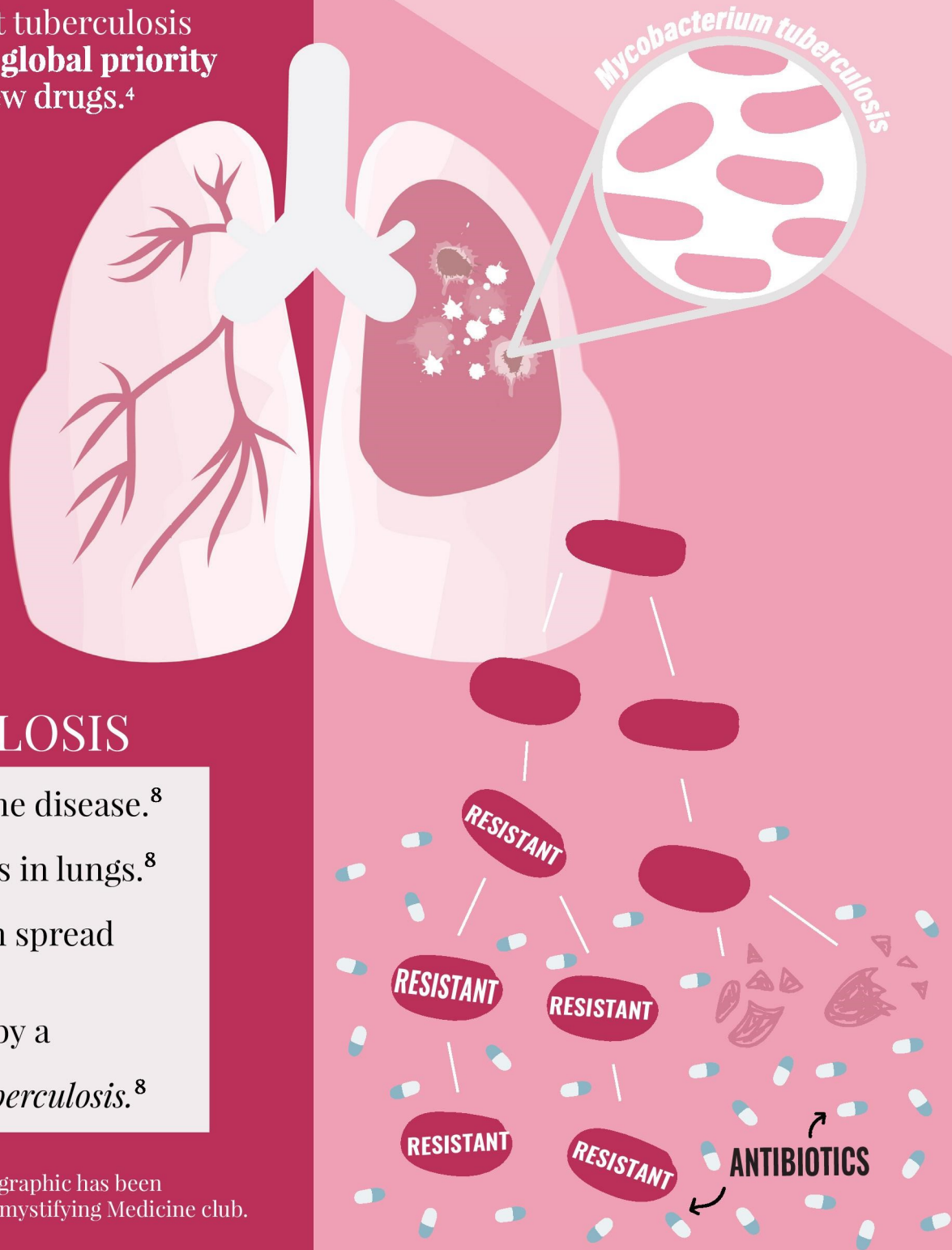


ANTIMICROBIAL RESISTANCE & TB

Multi-drug resistant tuberculosis (TB) is considered a **global priority** for investment in new drugs.⁴

TB is one of the **top 10 causes** of death globally.⁵

In 2017, a study found **600,000 cases** worldwide were **resistant** to the most effective first-line drug, **Rifampicin**.⁵



TUBERCULOSIS

Infectious, airborne disease.⁸

Results in necrosis in lungs.⁸

Only active TB can spread to other areas.⁸

Primarily caused by a bacteria called *Mycobacterium tuberculosis*.⁸

Acknowledgements: This infographic has been submitted on behalf of the Demystifying Medicine club.

ARTICLE INFORMATION

Received: 16 October 2019
Accepted: 15 November 2019
Published: 29 November 2019

Senior Editor
Ishita Paliwal

Reviewers and Section Editors

Caitlin Reintjes
Reza Khorvash

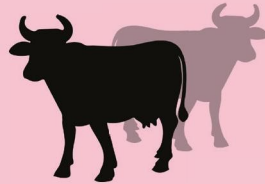
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CAUSES OF RESISTANCE



Overuse of drugs on illnesses that cannot be treated with antibiotics.¹



Extensive **agricultural use** for supplementation of livestock.²



Lack of economic incentives has led to fewer studies and advances in drug development.³

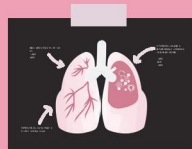
ANTIMICROBIAL RESISTANCE

- Bacterial cells acquire advantageous **mutations** that increase survival through **natural selection**.⁶
- These mutations can arise from **random genetic changes** and can be shared with neighbouring bacteria through horizontal gene transfer or passed down during budding.⁶
- When antibiotics are introduced, bacterial cells without this advantage die, while remaining **resistant cells proliferate**.⁶

ANTIBIOTIC STEWARDSHIP



List antibiotics in use in hospitals.⁷



Develop standard treatment methods.⁷



Monitor antibiotic prescriptions and track use.⁷



Educate the public on antibiotic resistance and proper drug use.⁷

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