

# Antibiotics: How Misuse can Cause Problems for the World

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## Need

- Reduce the misuse of prescription antibiotic medicine.

## Approach

- Conduct a survey to evaluate the extent of antibacterial drug misuse.
- Educate the WPI population about such misuse.

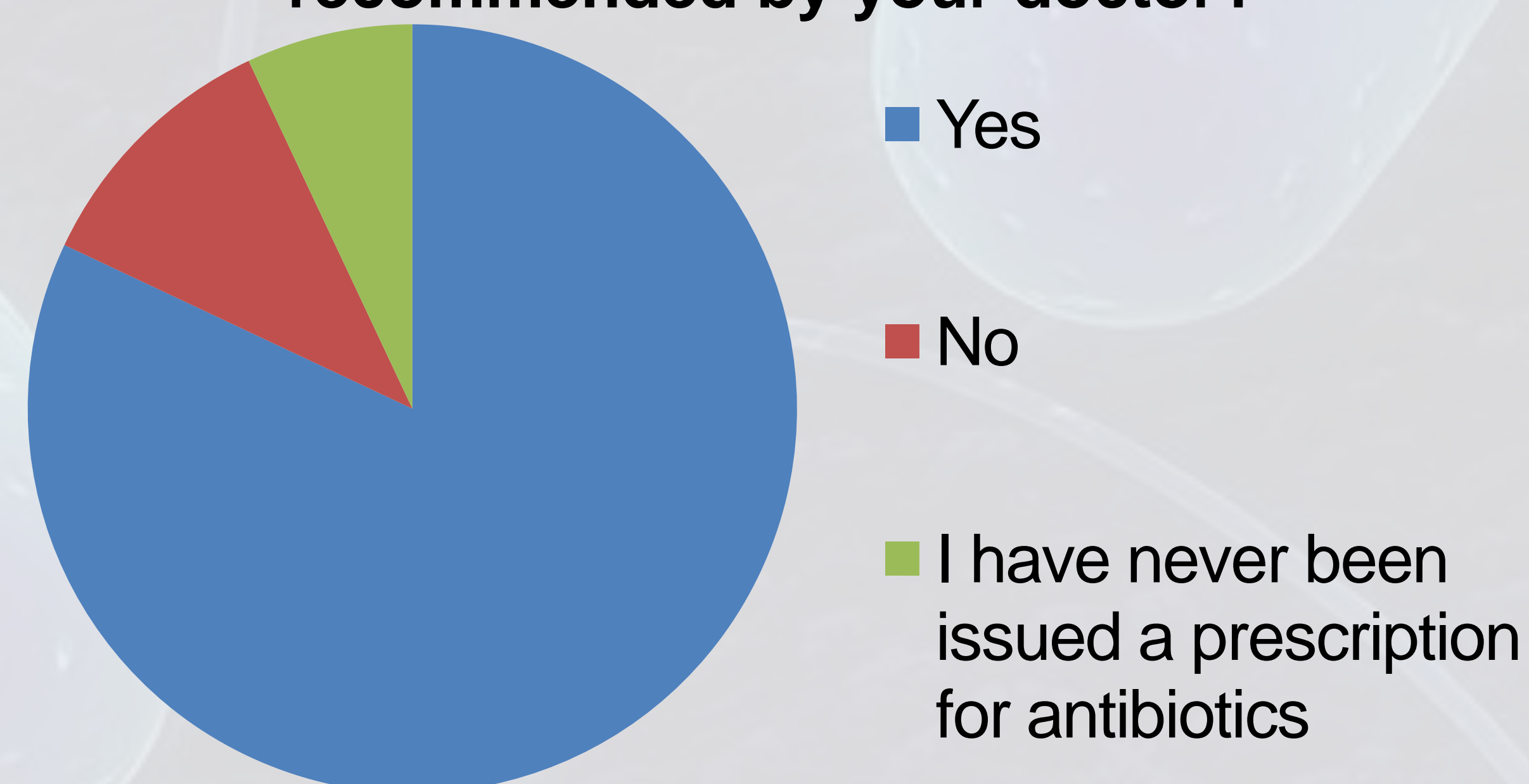
## Abstract

- Antibiotic resistance has become an issue as fewer options for treating resistant diseases are available.
- We realized there was an issue with an abuse of antibiotics, so we created a survey and sent it to the undergraduate class to evaluate the extent.
- We found that the primary issue is a lack of knowledge about the difference between bacterial diseases and viral diseases.

## Background

- When a patient is treated with antibiotics, all bacteria (good and bad) die, while those with resistance spread. These bacteria which have ways of coping with antibiotics then spread their resistance to others.
- Governments have developed agencies like the CDC to educate the public on the proper use of antibiotics after MRSA (Methicillin-resistant Staphylococcus aureus) became a huge issue in public hospitals.

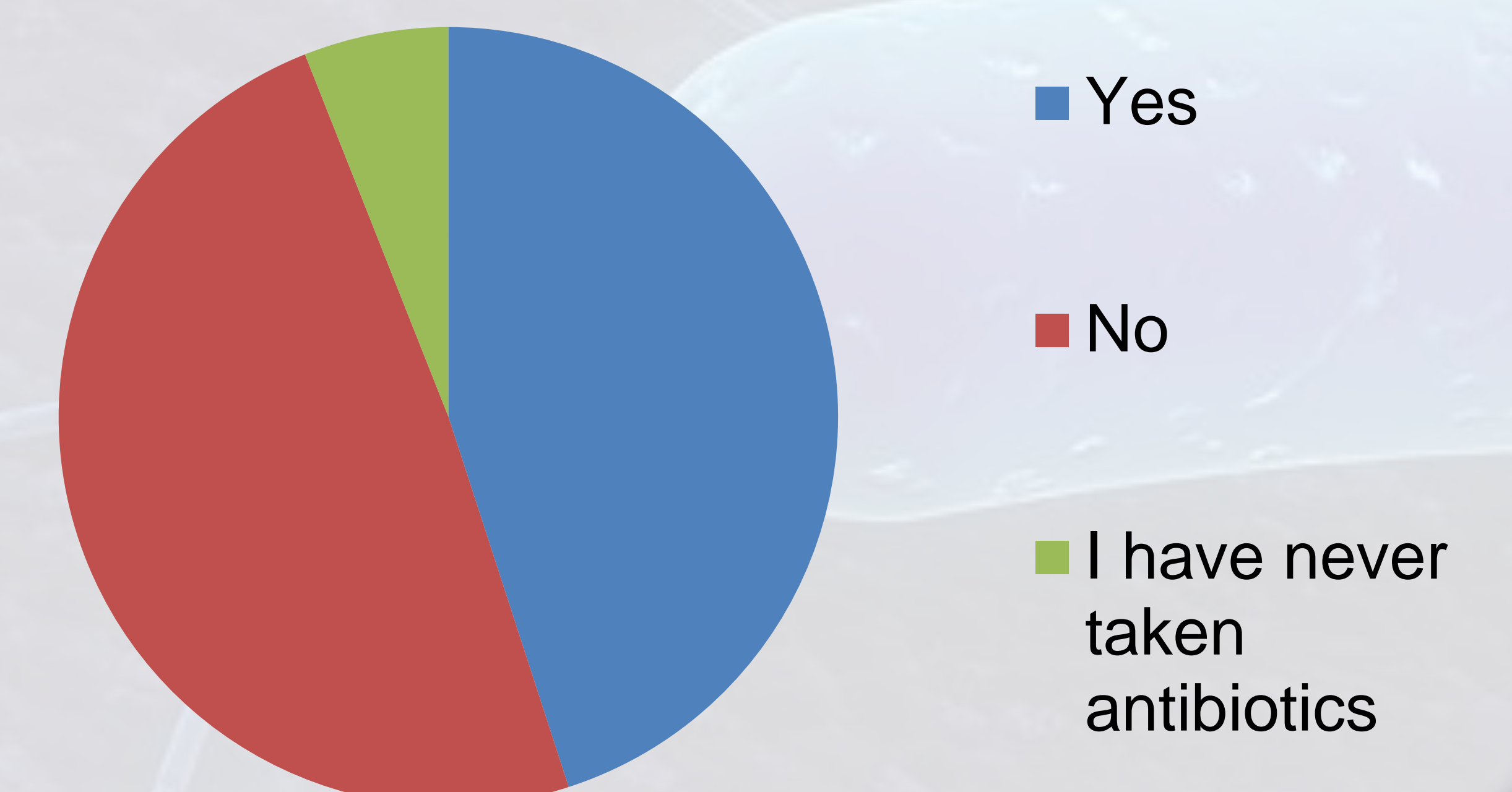
If you were issued a prescription, did you take it for the full time recommended by your doctor?



## Methods/Process

- Define the need and approach for the problem that is being studied.
- Research and examine how antibiotic resistance has come into existence, how it affects bacteria and how the public interacts with the medication.
- Get IRB approval to distribute a survey that examines the way the public views antibiotics and antibiotic resistance.
- Create a pamphlet that educates the public on the potential dangers of antibiotic resistance.

Have you ever taken antibiotics when you've had the flu, cold or other virus?



## Data Analysis

- 11% of people who took antibiotics didn't take them for the whole term.
- 16% of those reused or gave their prescription away.
- 2% said they'd given away or sold prescription antibiotics.
- 45% of people said they had used antibiotics while they had a virus.

These results prove that there is need for education about antibacterial resistance. It is important to teach people not to use antibiotics when sick with a virus because it will contribute to antibacterial resistance.

## Conclusions/Recommendations

- We discovered that most people don't sell or trade antibiotics, so we decided that passive education would be most effective.
- The largest issue is that people don't understand the difference between illnesses caused by viruses and those caused by bacteria.
- People need to be educated about the difference between bacteria and viruses so that they do not take antibiotics when they have a disease caused by a virus.

## References

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