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Antibiotic Resistance: Alerting the Public

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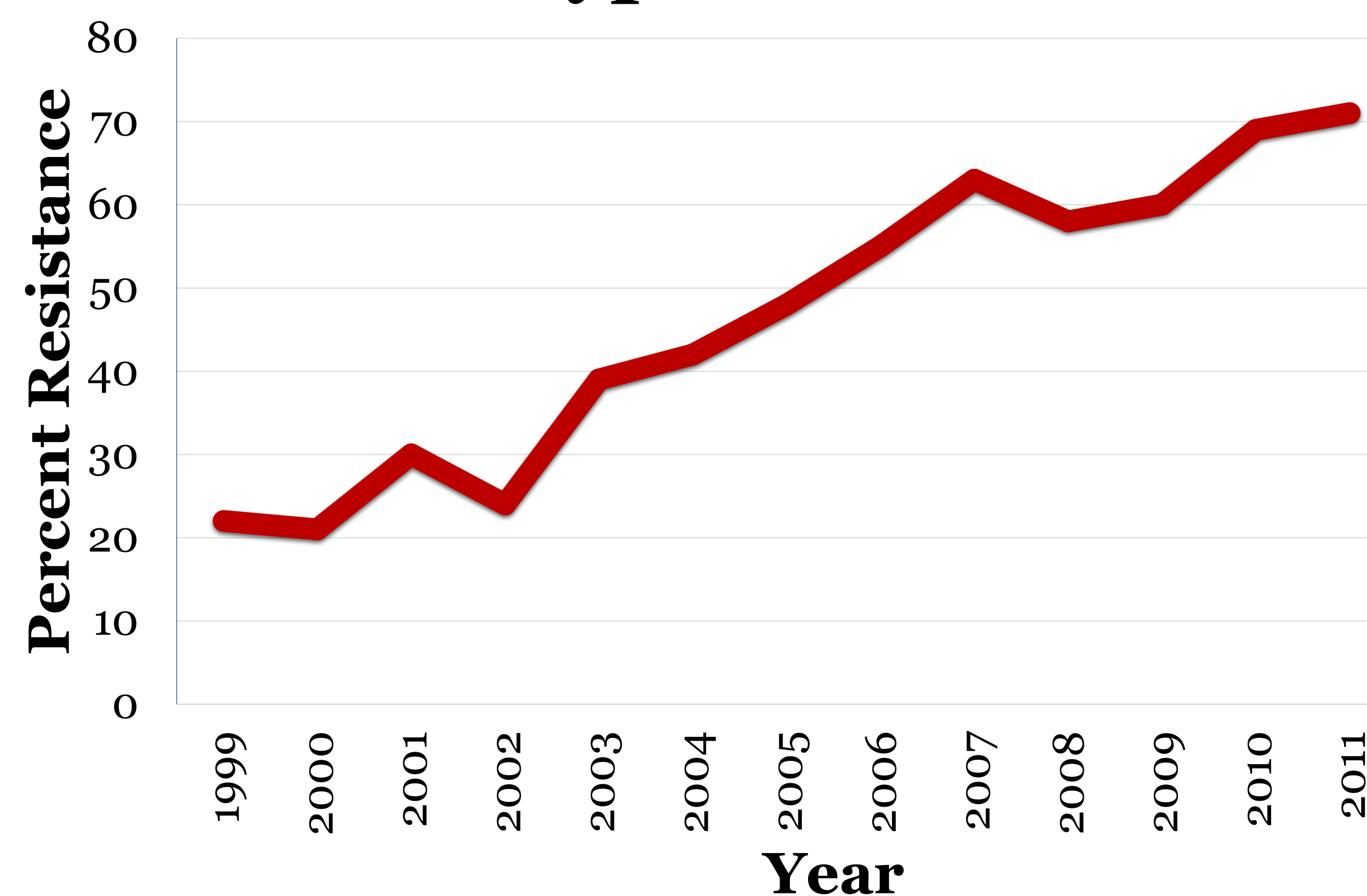
2 MILLION INFECTED. 23 THOUSAND DEAD. \$35 BILLION LOST.

The Problem

- The misuse of antibiotics has substantially increased the number of resistant bacteria
- In the US alone, 235 million doses of antibiotics are consumed annually
- 50% of this consumption is unnecessary

Drug resistance in Salmonella Typhi (typhoid fever) has jumped from about 20% in 1999 to more than 70% in 2011.

Resistance to Ciprofloxacin in Typhoid Fever



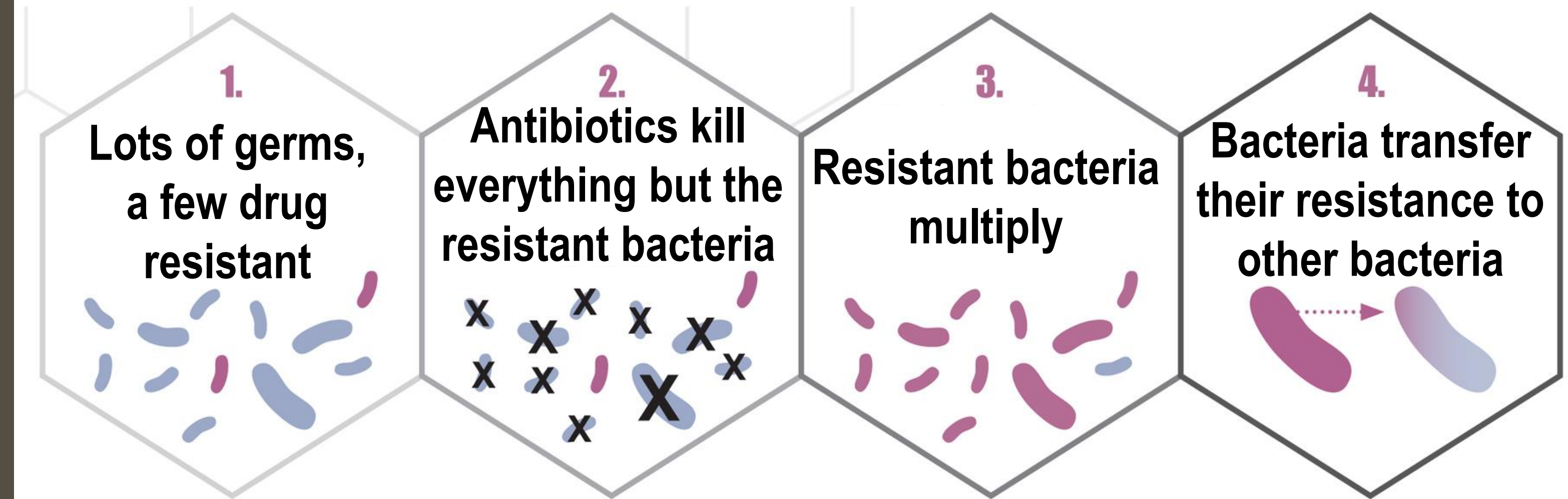
Abstract

The goal is to reduce the presence of antibiotic resistance by educating Worcester high school students as a part of their biology class. The results of the program will be analyzed through pre and post tests composed of qualitative and quantitative components.

Approach

- Day 1**
 - Quantitative pre test
 - Jeopardy game
- Day 2**
 - Video about an interview and discussion
 - Antibiotic resistance overview
 - Stop-action Lego video
- Day 3**
 - Gene transfer lab
- Day 4**
 - Discuss current facts and statistics
 - Play "Two Truths and a Lie"
- Day 5**
 - Analyze gene transfer lab data
 - Quantitative post test
 - Qualitative survey

How Antibiotic Resistance Happens



Measures of Attribution

- Quantitative pre and post test
- Qualitative post-program survey
- Paired t-test with $p < .05$ to analyze the data

Conclusions

What was determined:

- What topics will be covered
- How the material will be presented
- How this program will be implemented

Acknowledgements

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References

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