Antibiotic Resistance

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**OVERVIEW**

**NEED:** Educate WPI students about the proper use of antibiotics and antibiotic resistance

**APPROACH:** Survey WPI students to prove the need for education about antibiotic resistance, and educate them about proper usage

**BACKGROUND**

- Mass-production of Penicillin, the first antibiotic, began in 1943
- Just 4 years later, bacteria began to develop resistance
- More than 1/2 the antibiotics used in hospitals are not needed or are given in incorrect doses
- Almost 50% of pediatricians feel pressured into prescribing antibiotics
- Of that group, about 1/3 prescribe these unneeded antibiotics

**SURVEY**

**GOALS:**
- To understand when and how students use antibiotics
- To prove students need further education about antibiotic usage

**DETAILS:**
- Based on a survey of 451 undergraduate students
- Of these students, 91.1% or 411 students have taken antibiotics

<table>
<thead>
<tr>
<th>Question</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>When did you stop taking prescribed antibiotics?</td>
<td>74%</td>
</tr>
<tr>
<td>Have you ever taken leftover antibiotics when you were sick again?</td>
<td>43%</td>
</tr>
<tr>
<td>Do you think antibiotics are overprescribed?</td>
<td>50%</td>
</tr>
<tr>
<td>Have you ever asked your doctor specifically for antibiotics when you were sick?</td>
<td>33%</td>
</tr>
<tr>
<td>Antibiotics can only treat bacterial infections</td>
<td>True 69%</td>
</tr>
<tr>
<td>Did you ever use antibiotics for bronchitis, a sore throat, a common cold, a runny nose, or a cough?</td>
<td>False 31%</td>
</tr>
<tr>
<td>Do you know what antibiotic resistance is?</td>
<td>23%</td>
</tr>
<tr>
<td>If “Yes”, please describe in 10 or less words.</td>
<td>Correct Answer 55%</td>
</tr>
</tbody>
</table>

**CONCLUSIONS**

- Over 40% of students who did not complete the full course reused antibiotics
- Of the nearly 60% of students that believe antibiotics are overprescribed, 1/3 have requested antibiotics from their physician.
- Over 50% of students who know that antibiotics only affect bacteria have used antibiotics to treat non-bacterial infections.
- Less than 60% of students who defined antibiotic resistance had the proper definition.

**REFERENCES**


**PLAN OF ACTION**

Present poster and pass out information on the importance of preventing antibiotic resistance

- Do not pressure your doctor for antibiotics
- Never reuse antibiotics

Dispel misconceptions surrounding antibiotics

- Should not be used for viral-based illnesses
- Full regimen of prescribed antibiotics must be completed

**Antibiotic Resistance**

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