ALCOHOL KILLS... Bacteria
Reducing Ineffective and Counterproductive Use of Hand Sanitizers

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Need
To promote better hand hygiene in the WPI community, thereby decreasing the spread of disease.

Approach
- Design a survey to gather information regarding use and understanding of hand sanitizer
- Distribute the survey to the WPI student body through email
- Distribute “info cards” to raise awareness

Data

Chart I: Frequency of Use (Times per Day)

- 2.4% 10.7% 28.9% 1.9% 0.2%
- Never 0 to 2 3 to 4 5 to 6 7 or more

Chart II: Awareness of Different Active Ingredients

- 10.1% 40.0% 59.1%
- Aware Not Aware No Response

Chart III: Preferred Active Ingredients

- 45.8% 45.0%
- Alcohol Non-alcohol No preference

Chart IV: Effectiveness of Different Alcohol Concentrations

- 55.2% 43.3%
- Believed Equal Believed Not Equal No Response

Considerations
- Hawthorne Effect: questions designed to avoid this, but it may have influenced the results regardless
- The “Preferred Active Ingredients” chart excludes the “No Response” category

Literature Review

- Alcohol-based sanitizers must contain at least 60% alcohol to be effective
- QACs such as Benzethonium and Benzalkonium Chloride are antimicrobial agents found in hand sanitizers, surface cleaners, etc.
- Research in progress shows bacteria developing resistance to QACs and other agents

Outcome

- Total responses: 467
- Important Findings:
  - Chart I: The WPI community uses hand sanitizer, but not excessively
  - Charts II and III: Many are unaware of or simply don’t consider the active ingredients in the sanitizer they use
  - Chart IV: Similarly, many are unaware that a minimum concentration of alcohol (60%) is required to be effective

References
- Antimicrobial Agents and Chemotherapy. 2010. 54(5), 1311.

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