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

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

Data
Chart I: Frequency of Use (Times per Day)
- 2.4% Never
- 15.7% 0 to 2
- 5.9% 3 to 4
- 19.7% 5 to 6
- 28.9% 7 or more
- 19.0% No Response

Chart II: Awareness of Different Active Ingredients
- 40.0% Aware
- 59.1% Not Aware
- 0.9% No Response

Chart III: Preferred Active Ingredients
- 45.8% Alcohol
- 45.0% Non-alcohol
- 9.2% No preference

Chart IV: Effectiveness of Different Alcohol Concentrations
- 55.2% Believed Equal
- 43.3% Believed Not Equal
- 1.5% 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

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
- [Link to reference 1]
- [Link to reference 2]
- [Link to reference 3]

Acknowledgements
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Design Sources:
- Image: http://4.bp.blogspot.com/-Fz3w8540988017131988080674.png

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