

ALCOHOL KILLS... Bacteria

Reducing Ineffective and Counterproductive Use of Hand Sanitizers

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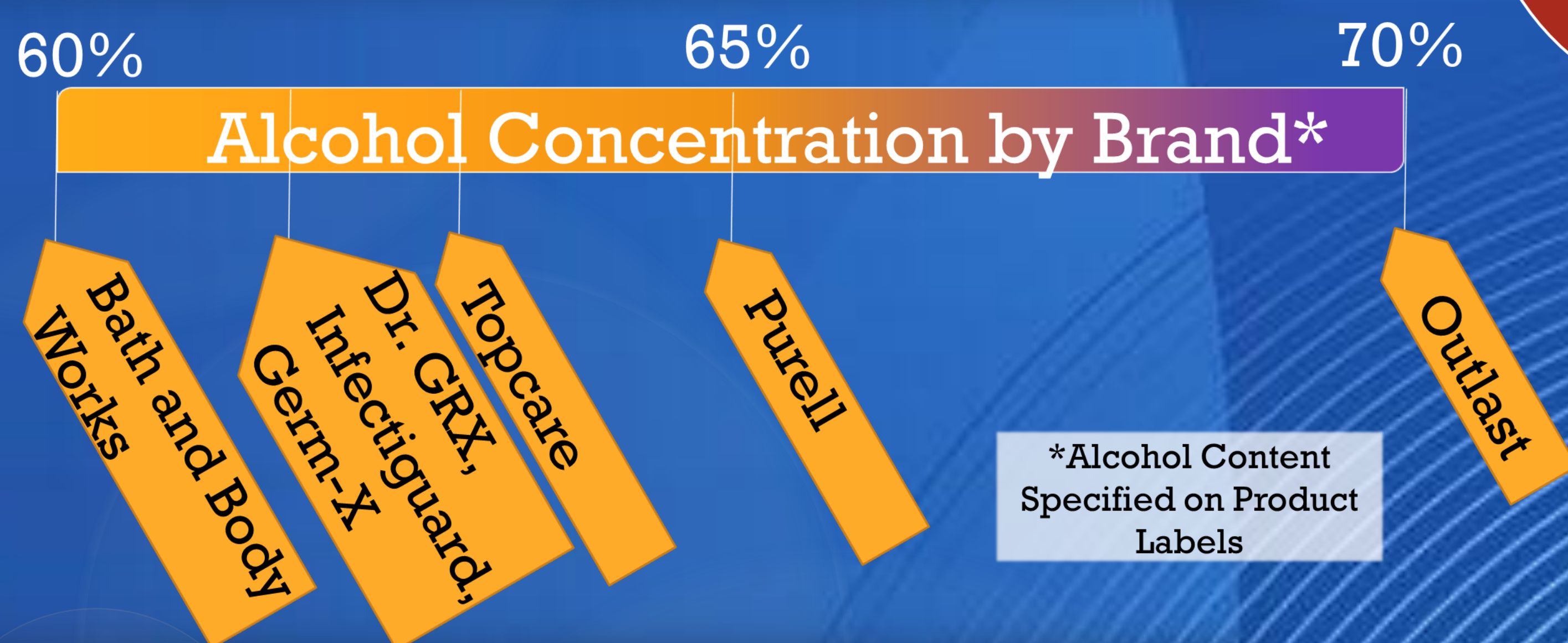
Need

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)

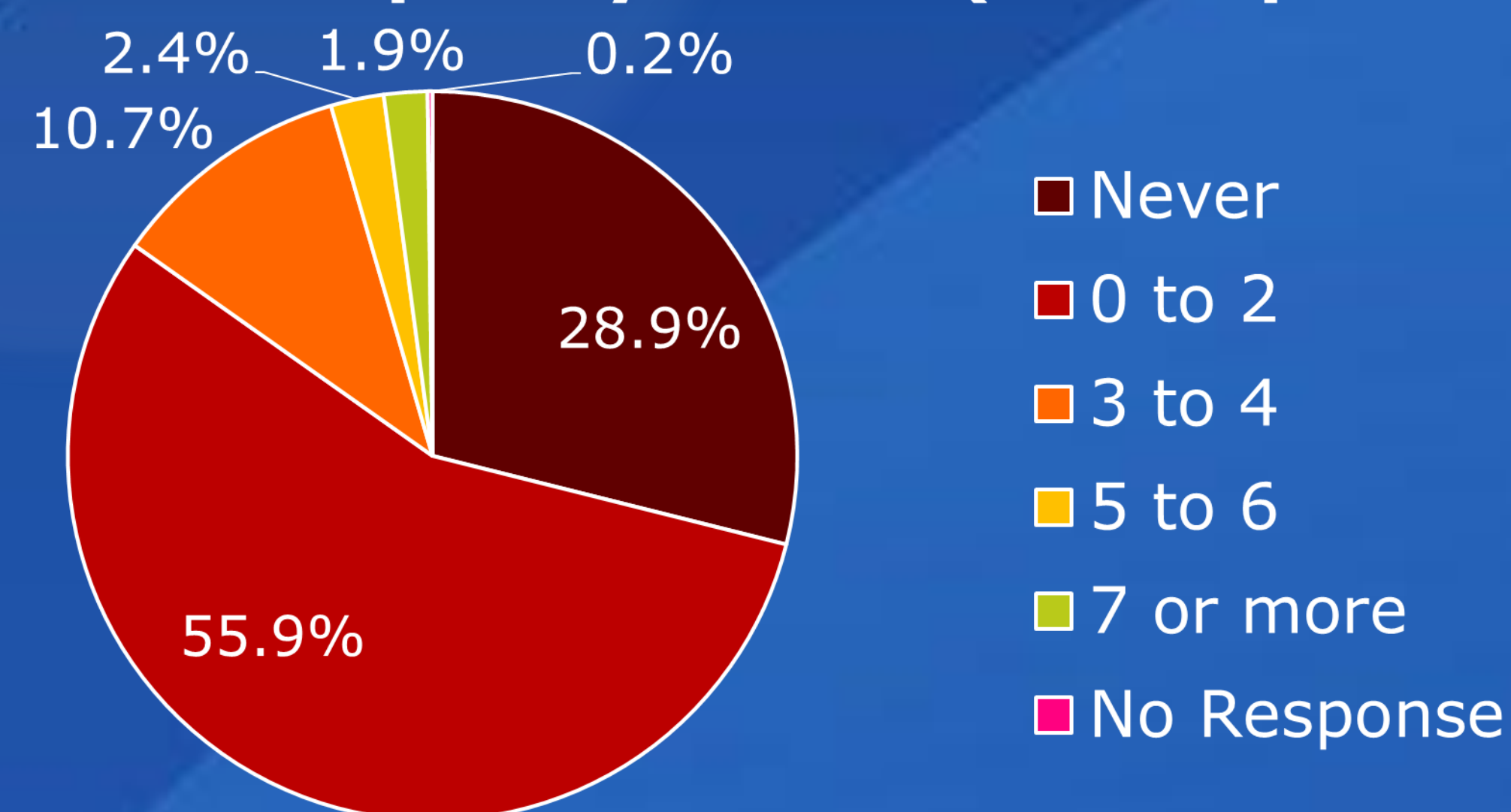


Chart II: Awareness of Different Active Ingredients

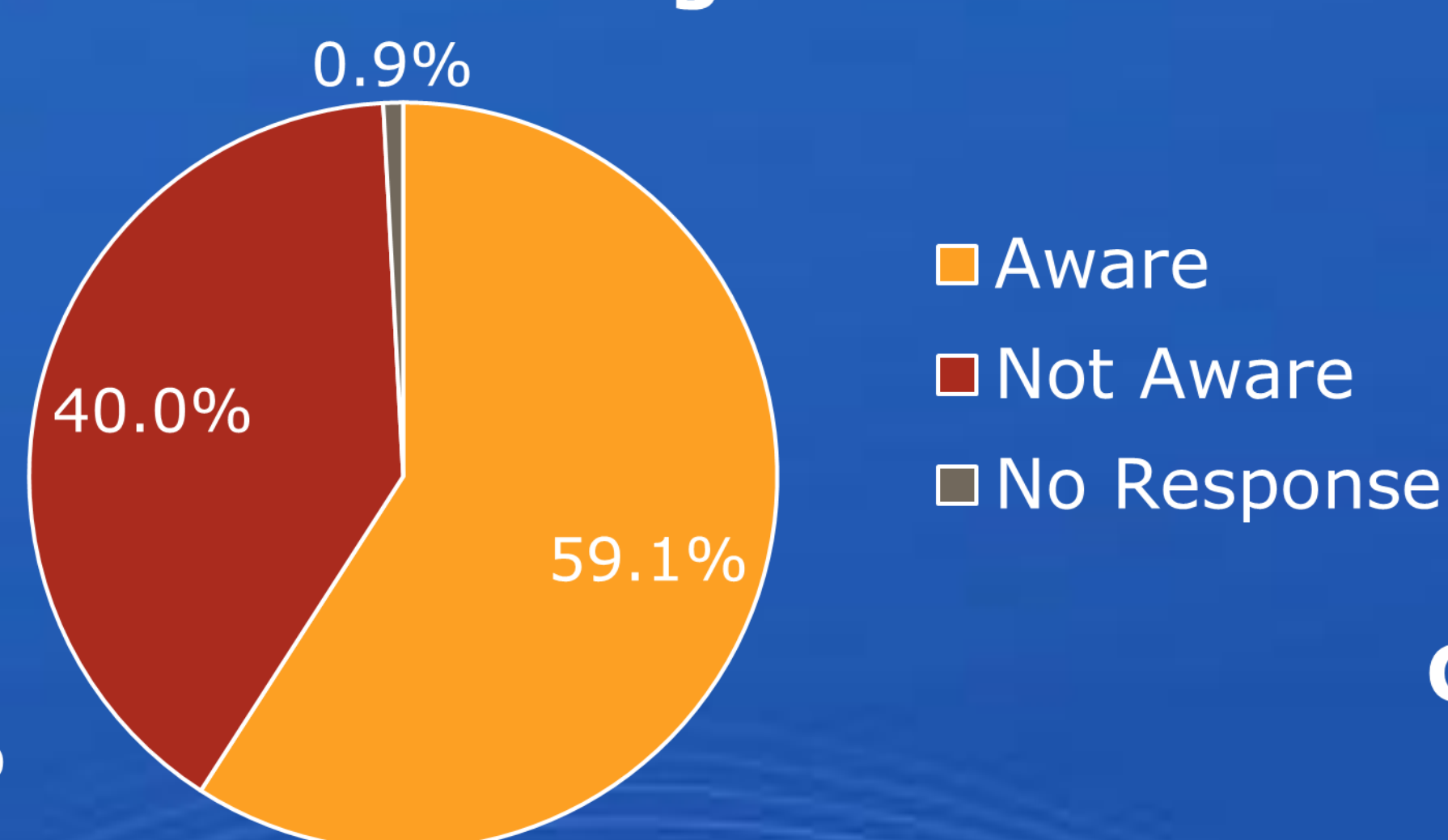


Chart III: Preferred Active Ingredients

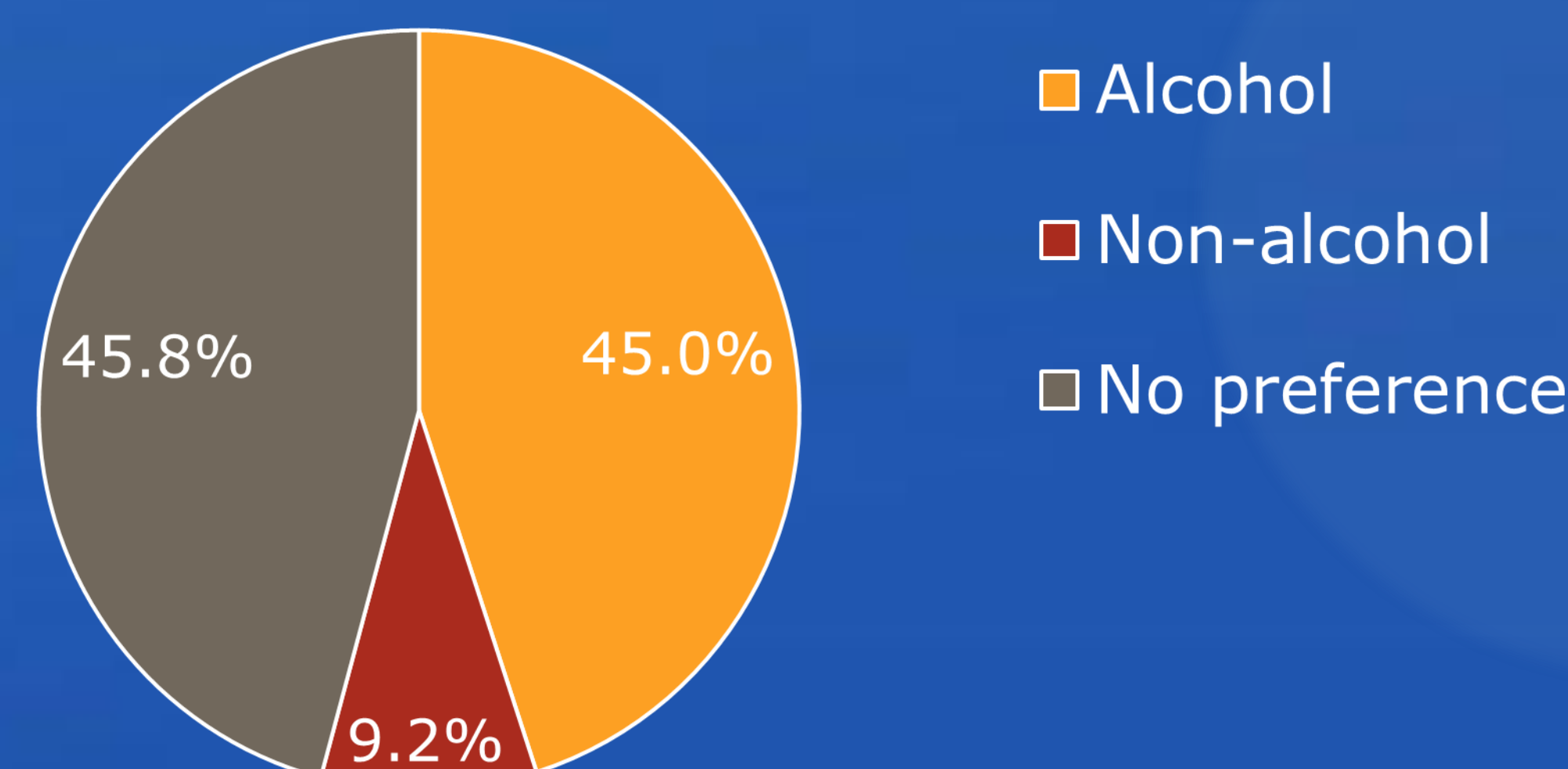
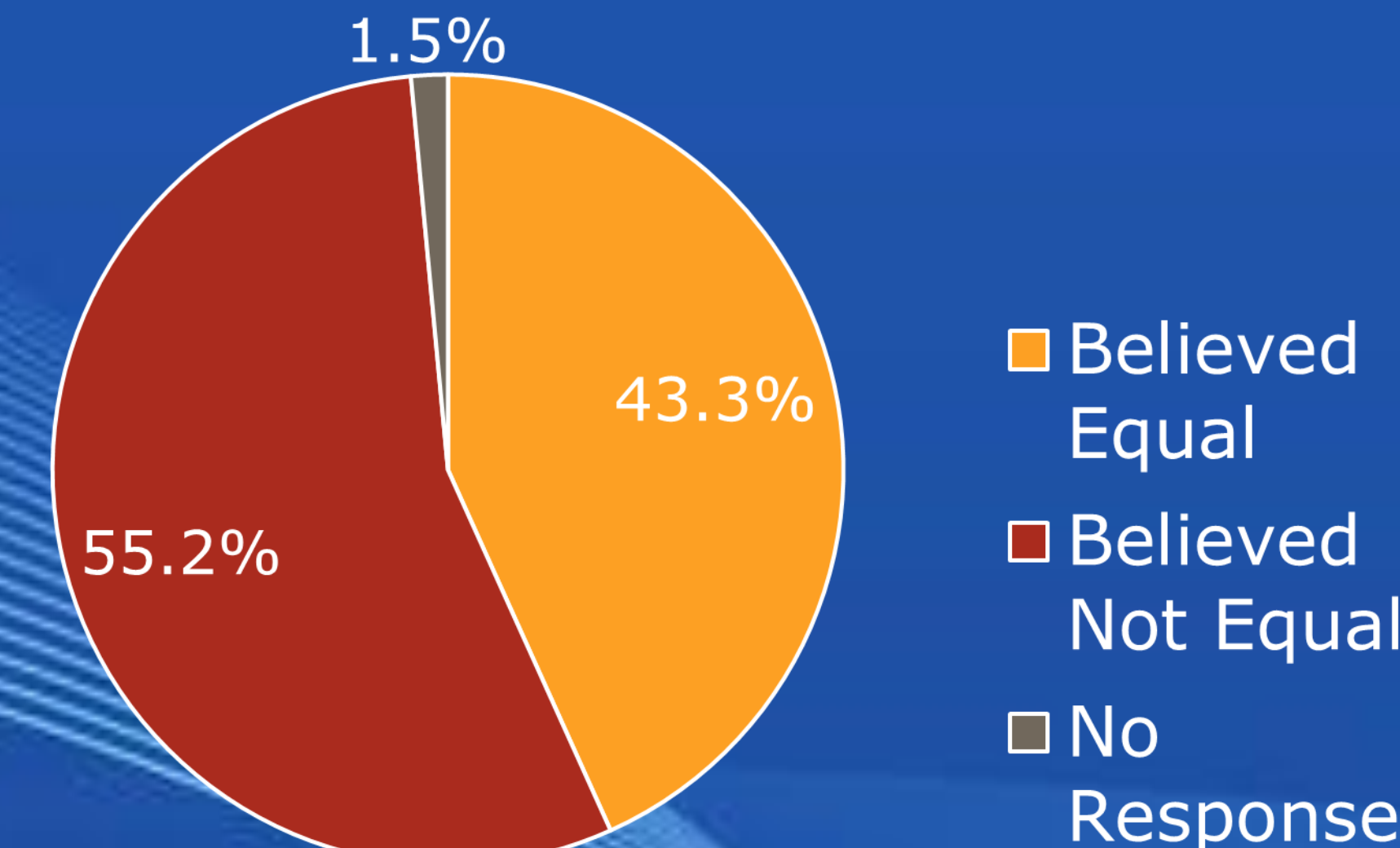


Chart IV: Effectiveness of Different Alcohol Concentrations



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

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

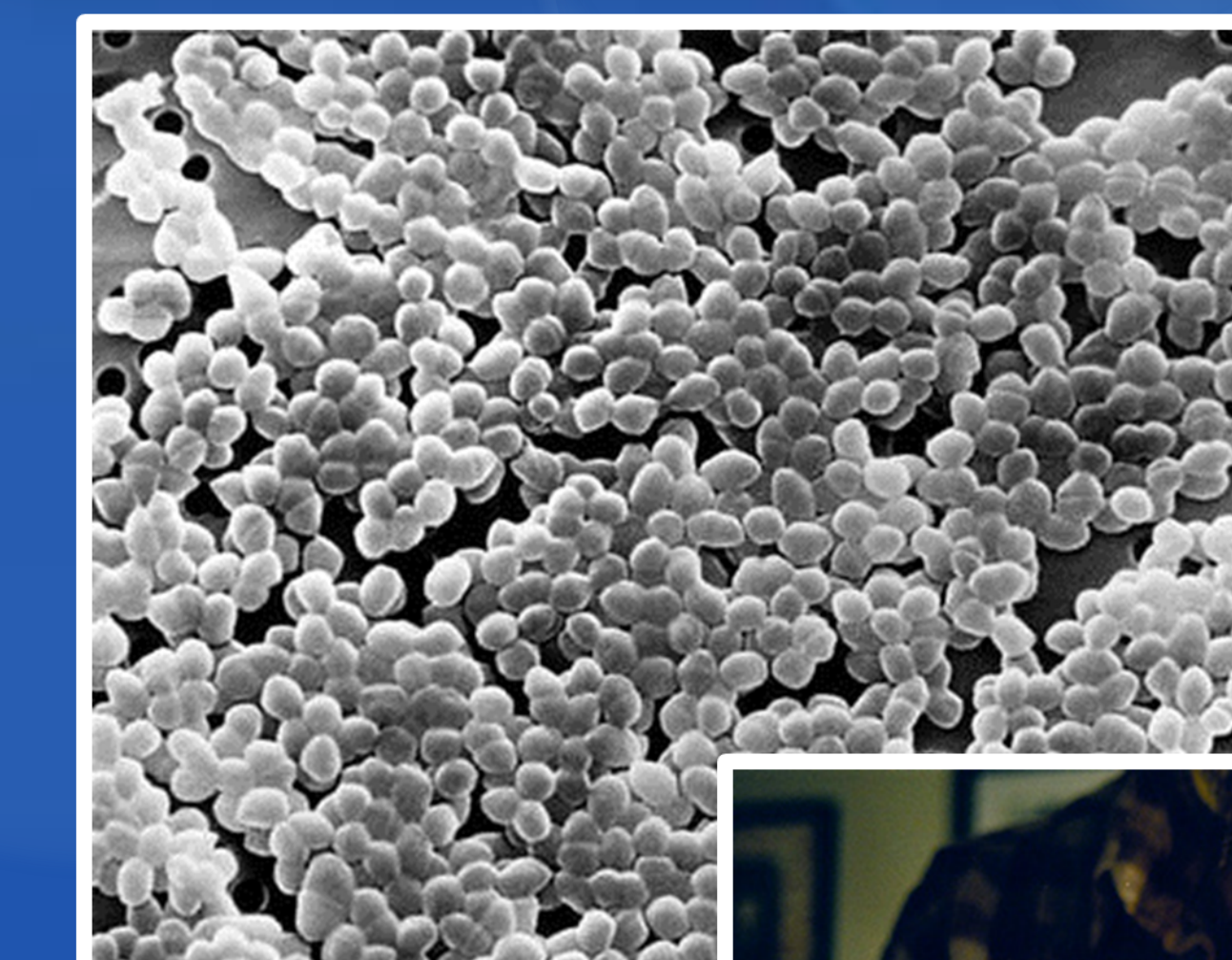


Image I

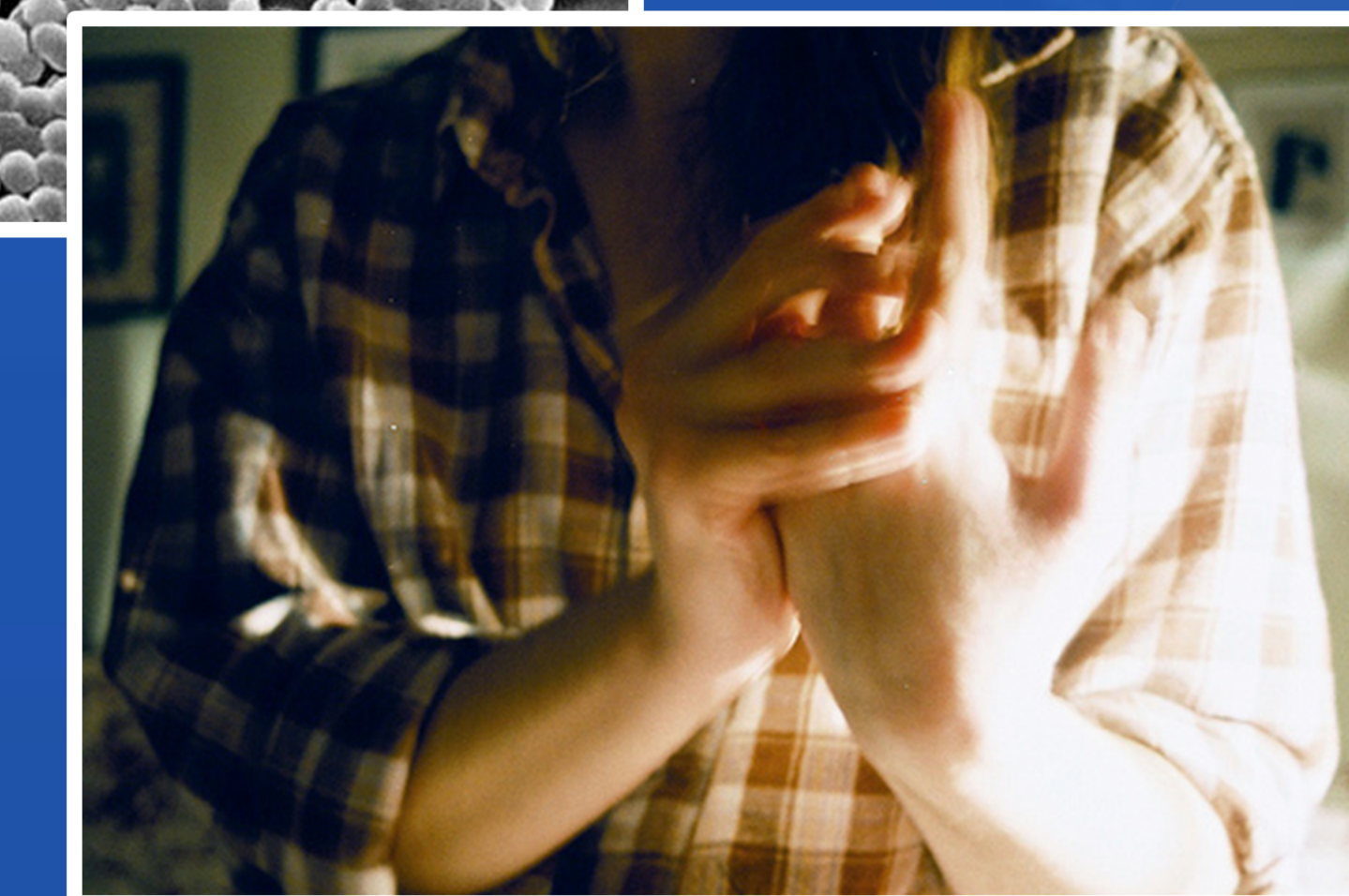


Image II

Image Sources:

I: http://content9.eol.org/content/2009/11/25/03/07773_large.jpg
 II: http://farm3.static.flickr.com/2739/4402085217_31183b8c74.jpg

Acknowledgements

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References

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