



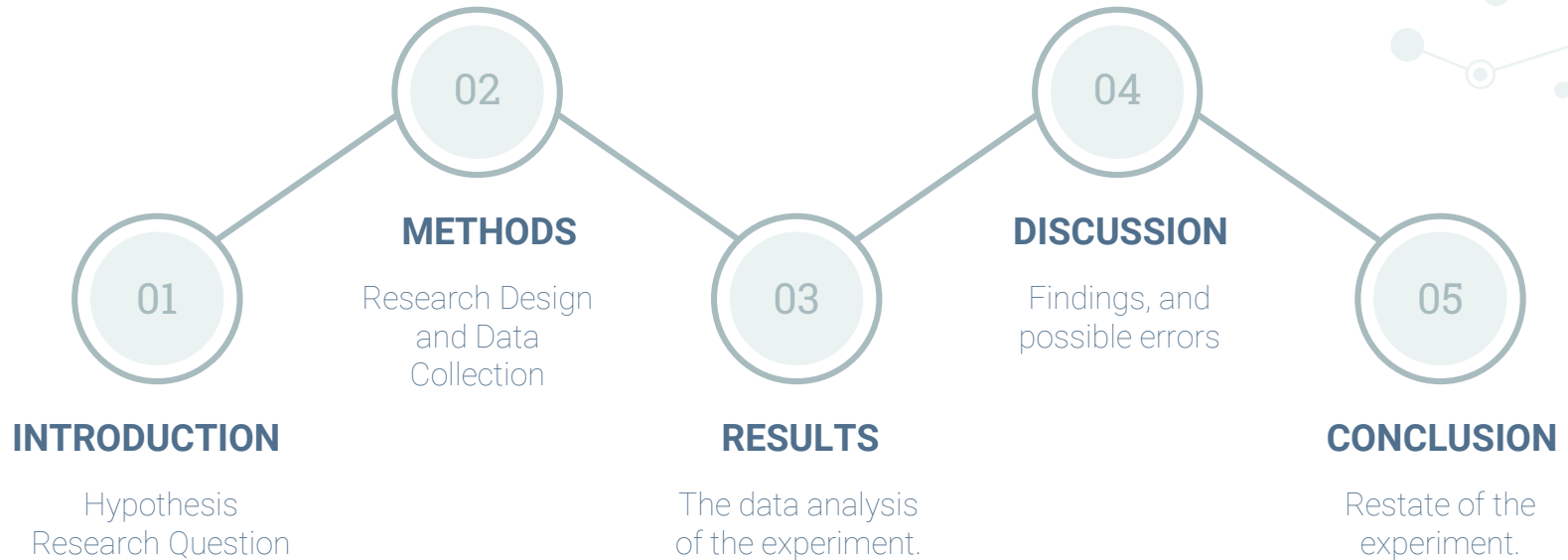
# The Effectiveness of Disinfecting Wipes on Mobile Phones

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# Introduction

## The Pandemic

COVID-19 has greatly impacted our way of life.

Disinfecting, social distancing, masks, and shortages.

## The Observation

Businesses implementing new safety precautions such as disinfecting surfaces.


## The Question

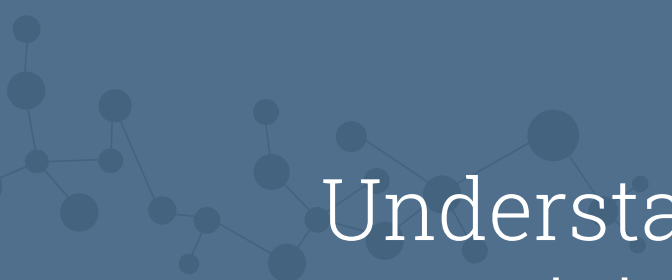
How long must a surface be exposed to a disinfectant to kill bacteria?

## What We Know

COVID-19 Pathways:  
Physical contact, surface spread, airborne.

COVID-19 can be present on surfaces for 2-3 days.





# Understand the Effectiveness of Disinfecting Wipes on a Common Surface

Does exposure time affect the amount of bacteria  
remaining on a surface?





# Methods

For determining the effectiveness of antibacterial wipes based on exposure time.



Swab phone straight down twice before treatment, took sample and vortexed for 30sec



Repeat steps above after each treatment exposure to the PMDW (30sec, 4 mins)



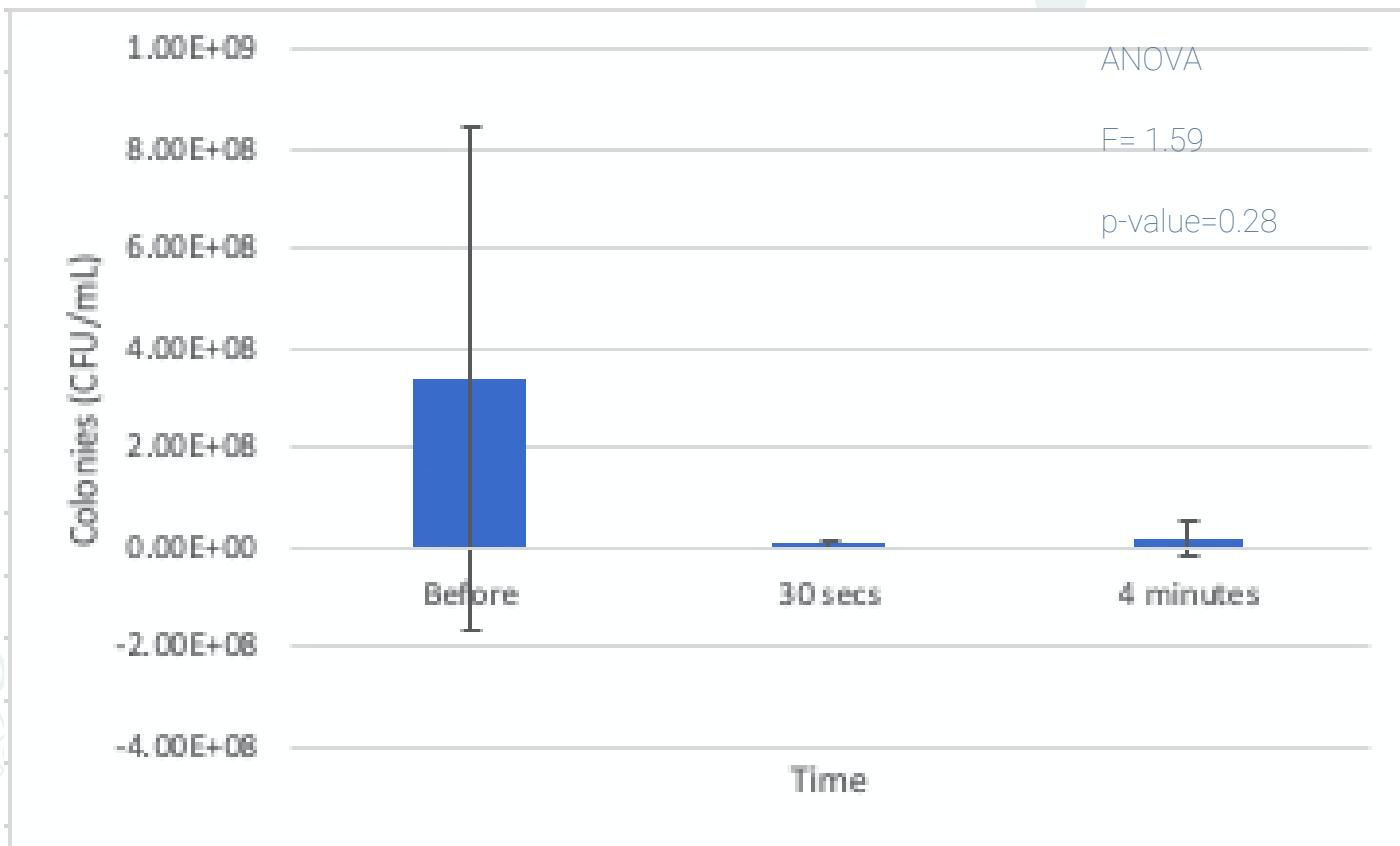
Start serial dilutions from undiluted to  $10^{-7}$  with 100 mL from the previous to the next. Vortex for 10 sec for each sample.



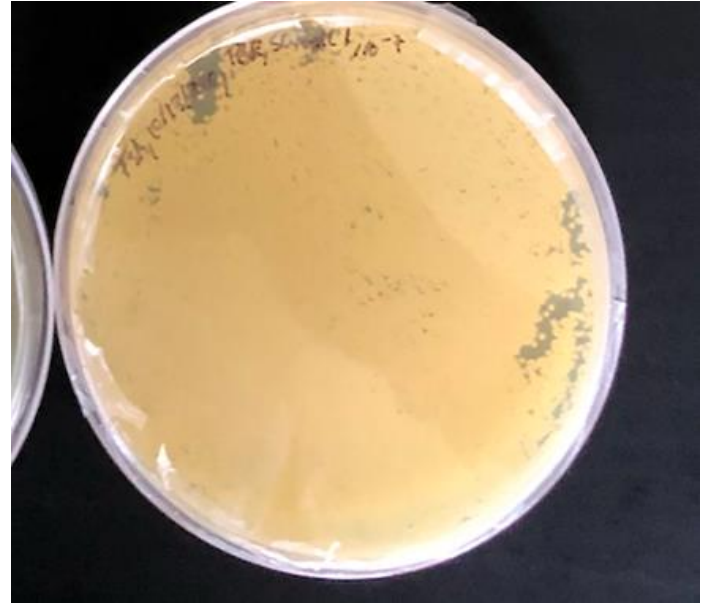
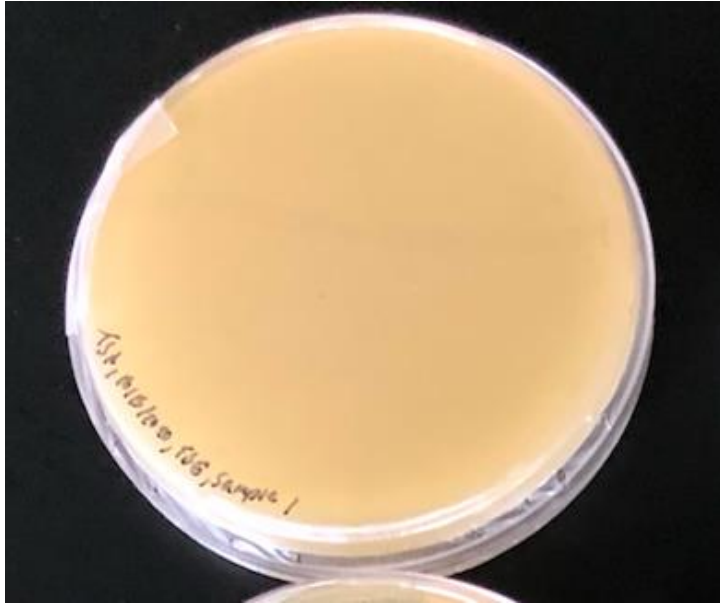
Plate 9 samples from each treatment, spread using the sterile beads, and Place into incubator for 24 hours, then count colonies.



# Results



# Results



Sample 1 Undiluted and serial  $10^{-7}$

# Discussion



## Expectation

The exposure time and surface does not affect the efficiency of the pre-moistened disinfectant wipes

## Results

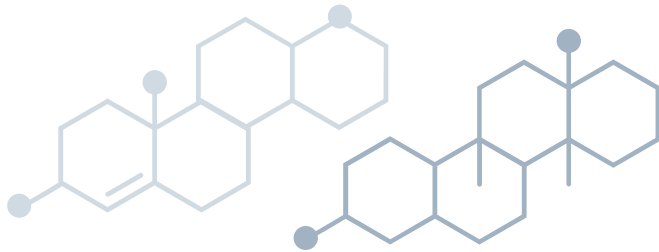
There were no statistically significant differences between treatments.



However, there were trends that showed a lower number of colonies after treatment



Sample size, the high variability in the control group, dilutions







# Conclusions

Understanding it all...



It's important to understand the use of pre-moistened disinfectant wipes due to the current COVID-19 pandemic




Staying consistent during the experiment can decrease errors.



Making the sample size larger, will allow for more accurate results



The effectiveness of disinfectant wipes does not depend on exposure time.



# Thanks!

**DO YOU HAVE ANY QUESTIONS**

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