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Title: Access to COVID-19 Testing and Resources as Predictors of Mental Health

Summary:
The Data Studio Workshop brings together a biomedical investigator with a group of experts for an in-depth session to solicit advice about statistical and study design issues that arise while planning or conducting a research project. This week, the investigator(s) will discuss the following project with the group.

The COVID-19 pandemic continues. Previous research has shown that mental health is impacted by factors such as quarantine and lockdowns. Poor mental health may persist as a long-term consequence of COVID-19 diagnosis. However, it is unclear which factors are protective against the development of mental health disorders during the pandemic. With the onset of rapid testing, consumers are able to test more frequently and have greater availability of testing. Does this make consumers feel safer or improve their mental health?

The goal of this study is to understand how COVID-19 support resources—access to rapid testing, frequency of testing, and perception of available resources after testing positive—impact mental health and whether these could be protective factors against the development of mental health disorders. We have three primary hypotheses:

1. Frequency of testing—People who test daily will have lower distress scores than those who test less frequently
2. Accessibility of tests—People with higher perceived accessibility to rapid tests will have lower distress scores than those who dont feel they can access rapid tests
3. Resources (for people testing positive only)—People with higher perceived access to resources will have lower distress scores than those who felt they could not access resources

Stanford University is partnering with Intrivo On/Go Rapid Antigen Testing to conduct a cross-sectional survey study of existing consumers in Intrivos database. The survey will have three parts:

1. Demographics
2. Mental health (K10 questionnaire)
3. Survey questions on frequency of testing, perceived availability of testing, and (only for participants who have tested positive) access to COVID-19 resources after testing positive
We hope to learn more about what factors can protect against or mitigate the development of mental health disorders during the COVID-19 pandemic, with specific focus on frequency and availability of COVID-19 testing and perception of available resources after testing positive. If we understand what factors might protect against worsening mental health during the pandemic, then we can work with policymakers to help implement changes and focus on scaling up these resources to reduce the burden of mental health disorders at a population level.

Questions:

1. Obtain a Sample of Existing Intrivo Consumers
   (a) How do we calculate the sample size for this study?
   (b) What are the biases in sampling only Intrivo consumers?
   (c) How do we obtain a representative sample of consumers?

2. Formulate data analysis plan
   (a) How to perform data analysis for this observational cross-sectional survey?
      i. How do we link mental health outcomes from K10 (outcome) to predictors like frequency of testing, perceived availability, access to resources?
      ii. Do we use a regression model? If yes, what type of model?
   (b) Do we adjust for demographics in model?
   (c) How do we perform a sub-group analysis for the people who have tested positive and answered questions about access to resources after receiving this result?
   (d) How to analyze this sub-group versus the entire population of participants?
Zoom Meeting Information

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