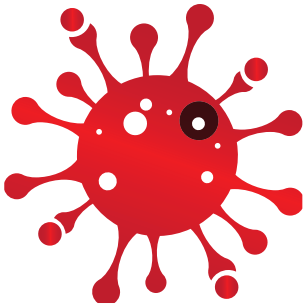
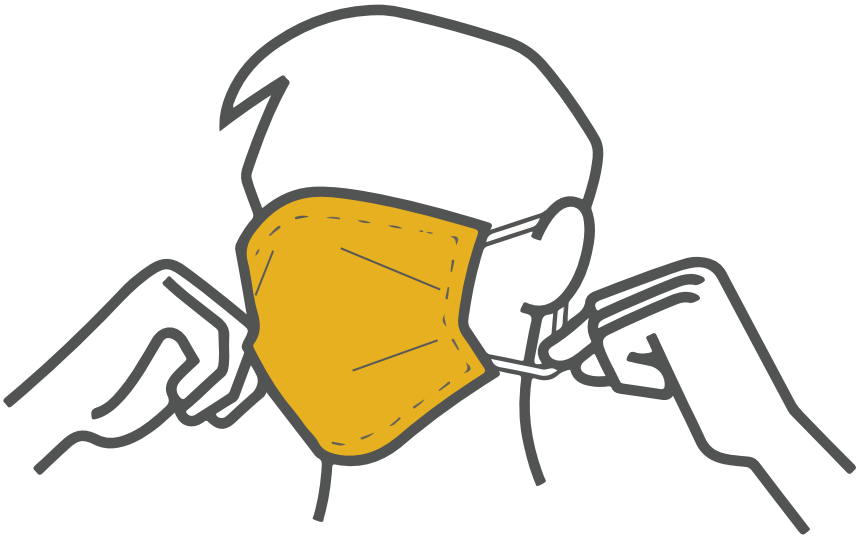


COVID-19 FACE MASK PROGRAM

FOR POST-SECONDARY EDUCATIONAL INSTITUTIONS



UPSTATE
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Public Health

Provided by:
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Additional resources are available at:
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Developed and Prepared by:
Alyssa Indelicato, BA
Gary Shmorgon, BS
Telisa Stewart, DrPH

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Disclaimer

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Authors and Designers

Authors

Alyssa Indelicato, BA

Ms. Indelicato received her Bachelor of Arts (BA) from SUNY Geneseo. She is currently pursuing her Masters in Public Health degree at SUNY Albany. Ms. Indelicato has experience with grant management related to projects that focus primarily on health education and Alzheimer's disease. In addition to her coordinator role, she serves as an administrator in the Department of Public Health & Preventive Medicine at Upstate Medical University in Syracuse, New York.

Gary Shmorgon, BS

Mr. Shmorgon received his Bachelor of Science (BS) in Biochemistry from the University of California, Los Angeles (UCLA). He is currently pursuing his Medical Degree/Masters in Public Health (MD/MPH) at SUNY Upstate Medical University. During his time at SUNY Upstate Medical University, Mr. Shmorgon has been conducting quality improvement projects related to cardiovascular health and the current COVID-19 pandemic. He currently serves on the SUNY Upstate Medical University Admissions Committee and will be beginning his 3rd year of medical school this July.

Telisa Stewart, DrPH

Dr. Stewart received her Masters in Public Health in Health Policy and Management from University of Massachusetts – Amherst and her doctorate in Public Health (DrPH) in Community Health from Drexel University. Her areas of research and expertise include Community-Base Participatory Research (CBPR), program planning, program evaluation, social determinates of health, shared decision making, and rurality. Dr. Stewart is the Assistant Director of the Masters of Public Health program at Upstate Medical University in Syracuse, New York. She is also an Associate professor in Public Health and Preventive Medicine, Urology, and Geriatrics. Her previous work experiences include being the Director of Community Health at Dartmouth-Hitchcock Medical Center and the Chief and Epidemiologist for the Lead Poisoning Prevention Program for the Vermont Department of Health.

Designers

Leah Caldwell

Ms. Caldwell is AVP for Marketing & University Communications at SUNY Upstate. She has won many awards for her work and earned both the President's and Chancellor's Awards for Professional Service. Prior to her state service, she ran a communications business with a wide range of clients from non-profit to industry.

Dan Cameron

Mr. Cameron is an award-winning graphic designer who offers expertise in electronic and traditional media. At Upstate he designs ad campaigns and pieces for its colleges and hospital. Prior to SUNY Upstate, Cameron was an art director at a newspaper and a creative director for a publisher.

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For more information on the contents in this document, please contact Dr. Telisa Stewart at StewartT@Upstate.edu

Public Health

Introduction

Public health is "the science and art of preventing disease, prolonging life, and promoting health through the organized efforts and informed choices of society, organizations, public and private communities, and individuals." — CEA Winslow

Advances in public health (population health) have helped prevent disease (disease prevention) and have helped people achieve their highest level of optimal health (health promotion). Public health seeks to provide groups of people with the right to be healthy and live in conditions that support that health. Public health aims to provide maximum benefit for the largest number of people. (WHO) Public health is grounded in evidence-based methods – methods that have been tested over time and have shown to be effective through scientific inquiry. The core science domains in Public health include epidemiology, surveillances, prevention effectiveness, informatics, and laboratory.

Public health focuses on 10 essential public health services to accomplish its goals: 1. Monitor Health 2. Diagnose and Investigate 3. Inform, Educate, Empower 4. Mobilize Community Partnership 5. Develop Policies 6. Enforce Laws 7. Link to/Provide Care 8. Assure a Competent Workforce 9. Evaluate 10. Research.
To accomplish an intended gold, public health practitioners leverage partners/stake holders within the community. Partners/Stakeholders may include clinical care delivery systems, employers and business, media, academia, government agencies and other public health infrastructure, and the community.

Health is defined as "state of complete physical, mental, social wellbeing rater then the mere absences of disease" (WHO) Health is determined by complex interactions and determinates of health. Determinates of health include: genes and biology, health behaviors, social or societal characterizes, and health services or medical care. These complex interactions need multiple different interventions to make a change.

Overview of Tools in Public Health

There are a few key tools in public health that should be consider when addressing a public health issue.

a. The Logic Model

The Logic Model is a graphic depiction (road map) that presents the shared relationships among the resources, activities, outputs, outcomes, and impact for your program. It depicts the relationship between your program's activities and its intended effects. For more information on logic models please go to https://www.cdc.gov/eval/logicmodels/index.htm. Please find a blank logic model in Appendix A: Blank Logic Model.

b. Theories, Models, and Frameworks

Effective public health programs can help people maintain and improve their overall health, reduce risk of disease, and manage existing illness. To improve the well-being of individuals, families, organizations and communities, behavior change is needed at many levels. Such levels may include individual, intra-personal, and community, which includes institutional factors as well as existing policies.

Not all health programs are successful in achieving the desired behavior change. Those most likely lead to desired outcomes are based on an understanding of targeted health behaviors, and the environment in which they occur. Public Health is based on evidence-based models and theories that have been strategically developed and proven to be effective over time through evaluation.

For a comprehensive overview of evidence-based theories and models, please refer to *Theory at a Glance: A Guide for Health Promotion Practice.*[1]

COVID-19

Coronavirus (COVID-19) is an illness caused by a virus that is spread from person to person. The virus is a new virus that is spreading throughout the world. The symptoms of the COVID-19 range from no symptoms to severe illness. Symptoms include but are not limited to: fever or chills, cough, shortness of breath or difficulty breathing. People become infected by coming into contact with a person who has COVID-19. The person becomes infected through respiratory droplets when an infected person coughs or sneezes or touches a surface that has the virus on it and then touches their mouth, nose, or eyes. There is currently no vaccine to protect against COVID-19 and there is currently not cure. The best way to protect yourself is to avoid being exposes to the virus. Social distancing, handwashing, wearing a face mask, and disinfecting frequently touched surfaces can help protect yourself from yourself and others from COVID-19. People who are sick should stay at home, avoid public transportation, and separate themselves. Anyone one is at risk, however, older adults and people with certain chronic illnesses are more at risk for severe illness.

Face Mask/PPE Program

Program Overview

The Personal Protective Equipment (PPE) program has been designed and adapted for the college/university communities and is specifically targeting the behavior of PPE usage. To simplify the campaign and intervention and provide more cost-effective measures, PPE will be solely focused on face-covering (cloth face coverings or ear loop masks). The program contains a virtual binder which contains a step by step guide on implementing the program and resources (digital messaging). Decisions on how to implement the program should be based on institutional resources, the populations current behaviors and understanding of the need for the behavior, and the threat of infection.

Face coverings have been selected as the targeted form of PPE due to their relative accessibility, protective capacity, and ease of reuse. During the severe acute respiratory syndrome epidemic in Asia in 2003, research demonstrated that the use of masks had the ability to reduce the acquisition of the SARS-CoV by 68%.[2] Additionally, when it came to multiple activities and longer periods of use, both professionally made masks and homemade masks had the ability to reduce viral transmission. [3]

An educational campaign on the use of PPE pairs COVID is a germ that an individual doesn't want with the concept that an individual person can stop the spread of COVID by correctly using a PPE. You need both of these concepts with the knowledge and the behavior to have a successful campaign.

The program is presented as an entire package; however, organizations can take components of the program as they see fit. We recommend the messages stay together as a series. The behavioral intervention can be utilized as a menu of options. We recommend that several behavioral interventions strategies be leveraged over the course of the intervention.

[1] https://cancercontrol.cancer.gov/brp/research/theories_project/theory.pdf
[2] https://www.bmj.com/content/bmj/339/bmj.b3675.full.pdf
[3] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2440799/pdf/pone.0002618.pdf

The program was designed using the CDC, WHO, and other federal information readily available to the general public. In addition, a literature search as conducted and research and program plan and evaluation strategies were used to create this document. Please see the reference list for additional details. To our knowledge, there is not a COVID-19 evidence-based PPE campaign available. This program uses evidence-based materials or materials considered to be standard campaigns for PPE usage. The program used their foundation and alters them to meet the COVID -19 pandemic needs and the culture found in colleges/university settings.

Logic Model

The program was developed using a logic model. The logic model connects the activities with an outcome. It provides a "birds eye" view of the program. The logic model outlines the resources, activities, outputs, outcomes, rationale, and assumptions of the program. Please refer to the document in Appendix B: Preventing COVID-19 Overview and Appendix C: PPE Logic Model.

Health Belief Model

The program used the Health Belief Model (HBM) as the theoretical model. The HBM can be used to guide the development of health promotion and disease prevention programs. It is used to explain and predict individual changes in health behaviors. Key elements of the Model focus on individual beliefs about health conditions, which may predict individual health-related behaviors. The model defines the key factors that influence health behaviors through six constructs. Please see Table 1: Health Belief Model below.

Table 1: Health Belief Model

Constructs of the Health Belief Model	**Definition of Construct**	**Example of Messages Targeting Construct**
Perceived Susceptibility	An individual's beliefs about the likelihood of getting a disease or condition	An average of 100,000 contagious germs are released into the air when you cough or sneeze. That's twice the amount of people that can fit into Yankee Stadium.
Perceived Severity	An individual's beliefs about the seriousness of contracting a disease or condition, including consequences	You have a substantial risk of catching COVID-19 if you are less than six feet of someone who's symptomatic if both of you do not wear a mask.
Perceived Benefits	An individual's beliefs about the effectiveness of a given action to reduce risk of a specific condition	The cloth face cover is meant to protect other people in case you are infected.
Perceived Barriers	An individual's beliefs about obstacles to performing a behavior	Every sneeze shoots germs into the air at 100 MPH. Cover your mouth with a mask.
Cue to Action	Internal or external factors that activate or motivate a person to take action	MASK ON when you're in a group MASK OFF when you're running solo
Self-Efficacy	An individual's beliefs that one can perform the recommended behavior (confidence)	Cloth face coverings fashioned from household items or made at home from common materials at low cost can be used

Manage Risk Perception

The program targeting risk perception (an individual's perceived susceptibility to a threat). Feeling like you are at a low risk for contracting COVID at this point will lead to a decrease in PPE usage. The program used messages like, "There are currently no drugs licensed for the treatment or prevention of Covid-19". [4] It's important to educate students that COVID is here and it's circulating and everyone is at risk. [5] We also highlighted students who can have COVID and feel fine, but not everyone who contracts COVID will have the same reaction. Students can bring it home and their friends and family members can get sick and possibly die, even if they themselves felt fine.[6]

Health Communication and Social Marketing

Health Communication is the study and use of communication strategies to inform and influence decisions and actions to improve health. Social marketing: Health Communication approach used to develop activities aimed at changing or maintaining people's behavior for the benefit of individuals and society as a whole. Fliers with educational information, highlights working as a community. If students do not want to wear any face coverings, articulate and effectively communicate that while they might feel fine, they could easily spread COVID-19 to friends and especially, vulnerable family members. [7] Fliers must be catchy and fun, and relevant to the audience. Example- be hip. WEAR A MASK. [8]

[4] https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters
[5] https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200306-sitrep-46-covid19.pdf?sfvrsn=96b04adf_4#:~:text=For%20COVID%2D19%2C,infections%2C%20requiring% 20ventilation
[6] https://wwwnc.cdc.gov/eid/article/7/2/70-0234_article
[7] https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention-H.pdf
[8] https://www.cobornsinc.com/wear-a-mask-campaign/

Program Components

Program Goal

The program goal is: To improve face covering usage among college students returning back to campus

Rationale

The program rational is center around the research that use of PPE (face coverings) has been to reduce the spread of COVID-19. [9]

Resources

Resources are needed for the intervention. Resources may include:

- Company resources: A-frames, parking lots, technology, posters, personnel, media outlets, bulletin board, bathroom stalls/mirrors/walls, printers, financial, etc.
- Face Coverings for school attendees
- Public Health Team
- University Leadership

Program Activities

There are three different program activities: Educational Campaign, Behavioral intervention, and policy implementation. Please see below for the activity details.

[9] https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/diy-cloth-face-coverings.html

Educational Campaign

The educational campaign covers awareness, and knowledge. Awareness and knowledge need to be obtained to achieve a behavior. In addition, the messages are designed to target the different components of the health belief model and for an extended period of time (8-12 weeks minimum for effectiveness). The educational campaign needs to be paired with a behavioral intervention to be effective. Hence, a campaign that targets behavior has been detailed below. The educational campaign contains 9 different messages over 9-week period of time. In similar fashion as the initial campaign, the messages should be aggressively displayed throughout the facility and aggressively targeting in locations where students are a captive audience.

However, in our program, complete behavior change is not possible without additional guidance. An educational campaign focusing on face covering types, donning on and off masks, proper mask covering etiquette, and face covering reusability will also be instituted following the campaign mentioned above. In a similar scope as the educational campaign designed for behavioral change, this campaign will also contain 8 different messages over 8-week period of time. The messages are provided in this document and a digital version of the materials are paired with this document. Please see Table 2: Educational Messages and Table 3: Educational Messages for Proper PPE Acquisition and Usage. The messages should be aggressively displayed throughout the facility and in targeted locations where students are a captive audience.

Educational Messages

Table 2: Educational Messages

Display each week	*Message*	*Additional Resources*
Week 1	***Stop COVID! WEAR A MASK!*** *Protect Yourself from Getting Sick* • *An average of 100,000 contagious germs are released into the air when you cough or sneeze*	• https://royalsocietypublishing.org/doi/10.1098/rsif.2018.0779https://www.cdc.gov/handwashing/when-how-handwashing.html • https://www.cobornsinc.com/wear-a-mask-campaign/ • https://www.cdc.gov/coronavirus/2019-ncov/downloads/cloth-face-coverings-information.pdf
Week 2	***Stop COVID! WEAR A MASK!*** *Avoid Catching it From Someone Near You* • *Meet up with a mask and reduce your risk of getting sick*	• https://www.cobornsinc.com/wear-a-mask-campaign/ • https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/about-face-coverings.html
Week 3	***Stop COVID! WEAR A MASK!*** *Don't Be the Super Spreader* • *The face cover protects other people in case you are infected*	• https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention-H.pdf • https://www.cobornsinc.com/wear-a-mask-campaign/
Week 4	***Stop COVID! WEAR A MASK!*** *Every Sneeze Shoots Germs Into the Air at 100MPH* • *Cover your mouth with a mask or face cloth*	• https://www.cdc.gov/handwashing/why-handwashing.html • https://royalsocietypublishing.org/doi/10.1098/rsif.2018.0779https://www.cdc.gov/handwashing/when-how-handwashing.html

Week 5	***Stop COVID! WEAR A MASK!*** *Wear a Mask When You Leave Home* • *It spreads mainly from person to person when an infected person coughs, sneezes, or talks*	• https://www.cobornsinc.com/wear-a-mask-campaign/ https://www.cdc.gov/handwashing/when-how-handwashing.html • https://www.jointcommission.org/-/media/tjc/documents/covid19/universal-masking-statement-04232020.pdf • https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/about-face-coverings.html
Week 6	***Stop COVID! WEAR A MASK!*** *Wear a Mask in Public* • *Viral droplets can enter your mouth or nose and make you sick* • *Protect yourself: wear a mask over both*	• https://www.washingtonpost.com/health/2020/05/21/virus-does-not-spread-easily-contaminated-surfaces-or-animals-revised-cdc-website-states/ • https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/about-face-coverings.html • https://www.cobornsinc.com/wear-a-mask-campaign/ https://www.cdc.gov/handwashing/when-how-handwashing.html
Week 7	***Stop COVID! WEAR A MASK!*** *To Stay Healthy, Wear a Mask* • *Persons with mild or no symptoms can spread COVID-19*	• https://www.ecdc.europa.eu/sites/default/files/documents/COVID-19-use-face-masks-community.pdf • https://www.cobornsinc.com/wear-a-mask-campaign/
Week 8	***Stop COVID! WEAR A MASK!*** *Social Distancing is not Enough* • *Cover your face and stay six-feet away*	• https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover.html • https://www.cobornsinc.com/wear-a-mask-campaign/ • https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention-H.pdf

Educational Messages for Proper PPE Acquisition and Usage

Table 3: Educational Messages for Proper PPE Acquisition and Usage

Display each week	*Message*	*Additional Resources*
Week 1	***Fight COVID! Mask Etiquette Explained!*** *Don't Have an Ear loop Mask? Use Another Material* • *Tea Towels, 100% Cotton T-Shirts, or Pillowcases can be used to make a mask*	• https://www.unomaha.edu/news/2020/04/all-about-face-masks-when-and-how-to-wear-them.php • https://www.cdc.gov/coronavirus/2019-ncov/downloads/DIY-cloth-face-covering-instructions.pdf
Week 2	***Fight COVID! Mask Etiquette Explained!*** *Make An Easy Face Mask* • *Build a mask at home with cloth, scissors, and rubber bands.*	• https://www.cdc.gov/coronavirus/2019-ncov/downloads/DIY-cloth-face-covering-instructions.pdf
Week 3	***Fight COVID! Mask Etiquette Explained!*** *Make sure It Fits!* • *Make sure the mask is snug, include multiple layers of material, and allows for easy breathing*	• https://www.cdc.gov/coronavirus/2019-ncov/downloads/DIY-cloth-face-covering-instructions.pdf • https://www.who.int/images/default-source/health-topics/coronavirus/clothing-masks-infographic---(web)-logo-who.png?sfvrsn=b15e3742_14
Week 4	***Fight COVID! Mask Etiquette Explained!*** *Cover Both Your Mouth and Nose* • *Wear your mask completely over your mouth and nose*	• https://www.cdc.gov/coronavirus/2019-ncov/downloads/DIY-cloth-face-covering-instructions.pdf • https://www.who.int/images/default-source/health-topics/coronavirus/clothing-masks-infographic---(web)-logo-who.png?sfvrsn=b15e3742_14
Week 5	***Fight COVID! Mask Etiquette Explained!*** *Cover Up Around People* • *Wear your mask in all public locations (i.e. classrooms, grocery stores, activity centers, dining halls, and dorms)*	• https://www.cdc.gov/coronavirus/2019-ncov/downloads/DIY-cloth-face-covering-instructions.pdf • https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention-H.pdf • https://www.who.int/images/default-source/health-topics/coronavirus/clothing-masks-infographic---(web)-logo-who.png?sfvrsn=b15e3742_14
Week 6	***Fight COVID! Mask Etiquette Explained!*** *Don't Touch Your Mask* • *Touching your mask may cause viral spread and contamination*	• https://www.who.int/images/default-source/health-topics/coronavirus/clothing-masks-infographic---(web)-logo-who.png?sfvrsn=b15e3742_14

Week 7	***Fight COVID! Mask Etiquette Explained!*** *Take Off Your Mask the Right Way Every Time* • *Clean your hands first* • *Remove by the straps behind your ears or head*	• https://www.who.int/images/default-source/health-topics/coronavirus/clothing-masks-infographic---(web)-logo-who.png?sfvrsn=b15e3742_14 • https://www.cdc.gov/coronavirus/2019-ncov/downloads/DIY-cloth-face-covering-instructions.pdf
Week 8	***Fight COVID! Mask Etiquette Explained!*** *Store a Mask in a Clean and Sterile Area* • *Store the reusable mask in a clean plastic bag if it is not dirty or wet*	• https://www.who.int/images/default-source/health-topics/coronavirus/clothing-masks-infographic---(web)-logo-who.png?sfvrsn=b15e3742_14
Week 9	***Fight COVID! Mask Etiquette Explained!*** *Clean that Dirty Thing* • *Wash a reusable mask in hot water and soap/detergent every 1-2 days* • *Machine-wash is fine* • *Replace a non-reusable mask with a fresh one*	• https://www.who.int/images/default-source/health-topics/coronavirus/clothing-masks-infographic---(web)-logo-who.png?sfvrsn=b15e3742_14 • https://www.cdc.gov/coronavirus/2019-ncov/images/face-covering-checklist.jpg • https://www.cdc.gov/coronavirus/2019-ncov/downloads/DIY-cloth-face-covering-instructions.pdf • https://www.cdc.gov/coronavirus/2019-ncov/downloads/cloth-face-coverings-information.pdf

Supplemental Educational Campaigns

Supplementing the educational campaigns are presented below and have been tested and shown to be effective to improve the knowledge around specific health promotion topics. Slight modifications have been made to incorporate face coverings within the interventions. The programs include: Social Pressure, Peer to Peer, Psychological Teaching Model, Educational and Behavior Feedback Model, and CDC: "Clean Hands Count." Details and references for the different programs are in Table 4: Supplemental Educational Campaigns below.

Table 4: Supplemental Educational Campaigns

Campaign	Summary	Intervention	Knowledge Obtained	Reference
Social Pressure	Perception that employees are being watched can help lead to behavior change (social pressure)	Sticker of eyes placed near hand washing message above sink in public restroom *Suggested Modification*: Sticker of eyes placed near mask dispensaries in classrooms, lecture halls, or dormitories	83.3% who saw the eyes sticker washed their hands compared to the control condition who saw the message and 3 stars instead of eyes (71.9%; odds ratio: 1.95, p = .01)	https://onlinelibrary.wiley.com/doi/abs/10.1111/jasp.12501
Peer to Peer	Use of peers, leaders, and management to demonstrate/encourage behavior	Important that activities span all levels of the industry, all shifts, etc. Middle management can bridge senior management and hourly employees The more managerial involvement there is, the greater the likelihood of achieving a sense of ownership which can lead to a lasting and sustained commitment. *Suggested Modification:* Important that activities span all levels of the university from students to administration. Middle management can bridge senior management and hourly employees	Leads to increase of adherence to behavior among other employees (can be applied to students as well)	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5770633/

Psychological Teaching Model	Utilize a laboratory session to associate condom usage as a positive concept	Using a form of classic conditioning by pairing images of condoms with either positive or neutral images. The campaign hoped to elicit positive feelings about condom usage. *Suggested Modification*: The same form of conditioning can be applied to images of face masks!	Increase in awareness and behavior usage of condoms. Can easily be applied to masks in a similar fashion by substituting the condom image with a mask image.	https://pubmed.ncbi.nlm.nih.gov/25581703/
Educational and Behavior Feedback Model	Complete campaign aimed at reducing isocyanate exposure in auto body shops	Intervention focused on engineering controls, PPE Usage, Educational Videos, and Behavior Feedback sessions *Suggested Modification*: Same interventions can be applied on the University level	This will lead to increase in awareness, knowledge and attitude but will not lead to long-term behavior change among all individuals	https://elischolar.library.yale.edu/cgi/viewcontent.cgi?article=1418&context=ymtdl
Goal setting with Educational Tools	Distribution of information paired with goal setting lead to changes in knowledge/ behavior	College- based obesity prevention program provided information about nutrition using web-based platform, in-person interactions, handouts, and personal counseling while asking students to set personal goals *Suggested Modification:* Similar campaign can be used this PPE campaign on college campuses!	This will lead to an increase in awareness and knowledge but will not lead to behavior changes long term	https://www.countyhealthrankings.org/take-action-to-improve-health/what-works-for-health/strategies/college-based-obesity-prevention-educational-interventions
CDC: "Clean Hands Count"	Posters saying "My clean hands count for XYZ". Reminder that washing hands is not only to protect yourself.	Messaging focusing on areas, including: clean hands count for yourself and those around you. *Suggested Modification:* Messaging focusing on areas, including: cover your face for yourself, you friends, and your family.	Increase in awareness and effects of handwashing	https://www.cdc.gov/handhygiene/campaign/promotional.html

Behavioral Interventions

Behavioral interventions require knowledge and skills. The knowledge is transferred into a behavior using a behavioral intervention. Behavioral interventions follow an educational campaign. There are many different evidence-based behavioral interventions. The face covering program has identified evidence-based interventions that have proven to be effective. Some of the interventions mentioned below have been adapted to fit the face covering program. Below is an outline of the 10 number of behavioral interventions: Behavioral Contracting Intervention, Peer Educator Learning Intervention, Social Factors Intervention, Decision Prompts Intervention, Gamification Intervention, the Individual Adapted Health Behavioral Change Intervention, Mobile Application Behavior Change Intervention.

Behavioral Contracting Intervention

1. Background: Behavioral contracting is an intervention technique where individuals agree to a behavior change that is has a defined reward for adherence
    a. Types of rewards may include guaranteed financial payments, lottery chances for monetary prizes, self-imposed payroll withholdings, etc.
2. Steps for Lottery
    a. Decide on an incentive
        i. Extra meal credits, gift card to the bookstore,
    b. Decide how to measure face-mask wearing & holding student accountable, apparel from the book store, etc.
        i. Post a weekly reminder on the student portal for students to wear face coverings. In a weekly survey, have students check a box whether they were compliant with the school mask policy.
    c. Recruit Students
        i. Distribute emails/display flyers prior to intervention providing the face covering incentive and how to participate in the lottery
        ii. Include the all of the Educational Messages for Proper PPE Acquisition and Usage on a sheet for students
        iii. Delegate who will oversee the lottery, collect money, hang flyers/send emails
    d. Continue the lottery over a period of time (6-8 weeks)
        i. Have the school system keep track of which students are keeping up with their face coverings duty
    e. Decide how to choose winners and the mechanism to return money to students
        i. Example: Every tally equates to "one ticket" towards the drawing (3 "check in" boxes =3 tickets)
        ii. Example: Draw and choose the top 10 winners to divide the prize between
    f. Marketing campaign
        i. Highlight students who have won
3. Messaging: There are three main messages that are associated with this intervention.
    a. Introductory Message
        i. Want to make some extra cash just by staying healthy? Look out for information next week on how to enter into a face covering lottery!
    b. Explanatory Message
        i. Example: To enter, submit cash to the pool and we will match (or double) the amount! Sign into your student portal weekly and check the box whether you complied with all the face covering policies. For every check, your name will be added to the drawing (**1 check in = 1 ticket**).
    c. Concluding Message
        i. Thanks for participating in the face-coverings lottery and congratulations to our winners! Don't forget, if you are covering your face and doing your part to prevent the spread of COVID, you already helped fight the spread!
4. Literature Review
    a. Work based-incentives and competitions to reduce tobacco use to individual workers/teams to motivate them to participate in programs. Rewards can vary based on participation, behavior change or both.
    b. Rewards can be provided for participation, for success in achieving a specified behavior change, or for both (join program and try to quit, fewer cigarettes smoked, quitting altogether, all of the above)[10][11]

[10] https://www.thecommunityguide.org/findings/tobacco-use-and-secondhand-smoke-exposure-incentives-and-competitions-increase-smoking-cessation-workers-combined-additional-interventions
[11] https://www.thecommunityguide.org/sites/default/files/assets/Tobacco-Incentives-Competitions-Increase-Smoking-Cessation-Among-Workers-Alone.pdf

5. Additional Resources
    - Werch CE (Chad., Bian H, Moore MJ, Ames S, DiClemente CC, Weiler RM. Brief Multiple Behavior Interventions in a College Student Health Care Clinic. *J Adolesc Heal*. 2007;41(6):577-585.
    - Leeks KD, Hopkins DP, Soler RE, Aten A, Chattopadhyay SK; Task Force on Community Preventive Services. Worksite-based incentives and competitions to reduce tobacco use. A systematic review. *Am J Prev Med*. 2010;38(2 Suppl):S263-S274.
    - Allen, Sherri MSN, RN, PCCN; Cronin, Sherill Nones PhD, RN-BC Improving Staff Compliance With Isolation Precautions Through Use of an Educational Intervention and Behavioral Contract, Dimensions of Critical Care Nursing: September/October 2012 - Volume 31
    - Task Force on Community Preventive Services. Recommendations for Worksite-Based Interventions to Improve Worker's Health Taskforce on Community Preventive Services. Am J Prev Med. 2010;38(2S):S232-S236

Peer Educator Learning Intervention

1. Background: Peer Educator Learning Intervention is an intervention technique that selects and trains individuals who are part of the community to promote and conduct a behavioral intervention.
    a. Individuals can be students, faculty, or staff. The idea is to select individuals from the same community.
2. Step for the Peer Educator Learning Intervention
    a. Design a Four-Module course
        i. Module 1: Overview of COVID-19
            C. What is COVID-19, Mode of transmission, and Incidence
            D. Are you at-risk? and How to check if you have COVID-19?
        ii. Module 2: Risk behaviors (explore cues to action, social influences, and the environment)
            C. Poor Social Distancing, Lack of Face Coverings, and Attending Large Group Events
            D. Comorbidities and Bad Practices that aid in COVID-19 Development
        iii. Module 3: Skill building/decision making (cues to action, self-efficacy, beliefs are addressed)
            C. How to use (wear, wash, and put on/off a mask)
            D. Self-efficacy and assertiveness
                a. Encouraging friends and classmates to wear it
        iv. Module 4: Taking charge/Putting it all together (focuses on cognitive competencies, social influences, and the environment)
            C. Scenarios and Role Playing (How would you handle it?)
    b. Select students to be peer educators from different classes (freshman, sophomore, junior, and senior)
        i. Selected students are required to complete a face covering course designed by the university that teaches students about COVID-19, types of face coverings, and how to handle them.
        ii. Additionally, students complete a two-hour educational course about the Four-Module course.
    c. Prepare an all-inclusive PowerPoint that includes the four modules for peer educators
    d. Contact professors and have them dedicate two 1-hour slots for peer educators to teach this course
    e. Conduct Pre/Post Surveys on COVID-19 Knowledge and Self-Efficacy
        i. All students who complete both be given a gift (gift cards, school spirt apparel, etc...)
3. Messaging: There are three main messages that are associated with this intervention.
    a. Introductory Message
        i. Want to help combat COVID-19 and make campus safe? Come to the STOP COVID-19! Group today!
    b. Explanatory Message
        i. IS COVID-19 interrupting your college life? Has it made going to school not as fun as before? Participate in our training course and get back to doing what you do in college!
    c. Concluding Message
        i. Thanks for participating in the face-coverings course! We appreciate your help in this fight. We have an awesome reward for you! Just login into your student account and click “claim your gift card.”
4. Literature Review
    a. Peer Education has been utilized time and time again. One systematic/meta-analysis determined that peer to peer education was moderately effective at behavior outcomes. [12]
    b. This intervention was based on a successful evidence-based intervention that reduced the risk of HIV/AIDS in African American College Students.[13]

[12] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3927325/
[13] https://www.deepdyve.com/lp/sage/reducing-the-risk-of-hiv-aids-in-african-american-college-students-B8W0TPBKmS?

5. Additional Resources
    a. http://www.specialconnections.ku.edu/?q=behavior_plans/classroom_and_group_support/teacher_tools/peer_assisted_interventions

Social Factors Intervention

1. Background: Using social factors (things that influence an individual's personality, attitude, and lifestyle) to change behavior
    a. Activities include behavioral counseling, skill-building activities, rewards/reinforcement, and inclusion of colleagues or family members to build support systems, and changes to physical or organizational structures that make healthy choices easier and target the entire student body
    b. Visual cues can be paired with other changes to the physical environment to target social factors
2. Steps
    a. Determine which social factor you want to target
        i. For example, target the student feelings towards their family. It is the student's responsibility to cover their face to keep their family safe. They can prevent bringing COVID-19 home.
        ii. It is student's responsibility to keep friends and colleagues safe by covering their face.
    b. Use "sticker families" as a visual reminder of people they care about/ people wearing masks
        i. Place stickers in dorms, libraries, on bathroom mirrors, on college textbook, etc. as reminders
        ii. https://www.familystickers.com
    c. Decide whether to pair stickers with messaging
        i. Example could include "Cover your face for Grandma" or "Protect your friends. Cover your face!"
    d. Design messaging materials in house or with a graphic design team
    e. Reorder materials from step B as needed
3. Messaging
    a. Introductory Message
        i. There will be some new faces around the university soon! Keep a lookout around our bathrooms, sinks, and textbooks.
    b. Explanatory Message
        i. Additions have been added to remind you that it is not only your responsibility to keep yourself healthy, but it is also your job to keep your family and colleagues safe. Cover your face!
    c. Concluding Message
        i. Your family and friends will all be affected by whether you decide to cover you face. Continue to do it for them.
4. Literature Review
    a. Worksite nutrition and physical activity programs designed to improve health behaviors. Examples include information and education, activities that target thoughts, and making healthier foods more available [14][15]
5. Additional Resources
    - Robbins SB, Oh IS, Le H, Button C. Intervention effects on college performance and retention as mediated by motivational, emotional, and social control factors: integrated meta-analytic path analyses. *J Appl Psychol*. 2009;94(5):1163-1184.
    - https://www.thecommunityguide.org/stories/investing-worksite-wellness-employees
    - https://www.thecommunityguide.org/sites/default/files/assets/OnePager-WorkPrograms.pdf
    - CDC. Public Health Strategies for Preventing and Controlling Overweight and Obesity in School and Work Settings. A report on recommendations for the Task Force on Community Preventive Services. 2005;54 (RR10);1-12.

[14] https://www.thecommunityguide.org/findings/obesity-worksite-programs
[15] https://www.thecommunityguide.org/sites/default/files/publications/obesity-ajpm-evrev-worksite-nutrition-pa.pdf

- Archer, W.R., Batan, M.C., Buchanan, L.R., Soler, R.E., Ramsey, D.C., Kichhofer, A. & Reyes, M. (2011). Promising Practices for the Prevention and Control of Obesity in the Worksite. American Journal of Health Promotion, 25(3),e12-e26.
- Task Force on Community Services. A recommendation to improve employees weight status through worksite health promotion programs targeting nutrition, physical activity, or both. American Journal of Preventive Medicine. 2009;37(4):358-9
- Anderson, LM. Quinn TA, Glanz K. et al. The effectiveness of worksite nutrition and physical activity interventions controlling employee overweight and obesity: a systematic review. American Journal of Preventive Medicine. 2009;37(4):340-57.

Decision Prompts Intervention

1. Background: Point-of-decision prompts are motivational signs placed near area where an individual has a choice between two behaviors. These prompts are most effective when they are tailored to specific benefits or populations; for example, signs may inform individuals about a health or weight-loss benefit from taking the stairs and remind individuals already predisposed to becoming more active, for health or other reasons, about an opportunity at hand to do so.
    a. Prompts can be paired with other changes to the physical environment, such as placing footprint stickers on the ground leading from the elevator to the stairwell or painting the stairwell to make it more welcoming.
2. Steps
    a. Determine the point of decision you would like to target.
        i. For wearing a mask, this decision point comes as individuals are leaving their classroom, apartment, or door room.
    b. Decide what your messaging will be.
        i. The decision is to cover your face or not to cover it, so messaging needs to focus on the benefits/consequences of this decision
        ii. Example could be "100,000 germs can get released after one sneeze or cough! Are you sure you don't want to cover you face?"
    c. Determine whether additional changes are needed in the area where the decision is to be made
        i. Cover your faces stickers to be placed on doors as visual reminder of how many germs are released into the air
            1. https://royalsocietypublishing.org/doi/10.1098/rsif.2018.0779https://www.cdc.gov/handwashing/when-how-handwashing.html
        ii. Footprint stickers on floor leading from dorms or classroom/lecture halls to the nearest mask dispersion unit
        iii. Provide many locations for mask dispersion units where students may be found in large groups
    d. Create your messages either in-house or with a graphic design team. Order additional supplies as determined by Step C.
    e. Post your messages and make additional changes such as adding stickers in your point of decision areas.
3. Messaging: There are three main messages that are associated with this intervention.
    a. Introductory Message
        i. You'll soon notice changes around campus. Be on the lookout for new paint, updated areas, and other additions!
    b. Explanatory Message
        i. Our buildings have been updated to help encourage face coverings. Please remember cover your face before leaving each time you go out into the public or meet with friends.
    c. Concluding Message
        i. You may notice the footprints in the dorms or college lectures halls leading to the mask dispersion units have been removed. Don't let that stop you! Continue covering you face when you go out and about.
4. Literature Review
    a. Signs on or near stairwells, elevators, and escalators to encourage individuals to use stairs (to lead to increase in physical activity)
    b. Motivational signs, inform & remind, used alone or with enhancements led to increased use of stairs and attitude towards using them

c. In 10 of the 11 included studies more people used the stairs when point-of-decision prompts were posted; Stair use increased by a median 2.4 percentage points, a relative increase of 50% [16][17][18][19]

5. Additional Resources
   - Soler RE, Leeks KD, Ramsey Buchanan L, et al. Point-of-decision prompts to increase stair use: a systematic review update. Am J Prev Med 2010;38(2S):292-300.
   - Task Force on Community Preventive Services. Recommendation for use of point-of-decision prompts to increase stair use in communities. Am J Prev Med 2010;38(2S):290-291.
   - Kahn EB, Ramsey LT, Brownson R, et al. The effectiveness of interventions to increase physical activity: a systematic review. Am J Prev Med 2002;22(4S):73-107.
   - Task Force on Community Preventive Services. Recommendations to increase physical activity in communities. Am J Prev Med 2002;22 (4S):67-72.
   - CDC. Increasing physical activity. A report on recommendations of the Task Force on Community Preventive Services.
   - Task Force on Community Preventive Services. Physical activity. In: Zaza S, Briss PA, Harris KW, eds. The Guide to Community Preventive Services: What Works to Promote Health? Atlanta (GA): Oxford University Press; 2005:80-113 (Out of Print).

[16] https://www.thecommunityguide.org/findings/physical-activity-point-decision-prompts-encourage-use-stairs
[17] https://www.thecommunityguide.org/stories/evidence-based-recommendations-get-minnesotans-groove
[18] https://www.thecommunityguide.org/stories/maryland-businesses-support-worksite-wellness-effort-combat-chronic-disease
[19] https://www.countyhealthrankings.org/take-action-to-improve-health/what-works-for-health/strategies/point-of-decision-prompts-for-physical-activity#:~:text=Point%2Dof%2Ddecision%20prompts%20are,malls%2C%20banks%2C%20and%20libraries

Gamification Intervention

1. Background: Gamification uses game principles and elements in situations that do not traditionally lend themselves to being a game to motivate, engage and influence individuals.
2. Steps
    a. Determine which "game" works best for your students.
        i. Face Covering Trivia
            1. Can have "question of the day/week". Ask face covering related question, students submit answers online via the school portal, each correct answer is worth 5 points. At end of the week/month, 5 students from each class with the most points win a prize, which can be a gift card.
        ii. Raffle
            1. Students track number of times they go outside to meet friends or go into public areas. For every X times (50?) they use a mask, they receive an entry into a raffle. The prizes can be things such as money, college apparel, gift card, etc.
        iii. Walk Across America
            1. Every time an individual covers their face 10 times when going into public, that represents the equivalent to 1 mile walked (arbitrary amounts- those can be changed).
            2. Develop a mobile application and have students track their progress in it. Place a map of the USA into the application and the class that walks the farthest win a something at the end of the year. This could be a free party, a whole day off, and etc.
3. Messaging: There are three main messages that are associated with this intervention.
    a. Introductory Message
        i. Staying healthy can be fun! We're announcing a new competition coming to our school next week. Stay tuned for more information!
    b. Explanatory Message
        i. Who says talking about covering your face can't be fun? Each day this week a trivia question will be posted in the student portal. Write your answer down online and submit it! 5 students who get the most correct answers this week will win a prize!
    c. Concluding Message
        i. Thank you for participating in face covering trivia. We hope you had fun and maybe learned something, too!
4. Literature Review
    a. In one organization that implemented gamification as an intervention to tackle hand hygiene, adherence to hand washing more than doubled.[20]
    b. Hand hygiene gamification interventions have largely been centered around technology, using mobile phone applications and web browsers. Other health behavior interventions have focused less on technology.[21]
    c. Board games have been used as a means to behavior change, as well

[20] https://link.springer.com/content/pdf/10.1007%2F978-3-319-07626-3_70.pdf
[21] https://www.liebertpub.com/doi/pdfplus/10.1089/g4h.2018.0017

5. Additional Resources
    - Patrick Buckley & Elaine Doyle (2016) Gamification and student motivation, Interactive Learning Environments, 24:6, 1162-1175
    - https://link.springer.com/article/10.1186/s12911-017-0410-
    - https://www.researchgate.net/profile/Harri_OinasKukkonen/publication/295397862_Understanding_Persuasion_Contexts_in_Health_Gamification_A_Systematic_Analysis_of_Gamified_Health_Behavior_Change_Support_Systems_Literature/links/5b69978992851ca650512a03/Understanding-Persuasion-Contexts-in-Health-Gamification-A-Systematic-Analysis-of-Gamified-Health-Behavior-Change-Support-Systems-Literature.pdf

Individual Adapted Health Behavior Change Intervention

1. Background: Individually adapted health behavioral change programs teach people behavioral skills to help them incorporate a desired activity into their daily routines. Programs are specific to each individual and are tailored to their unique interests, preferences, and readiness for change. Targeted behaviors may be planned (e.g., covering you face before going out in public) or unplanned (e.g., grabbing a non-reusable mask when your mask is no longer clean).
    a. Behavioral skills include goal-setting, self-monitoring, building social support for the new behavior, and reinforcing the behavior via self-reward or positive self-talk
    b. Multi-faceted model which incorporates several behavioral change campaigns
    c. Many of these interventions use constructs from established health behavior change models such as the Social Cognitive Theory, the Health Belief Model, or the Transtheoretical Model of Change
    d. May be slightly less realistic than other behavioral interventions, since you need to individualize face coverings for all students. This would mean determining why a student does not wear their masks, what their perceived barriers are to doing so, targeting change to each specific individual
2. Steps
    a. Determine which specific planned or unplanned behaviors you would like to target – in this scenario focus on face masks.
    b. Based on the behaviors that will be targeted in the intervention, develop the following components:
        i. Goal-setting
            1. Each individual student will need to develop a goal. Covering their face X times per day, covering before going out, cleaning their masks washing as soon as they get home, etc.
            2. Goals may be written down and hung in a common area as a reminder to individuals.
            3. Students may “pledge” their goal by writing it on a piece of paper or signing their name next a board that has the “pledge” that will be hung in dorm room or other common area.
        ii. Self-monitoring
            1. Students need a way to track their behavior in order to determine whether they met their goal. If a student is trying cover their face X times per day, they can tally each face covering on their phone in the school mobile application.
        iii. Social support for the behavior
            1. Social support can be in the form of encouragement between colleagues or friends. Ensuring everyone covers their face before going outside, for example, could be social support.
        iv. Reinforcing the behavior via self-reward or positive self-talk.
            1. Remind students that covering their face is to protect their loved ones as well as themselves. They should feel proud that they are making changes to their behavior for others instead of feeling like it is a burden.
    c. Set a time-frame for the intervention. How long will the intervention run for? Example studies ran for 1-2 years, but covering their face is a more immediate change as opposed to increasing physical activity/weight loss. 6 months-1 year?
    d. Encourage students throughout the duration of the intervention. Students need to keep up on tracking their behavior, or they will not be able to see their progress at the end.
    e. Determine if and how students will be rewarded for participation. Is self-motivation enough, or does there need to be a different motivator?
        i. Everyone receives a raffle ticket for each month of the intervention they completed. At the end of the intervention, a drawing is held for X number of prizes.

3. Messaging: There are three main messages that are associated with this intervention.
    a. Introductory Message
        i. Goals are important. Next week, everyone will pledge their covering their face goal when they start classes. We'll hang the banner in the dorm rooms, gym, or student areas.
    b. Explanatory Message
        i. Be sure to track the number of times you cover your face on the card provided to you. Need a card? Your residential advisor will be happy to give you one.
    c. Concluding Message
        i. Thank you for participating! We're so proud of everyone who achieved their goals.
4. Literature Review
    a. Used with physical activity to teach individuals behavioral skills to help incorporate physical activity into their daily routines. Programs are tailored to an individual's interests, preferences, and readiness for change.
    b. Interventions included substantial communication activities through mass media, social support such as self-help groups, risk factor screening, counseling, and education about physical activity in a variety of settings, and environmental or policy changes such as the creation of walking trails.
    c. Planned behaviors included a daily scheduled walk, and unplanned behaviors included using the stairs when the opportunity arises.
    d. All programs incorporated the following set of skills: (1) setting goals for physical activity and self-monitoring of progress toward goals, (2) building social support for new behavioral patterns, (3) behavioral reinforcement through self-reward and positive self-talk, (4) structured problem-solving geared to maintaining the behavior change, and (5) prevention of relapse into sedentary behaviors.[22]
5. Additional Resources
    - Kahn EB, Ramsey LT, Brownson R, et al. The effectiveness of interventions to increase physical activity: a systematic review. Am J Prev Med 2002;22(4S):73-107.
    - Task Force on Community Preventive Services. Recommendations to increase physical activity in communities. Am J Prev Med 2002;22 (4S):67-72.
    - CDC. Increasing physical activity. A report on recommendations of the Task Force on Community Preventive Services. MMWR 2001;50 (RR-18):1-16.

[22] https://www.thecommunityguide.org/findings/physical-activity-individually-adapted-health-behavior-change-programs

Mobile Application Behavior Change Intervention

1. Background: This intervention utilizes mobile application software to deliver motivational messaging to promote the use of PPE among participants. The participants would receive individualized daily motivational messages based on their PPE use and reported difficulties.
2. Steps
    a. Acquire PPE provisions (face coverings) for students (reusable or disposable masks) to utilize while living and studying on campus
        i. Face coverings should be provided at all areas where large groups of students are found
            1. Dispensaries should be located near classrooms, lecture halls, dining halls, dormitories, and gymnasium.
        ii. All PPE locations should be fully stocked and refilled whenever empty as soon as possible to minimize any potential for COVID-19 spread.
    b. Develop a mobile application or utilize current mobile numbers/university mobile application that allows for the delivery of these messages
        i. Daily personal relevant risk-reduction messages should be sent to each student's smartphone
        ii. Students will have to verify that they are wearing face coverings all the time by logging into the mobile application and "checking" that they have abided by all rules
            1. After one week, students who have worn face coverings correctly will be sent specific messages tailored to their correct behavior of wearing PPE
                a. Sample message: "You are doing a good thing by wearing a face covering today! COVID-19 doesn't infect you or spread to others when you have a mask on. Congratulations on protecting yourself and others!" [23]
            2. For students who did not wear PPE, specific messages tailored to their incorrect behavior of wearing PPE will be sent to them.
                a. Sample message: ''We understand that it is hard for you to wear face covering, but it is worth it"
        iii. The mobile application can also include information about COVID-19, how to make and handle a mask, and some myth busting concepts.
            1. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters
    c. After 8-12 weeks of this intervention, determine if the number of students wearing PPE correctly has increased or decrease. Adjust the intervention accordingly
3. Messaging: There are three main messages that are associated with this intervention.
    a. Introductory Message
        i. I hope everyone had an amazing summer and welcome back to school! To help keep you and the campus safe, please download our new application that will assist you wearing PPE.
    b. Explanatory Message
        i. Keep up the good work and please remember to always wear your face covering when you are out and about! Together, we stand strong!
    c. Concluding Message
        i. You may notice the mobile application no longer sends you messages. Don't let that stop you! Continue covering you face when you go out and about.

[23] https://pubmed.ncbi.nlm.nih.gov/26641832/

4. Literature Review
    a. Mobile Application use for the delivery of messaging has been extremely successful in changing behavior.
        i. https://pubmed.ncbi.nlm.nih.gov/26641832/
    b. Mobile application use for the delivery of messaging is not limited to PPE solely. Multiple studies have shown its effectiveness in medication compliance, risk management, and other health-related outcomes.
        i. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4987494/
        ii. https://e-hir.org/journal/view.php?id=10.4258/hir.2018.24.3.207
5. Additional Resources
        i. https://dl.acm.org/doi/pdf/10.1145/2494091.2494164
        ii. https://journals.sagepub.com/doi/full/10.1177/1460458218813726

Policy Implementation

Policy Campaign

1. University health promotion: comprehensive set of strategies which include programs, policies, benefits, environmental supports, and links to the surrounding community designed to meet the health and safety needs of all students.
    a. Four-step process:
        i. University Health Assessment
            1. Helps determine needs of specific student population
        ii. Program Planning
            1. Select interventions and components which can be implemented efficiently and are suited to the university
        iii. Program Implementation
            1. Put the program into place at the university
        iv. Program Evaluation
            1. Determine the impact of the program (can be positive, negative, or neutral)
    b. Examples of campus health program components and strategies include:
        i. Health education classes
        ii. Increase access to local fitness facilities
        iii. University policies that promote healthy behaviors (ex: tobacco-free property)
        iv. A healthy school environment created through actions such as making healthy foods available and accessible through vending machines or cafeterias
        v. A school environment free of recognized health and safety threats with a means to identify and address new problems as they arise
    - https://www.cdc.gov/workplacehealthpromotion/model/index.html

2. University established regulations- implementation led to decrease in negative outcomes. However, regulation alone is likely not enough.
    a. Example: Combined educational campaign and policy change: Compliance with hand-washing improved (from 47.7% to 85.4%) after hand washing policy was introduced. This, coupled with an educational campaign, can directly improve hand washing.
        i. Multidisciplinary task force was created to develop an evidence-based hand washing policy
    - https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD006251.pub3/full
    - https://www.nature.com/articles/7210661

Program Metrics

Program evaluation is defined as the application of the scientific methods to "assess the design, implementation, improvement or outcomes of a program." [24,25] The final component of any evidence-based program is an evaluation of its measures and interventions to determine whether it was successful or not. This serves multiple different roles simultaneously. First, the organization or institution conducting the program can determine whether their intervention is improving outcomes in their target population. Second, positive findings from an evaluation allow for the demonstration of program effectiveness for funders or sponsors. Third, negative findings demonstrate the need for program improvement or reorganization. Finally, an evaluation further justifies the continually funding of a program.[24,25]

It is important to note that evaluation is linked in the logic model. Evaluation is an in-depth analysis of the outcomes originally developed in the logic model. It allows for the tangency of knowledge, attitudes, behaviors, and other outcomes. The short-/medium-/long- outcomes become quantified and depending on what is assessed, qualified. Evaluation serves to act as a bridge between the projected and the reality. For an overview/example of how to measure program components, refer to Appendix D: Evaluation Framework.

The Joint Commission previously published a comprehensive document outlining ways to measure hand hygiene adherence. The following metrics are derived from this report and supplemental materials from the World Health Organizations. This plan has been adapted and utilized for PPE face coverings. In addition, program examples have been provided in the Appendix and have been modified to fit the program. Please see below.
The original documents can be viewed at the links below.

- https://www.who.int/gpsc/5may/monitoring_feedback/en/
- https://www.jointcommission.org/-/media/deprecated-unorganized/imported-assets/tjc/system-folders/topics-library/hh_monographpdf.pdf?db=web&hash=7F1A70731D44DC2D183B1038CE34EC46

1. Measuring the amount, size, and brands of all PPE face coverings the University currently has available for use and the frequency of which they use them
    a. One way to track the amount and frequency of product use is to fully stock each PPE dispensary and then determine how many masks were utilized by counting the remaining masks.
    b. The alternative is to use electronic counting devices and electronic monitoring systems to measure the frequency with which these products are used.
    c. Does not reveal whether students are covering their face when it is indicated or whether they are performing it correctly.
    d. Does not yield any contextual information about when or why face covering guidelines are not adhered to, and it often does not tell you who is (or isn't) practicing wearing a face mask.
    e. This measurement method prone to inaccuracy, including product waste or spillage.
    f. An example of a way to track the measurement of face coverings usage is by utilizing the form in Appendix E: Consumption Survey.
2. Surveys
    a. Can reveal what individuals know and think about PPE face coverings as well as why they adhere (or do not adhere) to guidelines.
    b. Can reveal whether students' perceptions of their own PPE face covering behavior match the perceptions of others/family members.
    c. Surveys for self-reporting of face coverings can be unreliable; individuals tend to overestimate their adherence to guidelines when questioned and may inaccurately recall their past face coverings.

[24] https://mainweb-v.musc.edu/vawprevention/research/programeval.shtml
[25] https://www.cdc.gov/eval/framework/index.htm

d. An example of a comprehensive pre and post intervention survey for students which contains questions regarding self-reported behavior can be found in Appendix F: Pre-Perception Survey for Students and Appendix G: Post- Perception Survey for Students; a shorter pre and post survey that will help measure a change in student knowledge can be found in Appendix H: Pre and Post Intervention Surveys.

3. Observation
    a. Tells you know who is covering their face and who is not?
    b. Using the proper mask etiquette at all times?
    c. Using the mask or face covering throughout their time out in public?
    d. Avoiding contamination of their mask and proper cleaning/reusing it?
    e. Requires man power to do so; being watched may deter individuals from repeating behavior long term.
    f. It can change the behavior of students if they are aware that they are being observed.
    g. Volunteer students or university personnel may be given the tasks to record the questions asked in 3a-d. The findings may be tabulated and an overall perception of face covering compliance will be estimated.
    h. A form which can be used to observe PPE compliance and instructions for use can be found in Appendix I: PPE Usage Observational Tool.

Limitations

There are several limitations for these programs.

- The programs were designed around scientific knowledge of disease transmission for COVID-19. Because COVID-19 is a new disease, the research and knowledge base are forever changing. The educational campaigns and behavioral interventions may become outdated.
- Evidence-based messaging and behavioral interventions are limited or non-existent. Thus, the team utilized evidence -based educational messaging and evidence-based behavioral intervention from a wide array of disease; the materials were minimally altered to fit the COVID-19 pandemic. Once materials are altered they are no longer evidence-based, however, their mirrored after evidence-based materials provide credibility to the materials.
- The materials were designed over a 1-month period. Literature reviews were robust but did not include the entirety of every published research article.
- The programs are not geared to culture, race or ethnicity. Tailored messaging and behavioral intervention are more effective if tailored to the community based on culture, race, and ethnicity.
- Programs should provide the educational campaign first, and follow education with behavioral interventions. More than one behavioral intervention should be used to improve uptake of the behavior.
- There are multiple competing factors that may influence individual and societal behaviors. These could be addressed when implementing these programs.

Conclusion

The PPE campaign contains several main components for implementation and evaluation. The program contains and education campaign, behavioral intervention, and a policy component. The Intervention also include metrics to measuring the behavioral intervention. Face Covering has been shown to decrease the spread of COVID-19 and decrease the likelihood of infection.

Appendix A: Blank Logic Model

Program Name:					
Problem Statement:					
Program Goal:					
Resources	**Activities**	**Outputs**	**Short-Term Outcomes**	**Intermediate Outcomes**	**Long Term Outcomes**
Rationale:			**Assumptions:**		

Appendix B: Preventing COVID-19 Overview

Program Name: Preventing COVID-19

Problem Statement: During the COVID-19 pandemic, university students across New York State are not adhering to new health safety guidelines due to their low health risk perception.

Program Goal: To decrease the spread of COVID-19 among university students.

Resources	Activities	Outputs	Short-Term Outcomes	Intermediate Outcomes	Long Term Outcomes
• Upstate Public Health Team • Administrative Approval • Financial Support for Multiple Program Campaigns • School Institutional Resources -Announcements -Message Boards -Media Outlets -Face Coverings	• Conduct campaigns on handwashing • Conduct campaigns on PPE use** • Conduct campaigns on social distancing • Conduct campaigns on symptom monitoring • Conduct campaigns on policy development	• # campaigns conducted on handwashing • # campaigns conducted on PPE use • # campaigns conducted on social distancing • # campaigns conducted on symptom monitoring • # campaigns conducted on policy development	• Increase in education • Increase in health behaviors • Increase in policy development	• Increase in handwashing • Increase in PPE usage • Increase in social distancing • Increase in symptom monitoring	• Decrease in COVID-19 Transmission among college students • Decrease in community COVID-19 transmission

Rationale:

1. **The spread of COVID-19 can be slowed by handwashing , use of PPE, social distancing, symptom monitoring, and policy development.**

Assumptions:

1. **There is a direct correlation between preventative behaviors and slowing the spread of COVID-19**
2. **New York State colleges have the resources to support these guidelines**

Appendix C: PPE Logic Model

Program Name: Stop the Spread!

Problem Statement: In 2020, college students throughout New York State lack proper PPE usage which has significantly exacerbated the situation involving the current COVID-19 pandemic.

Program Goal: To improve face covering usage among college students returning back to campus.

Resources	Activities	Outputs	Short-Term Outcomes	Intermediate Outcomes	Long Term Outcomes
• Upstate Public Health Team • Administrative Approval • Financial Support for Multiple Program Campaigns • School Institutional Resources -Announcements -Message Boards -Media Outlets -Face Coverings	• Implement a college student educational campaign on PPE usage • Conduct behavioral campaign on PPE usage • Conduct policy campaign on PPE usage • Design school PPE usage policies	• # of Public Service Announcements • # behavioral campaigns conducted • # of policy campaigns conducted • # of policies created	• Increase in awareness of PPE usage • Increase in knowledge of PPE usage • Increase in positive attitudes about PPE usage • Increase in skills for PPE usage	• Increase in PPE usage	• Decrease in COVID-19 Transmission among college students • Decrease in community COVID-19 cases • Decrease in hospitalization usage rates

Rationale:

1. **Use of PPE (Face Coverings) has been shown to reduce transmission of COVID-19.**

Assumptions:

1. **College Students have easy access to PPE**
2. **New York State colleges have the capacity to implement this campaign.**

Appendix D: Evaluation Framework

Outcomes (LM)	Objectives	Outcome Questions	Indicators	Data Collection Methods	Sources
Short Term Increase in skills for PPE usage	By the end of the program, 80% of students will have the proper skills for PPE usage.	Did student successfully demonstrate PPE usage?	Participant skills	Observation	Observer
Intermediate Term Increase in PPE usage	After the program, all students will utilize PPE.	Did students utilize PPE more?	Rate of PPE usage	Survey Observation Consumption	Self-report Student Student
Long Term Decrease COVID-19 transmission among college students	After the program, COVID-19 transmission will be zero among college students.	Were there no cases of COVID-19 transmission among students?	Rate of COVID-19 transmission	Survey	Self-report

Appendix E: Consumption Survey

This document has been modified from the original Soap/Handrub Consumption Survey (revised August 2009), created by the World Health Organization. The original form can be found here: https://www.who.int/gpsc/5may/tools/evaluation_feedback/en/

PPE Face Covering Consumption Survey

Measuring the Consumption of Products in Association with the Implementation of WHO Multimodal PPE Face Covering Improvement Strategy

Purpose

This tool provides a simple template to measure the consumption of products (e.g, Reusable or Non-reusable masks (ear loop)) associated with implementing a PPE Face Covering improvement strategy.

Measuring the consumption of these products is an indirect method of monitoring face covering performance. This indicator can help to assess the uptake of the intervention as a whole and provides an overall indication of its success. It also provides the opportunity to control stock levels over the short- and medium-term and to help estimate likely increases in requirements, particularly relating to non-reusable masks.

Method

In general, the data collection method and the area in which data are collected (selected area or the entire university) should not be changed so as to obtain comparable data at different moments in time. A simple way to collect data is through the central purchasing unit, if this exists, by regularly reviewing the order forms (monthly) for the selected product (e.g. non-reusable masks).

Measurement of consumption should be repeated at the end of each month; if this is not feasible, it should be undertaken at time intervals that are better suited to the purchase/distribution cycle in the university. The grid for information collection included in this document offers the possibility to record data by month up to a period of 6 months. A new form should be filled in for every 6-month period. If monthly data are not available, cumulative data corresponding to longer periods (e.g. 3 or 6 months) should be entered. This measurement will contribute to the development of a plan for long-term procurement sustainability of products and monitoring of usage.

Calculations of consumption made on the basis of purchased or distributed products may be biased by the amount of product still in stock (i.e. not all products may have been used). Please ensure that the amount in stock is subtracted to calculate the real product consumption. It is important to indicate whether the amount reported corresponds to the purchased or to the used product.

If you use different products (e.g. different non-reusable masks), please fill in one form for each product.

Units of products may differ in volume and weight. Please indicate the number of units used (e.g. number of masks).

Feedback

The attached protocol forms are for measurement of consumption over a 6-month period.

The forms should be filled in monthly, preferably at the end of each month.

At the end of the 6-month period, product consumption can be tabulated for the whole university or the respective departments/areas.

An increasing consumption trend indicates the success of the PPE face covering intervention.

Static or declining trends post-implementation need to be examined closely. They may be linked to lack of product availability, distribution delays or interruptions, or other reasons.

General Questions

Is there a central purchasing unit for the entire university? Yes No

(A central purchasing unit is one which makes all purchases on behalf of all units/departments of the university.)

How often are orders for face coverings placed?

Monthly 3-monthly 6-monthly irregular other

Please describe the process of purchase and distribution of product in your university, including the time intervals between purchase and actual distribution, staff responsible for each task in the process, etc.

Protocol to Measure the Consumption of Products for the PPE Face Covering Intervention (Reusable and Non-Reusable Masks)[26]

University name:

Name of implementation co-ordinator/lead:

6-month measurement period
(Please include specific dates for start month and end month, e.g. 30 June – 31 December)

Does the amount measured relate to ☐ whole university ☐ a department ☐ other

Please indicate which department (if applicable): _____

Please indicate other (if applicable): _____

If the measured amount relates to a department/other, please describe those included:

[26] https://www.who.int/gpsc/5may/tools/evaluation_feedback/en/

Face Coverings
(measured in numbers)

Product: ▭ Reusable ▭ Non-reusable ▭ Other (please specify) ____

Information recorded is related to ▭ purchased/distributed product ▭ used product

Name/composition of product/s:

	Amount purchased/used	
	Reusable (Number)	**Non-Reusable (Number)**
Month 1 Date (month):		
Total university or selected areas (delete as applicable)		
Month 2 Date (month):		
Total university or selected areas (delete as applicable)		
Month 3 Date (month):		
Total university or selected areas (delete as applicable)		
Month 4 Date (month):		
Total university or selected areas (delete as applicable)		
Month 5 Date (month):		
Total university or selected areas (delete as applicable)		
Month 6 Date (month):		
Total university or selected areas (delete as applicable)		

Appendix F: Pre- Perception Survey for Students

This document has been modified from the original Perception Survey for Health-Care Workers (revised August 2009), created by the World Health Organization. The original form can be found here: https://www.who.int/gpsc/5may/tools/evaluation_feedback/en/

Perception Survey for Students

It should take you about 10 minutes to complete this questionnaire.

Each question has **one answer only**.

Please read the questions carefully and then respond spontaneously. Your answers are anonymous and will be kept confidential.

1. **Gender:** ▭ Female ▭ Male

2. **Age:** _____ **years**

3. **Did you receive formal training in face coverings in the last three months?** ▭ Yes ▭ No

4. **Do you routinely use a face covering?** ▭ Yes ▭ No

5. **What is the effectiveness of face coverings in preventing COVID?**

   ▭ Very low ▭ Low ▭ High ▭ Very high

6. **Among all safety issues, how important is face coverings at your university?**

   ▭ Low priority ▭ Moderate priority ▭ High priority ▭ Very high priority

7. **On average, in what percentage of situations requiring face coverings do students in your university actually cover their face when going into the public, either by using reusable or non-reusable masks (between 0 and 100%)?**

   _____% ▭ I don't know

8. **In your opinion, how effective would the following actions be to improve face coverings permanently in your university?**
   Please tick one "☐" on the scale according to your opinion.

   a. Leaders and senior managers at your university support and openly promote face coverings.

      Not effective ▭---▭---▭---▭---▭---▭---▭ Very effective

   b. The university makes face coverings available.

      Not effective ▭---▭---▭---▭---▭---▭---▭ Very effective

   c. Face covering posters are displayed as reminders.

      Not effective ▭---▭---▭---▭---▭---▭---▭ Very effective

d. Each student receives education on face coverings.

Not effective ▭---▭---▭---▭---▭---▭---▭ Very effective

e. Clear and simple instructions for face coverings are made visible for every student.

Not effective ▭---▭---▭---▭---▭---▭---▭ Very effective

f. Students regularly receive feedback on their face covering performance.

Not effective ▭---▭---▭---▭---▭---▭---▭ Very effective

g. You always cover your face as recommended (being a good example for your colleagues).

Not effective ▭---▭---▭---▭---▭---▭---▭ Very effective

9. What importance does the head of your university attach to the fact that you cover your face?

No importance ▭---▭---▭---▭---▭---▭---▭ Very high importance

10. How important is it to your friends that you practice proper face covering?

Not important ▭---▭---▭---▭---▭---▭---▭ Very important

11. On average, in what percentage of situations requiring face covering, do you actually perform face covering, either by using reusable or non-reusable masks (between 0 and 100%)?

_____ %

Thank you very much for your time!

Follow-Up Perception Survey for University Students[27]

It should take you no more than 15 minutes to complete this questionnaire.

Each question has **one answer only**.

Please read the questions carefully and then respond spontaneously. Your answers are anonymous and will be kept confidential.

This questionnaire is in two parts: **part 1** includes the same questions that you may have answered during a previous evaluation period; **part 2** includes some additional questions to find out your opinion of the strategies and tools being currently used to promote face coverings at your institution.

Part 1

1. **Gender:** ▭ Female ▭ Male

2. **Age:** _____ years

3. **Did you receive formal training in face coverings in the last three months?** ▭ Yes ▭ No

4. **Do you routinely use reusable or non-reusable masks when in public?** ▭ Yes ▭ No

5. **What is the effectiveness of face coverings in preventing COVID?**

   ▭ Very low ▭ Low ▭ High ▭ Very high

6. **Among all safety issues, how important is face coverings at your university?**

   ▭ Low priority ▭ Moderate priority ▭ High priority ▭ Very high priority

7. **On average, in what percentage of situations requiring face coverings do <u>students</u> in your university actually cover their face when going into the public, either by using reusable or non-reusable masks (between 0 and 100%)?**

8. _____% ▭ I don't know

9. **In your opinion, how effective would the following actions be to improve face coverings permanently in your university?**
   Please tick one "☐" on the scale according to your opinion.

   h. Leaders and senior managers at your university support and openly promote face coverings.

   Not effective ▭---▭---▭---▭---▭---▭---▭ Very effective

   i. The university makes face coverings available.

   Not effective ▭---▭---▭---▭---▭---▭---▭ Very effective

   j. Face covering posters are displayed as reminders.

[27] https://www.who.int/gpsc/5may/tools/evaluation_feedback/en/

Not effective ▭---▭---▭---▭---▭---▭---▭ Very effective

k. Each student receives education on face coverings.

Not effective ▭---▭---▭---▭---▭---▭---▭ Very effective

l. Clear and simple instructions for face coverings are made visible for every student.

Not effective ▭---▭---▭---▭---▭---▭---▭ Very effective

m. Students regularly receive feedback on their face covering performance.

Not effective ▭---▭---▭---▭---▭---▭---▭ Very effective

n. You always cover your face as recommended (being a good example for your friends).

Not effective ▭---▭---▭---▭---▭---▭---▭ Very effective

10. What importance does the head of your university attach to the fact that you cover your face?

No importance ▭---▭---▭---▭---▭---▭---▭ Very high importance

11. How important is it to your friends that you practice proper face covering?

Not important ▭---▭---▭---▭---▭---▭---▭ Very important

12. On average, in what percentage of situations requiring face covering, do you actually perform face covering, either by using reusable or non-reusable masks (between 0 and 100%)?

_____ %

Part 2

1. Has the use of reusable or non-reusable masks provided by the university made face covering easier to do during your day?

Not at all ▬---▬---▬---▬---▬---▬---▬ Very important

2. Is the use of reusable or non-reusable masks well tolerated, i.e., do they make you feel like it's difficult to breath, etc?

Not at all ▬---▬---▬---▬---▬---▬---▬ Very well

3. Were the activities that you participated in important to improve your face covering skills?

Not at all ▬---▬---▬---▬---▬---▬---▬ Very important

4. Do you consider that the leadership at your facility is supporting face covering improvement?

Not at all ▬---▬---▬---▬---▬---▬---▬ Very much

5. Has the increased focus on face coverings at your university helped you personally to improve your face covering practices?

Not at all ▬---▬---▬---▬---▬---▬---▬ Very much

6. Has your awareness of your role in preventing the spread of COVID by improving your face covering practices increased during the current PPE face covering promotional campaign?

Not at all ▬---▬---▬---▬---▬---▬---▬ Very much

Thank you very much for your time!

Appendix H: Pre and Post Intervention Surveys

Pre and Post intervention surveys which should be distributed to students to measure change in knowledge. Questions may need to be tailored to specific interventions, but the Pre and Post surveys should have the same questions. Example questions are included below.

Pre-Survey

Please select either "true" or "false" for each of the following questions.

Face covering is a way to protect your family and friends from getting sick.	**True**	**False**
You should only wear a mask when you're going to see friends.	**True**	**False**
COVID viral droplets can travel in the air.	**True**	**False**

Post Survey

Please select either "true" or "false" for each of the following questions.

Face covering is a way to protect your family and friends from getting sick.	**True**	**False**
You should only wear a mask when you're going to see friends.	**True**	**False**
COVID viral droplets can travel in the air.	**True**	**False**

Appendix I: PPE Usage Observational Tool

Instructions for Completing PPE Observational Tool

Time observed: Indicate the time which the individual being observed wearing a face mask.

Face Mask NOT used: Only check this box if the student did not wear a face mask. If they do not wear a face mask and you intervene and tell them they need to, check "yes" for intervene". If you do not tell them to, check "no" for intervene.

Product Used: Indicate what product was used for a mask.

Procedure Followed Correctly: Check "yes" for if put the mask on correctly.

Face Masked Used Incorrectly: Check all of the reasons why the individual did wear the face mask correctly. If used it correctly, leave blank.

Time Observed	Masks Not Used	Product Used	Procedure Followed Correctly	Mask Used Incorrectly (Check all that apply)
☐ Classroom ☐ Library ☐ Dining Hall ☐ Residence Hall ☐ Other:__________________	☐ STOP Intervened: ☐ Yes ☐ No	☐ Reusable Mask ☐ Non-Reusable Mask	Yes ☐ STOP No ☐	☐ No mask used ☐ Mask worn over only mouth or nose ☐ Mask worn under chin ☐ Mask Dirty or Torn ☐ Mask constantly adjusted or touched with hands
☐ Classroom ☐ Library ☐ Dining Hall ☐ Residence Hall ☐ Other:__________________	☐ STOP Intervened: ☐ Yes ☐ No	☐ Reusable Mask ☐ Non-Reusable Mask	Yes ☐ STOP No ☐	☐ No mask used ☐ Mask worn over only mouth or nose ☐ Mask worn under chin ☐ Mask Dirty or Torn ☐ Mask constantly adjusted or touched with hands
☐ Classroom ☐ Library ☐ Dining Hall ☐ Residence Hall ☐ Other:__________________	☐ STOP Intervened: ☐ Yes ☐ No	☐ Reusable Mask ☐ Non-Reusable Mask	Yes ☐ STOP No ☐	☐ No mask used ☐ Mask worn over only mouth or nose ☐ Mask worn under chin ☐ Mask Dirty or Torn ☐ Mask constantly adjusted or touched with hands
☐ Classroom ☐ Library ☐ Dining Hall ☐ Residence Hall ☐ Other:__________________	☐ STOP Intervened: ☐ Yes ☐ No	☐ Reusable Mask ☐ Non-Reusable Mask	Yes ☐ STOP No ☐	☐ No mask used ☐ Mask worn over only mouth or nose ☐ Mask worn under chin ☐ Mask Dirty or Torn ☐ Mask constantly adjusted or touched with hands

Tool is modified from the Reedsburg Area Medical Center Organization Focused "Hand Hygiene Observation Tool". The original can be found: https://www.jointcommission.org/-/media/deprecated-unorganized/imported-assets/tjc/system-folders/topics-library/hh_monographpdf.pdf?db=web&hash=7F1A70731D44DC2D183B1038CE34EC46