



Public Health Mitigation of COVID-19 – An Adherence Challenge

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If only adherence could be achieved by telling people what to do

The deal social and behavioral scientists make with our infectious disease colleagues:

“You tell me what you need people to do, and I’ll tell you how to help them do it.”

What the CDC wants people to do to mitigate transmission of SARS-CoV2

- Wash your hands often
- Avoid close contact (physical distancing)
- Cover your mouth and nose with a face mask
- Stay home if sick

. . . But we could also tell them better

From Lund et al., Understanding behavioral science to help fight the coronavirus, JBPA, 3, 1, 2020

Keys for communication:

- “Best for all”, strong group identity
- Effective crisis communication involves:
 - Speed
 - Honesty
 - Credibility
 - Empathy
 - Promoting useful and specific individual actions

Handwashing

- Soap and water for 20 seconds (hand sanitizer if soap and water not available)
- When?

Handwashing

- Soap and water for 20 seconds (hand sanitizer if soap and water not available)
- When?
 - Before eating or preparing food
 - Before touching your face
 - After leaving a public place
 - After blowing your nose, coughing, or sneezing
 - After leaving the bathroom
 - After handling your face mask/covering
 - After changing a diaper
 - After caring for someone sick
 - After touching pets or animals



UCS \Rightarrow UCR

NS + UCS \Rightarrow CS

CS \Rightarrow CR

Applying Research on Handwashing Adherence

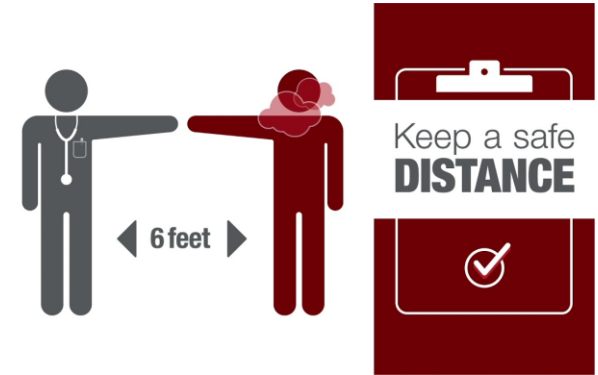
- Mass media communications increase handwashing (Galiani, 2015; Tidwell, 2019) - mostly tested in LMICs
- Accessibility at point of use (handwashing stations, prompts), also mostly in LMICs and primarily for diarrheal diseases and pneumonia control (Dreibelbus, 2016; Kumar, 2017; Najnin, 2019)
- Increased accessibility at point-of-care and prompts also found effective in hospital settings as well as regular performance feedback (Naikoba & Hayward, 2001)
- Social norms and perception that behavior will prevent infection are associated with handwashing (Gamma, 2019)

Challenges

- Very little handwashing adherence research outside of hospital system settings or LMICs, and very little during global pandemics
- Measurement issues (self-report, observation, soap use, bacterial scans)

Adherence to Physical Distancing

- Not the first time physical distancing has been instituted to mitigate an epidemic (e.g., Spanish flu) but essentially no prior research on physical distancing efficacy or adherence
- Physical distancing is effective for reducing transmission (Anderson, 2020; Gao, 2020; Islam, 2020)
- 2m is good but 1m also is protective (Chu, 2020)
- Physical distancing – not social distancing – but there are strong social reinforcers to physical proximity that undermine adherence
- Disparities exacerbated by how living conditions facilitate being able to follow physical distancing (Lingam, 2020)
- Three pillars - fear, prosociality, rule compliance (Twardarski, 2020)
- Empathy associated with adherence to physical distancing (Phattheicher, 2020)
- Belief in science associated with physical distancing (Brzezinski, 2020)



Bottom Line:
Need to draw from behavior change principles (reinforcement, attitude change) and from research on adherence to similar actions (condom use, physical activity) and use this opportunity to test physical distancing adherence efforts

Face Mask Use

- Prior research shows limited adherence to face mask wearing in households with children with a respiratory illness (MacIntyer, 2009) and influenza (Suess, 2011)
- Among healthcare workers, availability, training, group norms, organizational support, and communication associated with increased face mask use (Nichol, 2013)
- Minimal research with epidemics – perceived risk and seriousness of illness are predictors (Gershon, 2018)
- No risk compensation with physical distancing – face masks increase, not decrease, physical distancing (Seres, 2020)



Stay home when sick – Paid Sick Leave

- US one of few developed countries without guaranteed paid sick leave (Heymann, 2009)
- Two-thirds of workers go to work when sick with flu or other contagious illness (Smith, 2008)
- 40% of US workers have no paid sick leave benefit; younger, female, Hispanic, less educated, and farm/blue collar less likely to have paid sick leave (Zhai, 2018). Disparities also exist globally (Quinn, 2014)
- Modeling consistently shows reductions in the spread of contagious diseases and economic benefits from paid sick leave (e.g., Edwards, 2019)
- Decades of research indicated that paid sick leave is an important component of pandemic mitigation (Inglesby, 2006)
- Those without paid sick leave also 3 times more likely to forego medical care (DeRigne, 2015); and preventive care (DeRigne, 2017), including flu vaccination (Zhai, 2018)
- Temporary federal mandate (4/1/20) has already had a positive effect on staying home more (Anderson, 2020).
- Heymann (2020) Protecting health during COVID-19 and beyond: A global examination of paid sick leave design in 193 countries
- World Health Report on “Case for Paid Sick Leave”

COVID-19 Urgent Competitive and Administrative Supplements

Funding Announcements

Funding Opportunities Specific to COVID-19 and the Behavioral and Social Sciences

The following is a list of recently released NOSIs for Urgent Competitive Revisions and Administrative Supplements encouraging COVID-19 behavioral and social sciences research. Key areas of research encouraged by these NOSIs include various aspects of the Novel Coronavirus (SARS-CoV-2) and COVID-19 including risk communication, adherence to and transmission risks from various public health mitigation efforts, economic and social impacts from these mitigation efforts, downstream health and healthcare access effects as a result of these economic and social impacts, and interventions to ameliorate these downstream health impacts. In addition to a number of NIH institute or center (IC) NOSIs, OBSSR also has issued a trans-NIH NOSI to address common areas of interest across ICs and provide a mechanism for ICs to fund urgent competitive revisions and administrative supplements without publishing their own NOSI.

To sort by title, organization, dates or announcement number, click the table headers below.

Title	Announcement Number	Issuing Organization	Opening Date	Closing Date
Notice of Special Interest (NOSI) regarding the Availability of Administrative Supplements and Urgent Competitive Revisions for Mental Health Research on the 2019 Novel Coronavirus	NOT-MH-20-047	NIMH	3/27/2020	4/16/2021
Notice of Special Interest (NOSI) regarding the Availability of Administrative Supplements and Urgent Competitive Revisions for Research on the 2019 Novel Coronavirus	NOT-DA-20-047	NIDA	3/19/2020	3/31/2021
Notice of Special Interest (NOSI) regarding the Availability of				

- Adherence to mitigation
- Mitigation risk reduction
- Economic impacts
- Social impacts
- Downstream health impacts
- Interventions to ameliorate impacts
- Healthcare access
- Natural experiments

<https://obssr.od.nih.gov/research-support/funding-announcements/>



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COVID-19 Survey Item Repository



COVID-19 OBSSR Research Tools

The table below lists and links to data collection instruments, including surveys, for assessing COVID-19-relevant Behavioral and Social Science (BSSR) domains for clinical or population research. The [NIH Office of Behavioral and Social Sciences Research \(OBSSR\)](#) has compiled this list, with assistance from the NIH Disaster Research program (DR2). DR2 is a collaborative effort by the National Institute of Environmental Health Sciences and the National Library of Medicine (NLM) that aims to improve our nation's capabilities for performing timely environmental health research in response to emerging threats and disasters. OBSSR has selected these instruments using the expertise of its staff and based on the high credibility of tool sources. However, NIH does not endorse any specific instrument as best practice for development, testing, or validation. Researchers are encouraged to test instruments (e.g., cognitive testing, pilot testing) before fielding them in their studies, to the extent possible in this rapidly evolving COVID-19 research landscape. For questions related to specific instruments, source contact information is provided (where available).

- Over 70 surveys posted to date
- Over 10K downloads to date

Additional research tools can be found by searching for various keywords of interest in the results of this targeted search for [COVID-19 research tools](#) in NLM's Disaster Lit® database.

The **Database ID Number** links to full descriptive information about each tool. **Instrument Name** links provide direct access to

Database ID Number (full record)	Instrument Name (access to tool)	Question Areas Included in Instrument
ID: 22039	Cyber-Abuse Research Initiative (CARI) COVID-19 Impact on Domestic Abuse	<ul style="list-style-type: none"> • Domestic Violence victimization and perpetration during COVID-19 • Help-seeking and fear of violence during COVID-19
ID: 22038	Healthcare Worker Exposure Response & Outcomes (HERO) HERO: Daily Impact Index HERO: Registry Protective Equipment Survey	HERO daily impact index (PI-designated concepts measured) <ul style="list-style-type: none"> • Sleep disturbance • Pain • Anxiety • Depressive symptoms • Stress • Anger • Fatigue Registry Protective Equipment Survey <ul style="list-style-type: none"> • PPE survey

The screenshot shows the PhenX Toolkit website interface. At the top, there are navigation buttons for 'Register', 'Log in', and 'My Toolkit'. Below the navigation is a search bar with the text 'Search: Search all protocols in the Toolkit using keywords (e.g. diabetes) or PhenX ID (e.g. 011502)'. The main content area is titled 'COVID-19 Protocols' and contains the following text: 'This page provides a list of COVID-19 related measurement protocols (CRFs, DCFs, instruments, surveys, questionnaires) that are currently in use. We hope that investigators will consider choosing from these protocols rather than developing new ones. The source of each protocol has been verified and contact information is provided in case additional information is needed. In the future, we plan to provide data dictionaries to enhance data interoperability and to support data harmonization. Please note, these protocols have not been selected via the standard PhenX consensus process and cannot be considered broadly validated; investigators are encouraged to perform validation studies.' Below this text is a button that says 'To submit a COVID-19 related protocol for consideration, please click here'. At the bottom, there is a section titled 'Available COVID-19 Protocols' with a list of items: 'American-Islamic Relations (CAIR)', 'Pandemic Impact Questionnaire (PIQ) Council (CAIR-PIQ)', and 'CAIR-PIQ Contact'. A 'Main Topic(s)' button is also visible.



NIH Appropriations for COVID-19 Research

- 1st Rounds of Funding (HR6074, HR478): \$1.8B - mostly to NIAID and NHLBI for therapeutics and vaccine development and research – but psychosocial recovery included in these efforts.
- 2nd Round of Funding: (HR266) \$1.8B – substantial amount to NIBIB and NCI for virus and antibody testing research, but \$500M to RADx-UP for testing in underserved and vulnerable populations
- 3rd Round of Funding: Still under consideration in the Phase 4 stimulus package; hopeful it will include funding to understand and improve amelioration of the economic, social, behavioral and health impacts of the pandemic and mitigation strategies (\$11M jumpstart from OD)

RADx-UP

Community-engaged testing research projects to examine SARS-CoV-2 infection patterns and efforts to increase access and effectiveness of diagnostic methods, with the overarching goal to understand factors that have led to disproportionate burden of the pandemic among underserved populations so that interventions can be implemented to decrease these disparities.

- [NOT-OD-20-121](#) - supplements to NIH grantees that are part of large-scale networks, consortia, centers and other current programs that have adequate capacity, infrastructure, and established community-engaged relationships to support large-scale testing.
- [NOT-OD-20-120](#) - similar focus, but for supplementation to individual research awards that include community collaborations or partnerships (or have the capacity to ramp up quickly) to reach underserved and/or COVID-19 vulnerable populations.
- [NOT-OD-20-119](#) - research to understand the social, ethical and behavioral Implications (SEBI) of COVID-19 testing in these populations.
- [RFA-OD-20-013](#) - RADx-UP Coordination and Data Collection Center (CDCC) –serves as a national resource, to coordinate and facilitate research activities. The CDCC will also serve as a spoke in the larger NIH initiatives by providing deidentified individual data to an NIH-based data center.

SBE Impacts of COVID-19

Social, Behavioral, and Economic Impact of COVID-19 Initiative: NIH cross-cutting initiative to address the social and economic impacts of COVID-19 and its mitigation, and to address the downstream health effects of these impacts.

- [NOT-MD-20-022](#) -Competitive and Administrative Supplements for Community Interventions to Reduce the Impact of COVID-19 on Health Disparity and Other Vulnerable Populations - community interventions focused on the prevention (or slowing) of COVID-19 transmission, evaluate local and state policies and programs intended to mitigate COVID-19 exposure and improve adherence, and reduce the negative impact of the multifaceted consequences on the health of populations who experience health disparities and other vulnerable groups.
- [PAR-20-237](#) - Community Interventions to Address the Consequences of the COVID-19 Pandemic among Health Disparity and Vulnerable Populations - implement and evaluate community interventions evaluating: 1) the impacts of mitigation strategies to prevent COVID-19 transmission in NIH-designated health disparity populations and other vulnerable groups; and 2) already implemented, new, or adapted interventions to address the adverse psychosocial, behavioral, and socioeconomic consequences of the pandemic on the health of these groups.
- Current support from existing NIH funds – potentially more funding under current stimulus bill

Skate to where the puck is going . .

Key Adherence Questions

- Improving and maintaining long-term adherence to mitigation behaviors, especially for physical distancing and face mask wearing
- Communicating risk and continued adherence to mitigation in the context of better therapeutics, vaccines
- Improving public health implementation of what we know
- Medication adherence to therapeutics as treatment shifts to outpatient
- Testing adherence and follow-up
- Minimize vaccine hesitancy, especially given the rapid pace of vaccine development and testing





Connect with OBSSR

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