

National Institutes of Health Office of Research on Women's Health

ORWH Response to the COVID-19 Pandemic: Incorporating a Sex-and- Gender Lens

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Introduction

As of mid-September 2020, COVID-19 had claimed over 924,000 lives globally, with the number of COVID-19 diagnoses exceeding 29 million.[1] The pandemic is exacting a social toll as well—steepening existing inequalities in health care access and outcomes, increasing violence against women and girls, heightening anxiety and depression, and worsening bias and discrimination. Biological factors (e.g., age, sex, and genetics) influence COVID-19 outcomes, but social determinants of health (e.g., availability of health care, economic insecurity, and education) also appear to be critical influences on COVID-19 outcomes.[2, 3] Information from previous public health emergencies suggests that COVID-19 will most likely expose gaps in our preparedness and mitigation measures. However, COVID-19 also presents opportunities to marshal resources, center diverse voices (including leaders who are women and those from diverse racial and ethnic backgrounds), and coordinate research in ways that are more responsive to social determinants of health and health equity.

As NIH responds to the COVID-19 pandemic, ORWH offers the following resources to facilitate alignment of the NIH response with the Trans-NIH Strategic Plan for Women's Health Research. Applying a multidimensional framework to COVID-19 ensures that the range of biological and social factors that influence women's health—and their intersections—are considered across the life course.

Overview of Sex & Gender Influences in the COVID-19 Pandemic

The COVID-19 global health crisis presents an unprecedented opportunity to invest in rigorous, responsive, and responsible research to better understand how to prevent and treat disease. This pandemic underscores the imperative of systematically considering sex, gender, and social determinants of health to strengthen our collective capacity to respond equitably to COVID-19, as well as to any future outbreak and pandemic-related threats. Sex has an impact on physiological processes besides reproduction, making it a key variable to consider in research involving humans and vertebrate animals.[4] "Gender" refers to the socially constructed and enacted roles and behaviors that occur in a historical and cultural context and vary across societies and over time. Accounting for sex without also accounting for gender (and other social determinants of health) would limit the development and deployment of effective, equitable diagnostics, treatments, and interventions relevant to the entire population. Approaching sex and gender through a multidimensional lens ensures these variables are considered across the life course and in relation to social determinants of health.

Points to consider:

- Incorporate language on sex, gender, race, ethnicity, sexual orientation and gender identity (SOGI), socioeconomic status, and other social determinants of health into funding opportunity announcements (FOAs).
- Disaggregate data whenever feasible, particularly using variables such as sex, gender, SOGI, race, ethnicity, age, socioeconomic status, and geographical location.

Sex & gender resources:

- Refs [5–9]



Resource compendiums

- [COVID-19 and Gender Resources](#)
- [PMNCH compendium of COVID-19 related partner resources on women's, children's and adolescents' health](#)
- [COVID-19 Resources: Gender Data, Gender, and Data](#)
- [COVID-19 sex-disaggregated data tracker](#)
- [NIH iSearch COVID-19 portfolio](#)

1. Sex differences

Sex-disaggregated data are available for 74 countries through the Global Health 50/50 initiative, with partial sex-disaggregated data for an additional 50 countries. (Sex-disaggregated data are lacking for the remaining 50 countries Global Health 50/50 tracks.)[10] These data show that although the proportion of confirmed cases between the sexes is roughly equal, the proportion of deaths is higher in males.[10] This male bias in COVID-19 vulnerability has several possible biological explanations[11]: females' more robust innate adaptive immune responses;[12] sex-specific signaling through toll-like receptors;[13] and potential disease modulation through TMPRSS2, an androgen-regulated protease.[14]

Potential research topics:

- Sex differences in vaccine efficacy[15]
- Sex differences in novel therapeutics[16]
- Sex differences in medication risk profiles
- Possible sex-specific mechanisms of transmission (e.g., SARS-CoV-2 is found in semen[17] but not vaginal fluid[18])
- Sex-specific differences in immunity across the life course (pre- and post-menopause)

Sex differences resources:

- Refs [10–27]

2. Gender's role in the COVID-19 pandemic

Socially constructed gender roles and norms exist alongside biological differences, and like biology, gender and gender identity play a significant role in health outcomes. Therefore, in COVID-19 research, as in many areas, gender emerges as an important consideration.[9, 28] Data from other disasters and public health emergencies indicate that women experience significant mental health and economic impacts because of their unpaid or underpaid caregiver roles[9, 29, 30], and the risk of intimate partner violence (IPV) and gender-based violence increases during widespread quarantines.[31, 32] At the intersection of sex and gender, women faced decreased autonomy over their sexual and reproductive health during previous public health emergencies, contributing to increased rates of maternal and neonatal mortality as an indirect health consequence.[33, 34]

Potential research topics:

- Differences in risk and resilience based on gender, race, ethnicity, socioeconomic status, age, and other social determinants of health



- Impact of COVID-19 on medically underserved regions and vulnerable populations (e.g., pregnant women, people experiencing homelessness, prison populations, people with disabilities, those in shelters or residential treatment settings)
- Interventions targeting health behaviors with known gender differences (e.g., handwashing, smoking, sleep, exercise)
- Research on pandemic-related health risks and outcomes in transgender and gender-nonconforming women (e.g., increased homelessness, housing instability, and denial of admittance into shelters)
- Development and testing of patient-reported outcome (PRO) measures that are responsive to gender, sex, race, ethnicity, age, and other social determinants of health

Gender and COVID-19 resources:

- Refs [31–40]

3. Racial and ethnic disparities

Current global data suggest that historically marginalized groups—including members of racial and ethnic minority populations, people with underlying health conditions, and individuals experiencing poverty/low income—are disproportionately affected by virus-related complications and death.[41, 42] COVID-19 is unmasking barriers some groups face to testing and treatment—digital inequalities[43], lack of access[44], medical mistrust[45], and the absence of culturally responsive health communication materials.[46, 47] Intersectional analyses that consider stigma, bias, violence, minority stress, racial weathering, structural racism, and other factors that impact the health of BIPOC (Black, Indigenous, and people of color) communities can elucidate the connections among policies, practices, and health outcomes. Indeed, as researchers Michael Kenneth Lemke and Kyrah K. Brown recently wrote in the *Maternal and Child Health Journal*, such perspectives can “lead to impactful multi-level prevention strategies that simultaneously tackle both endemic and COVID-19-specific factors and outcomes that lead to the clustering of vulnerabilities and disparities over time” for racial and ethnic minorities.[48] Multidimensional and intersectional approaches (those that account for the multiple social and structural factors that shape health) further reveal that LGBTQ+ people of color are disproportionately harmed economically by the pandemic—more likely to have become unemployed, had their work hours reduced, and to have asked for delays in paying their rent or bills.[49]

Potential research topics:

- Differences in risk and resilience based on race and ethnicity
- Intersectional analyses of race, ethnicity, age, socioeconomic status, sexual orientation, and geographical location in a life course perspective
- Development and implementation of culturally responsive health communication materials
- Community-level interventions to address disparities in testing
- Role of AI in identifying and mitigating health disparities; mitigating coding biases in AI
- Examination of differences in use of health care services by race and ethnicity
- Systemic racism and its role in pandemic-related health disparities



Racial and ethnic disparities resources:

- Refs [41–64]

4. Sexual and gender minority populations

Information about the specific risks sexual and gender minority (SGM) individuals face when it comes to SARS-CoV-2 vulnerability, COVID-19 severity, and the larger issues surrounding them remains lacking. Pinpointing the pandemic-related and specific health needs of SGM populations has been impeded by the infrequent and inconsistent collection of data on sexual orientation and gender identity (SOGI). There is evidence that SGM populations have elevated stress and experience greater stigma compared with their heterosexual and cisgender counterparts.[65–67] This may predispose SGM populations to unique harms arising from typical adverse consequences posed by the pandemic[68, 69], such as disruption of personal support systems, unplanned changes in living situations, and economic and employment challenges.[70] For example, in countries that limit movement by specifying the days on which men and women can leave their homes, anecdotal evidence indicates that transgender, queer, and nonbinary individuals are experiencing increases in violence and police harassment.[71, 72] Intersectional analyses suggest that the economic impacts of COVID-19 are greater for LGBTQ+ people of color than for White LGBTQ+ individuals, further underscoring the value of multidimensional approaches to understanding and addressing COVID-19.[49]

To adequately capture the economic and social impacts of COVID-19 on SGM communities, research will need to explicitly consider LGBTQ+ individuals when designing measures and studies (e.g., examining the impact of school closures on professional productivity in same-gender as well as mixed-gender households). Interventions focused on subgroups within the SGM community are especially needed to increase access to quality and equitable health care and to address both physical and mental health concerns. To date, a paucity of research explores the wide-ranging impacts of this pandemic on SGM women, and more research is needed in this critical area.

Potential research topics:

- Assessment of social and behavioral processes that affect SARS-CoV-2 infection vulnerability and COVID-19 severity in SGM populations
- Discerning the effects of COVID-19 on healthy and risky behaviors (e.g., smoking, substance use, and their cessation and engagement and disengagement in sex work)
- Intersectional and community-based research to understand the effects of the pandemic on SGMs of color, SGMs living in rural settings, SGMs with low socioeconomic status, and SGMs in different living circumstances, such as those who are in foster care, those who are incarcerated, and those who are experiencing homelessness
- Examining the impact of exogenous hormones/gender-affirming therapy on COVID-19 prevalence, progression, and outcomes
- Investigating psychosocial impacts of the pandemic (e.g., anxiety, stress, sleep disturbance) on communities with histories of pandemic-induced trauma (e.g., long-term survivors of HIV)



- Qualitative and quantitative projects considering experiences of SGM caregivers and caregivers of SGM individuals[73]
- Evaluating the reach, access, engagement, and effectiveness of relevant health intervention strategies targeting SGMs
- Mental health implications for LGBTQ+ teens who are isolated with families
- Developing and testing interventions in a variety of formats (e.g., virtual, mobile health [mHealth]) to offer psychosocial support and stigma reduction tailored to SGM individuals

Sexual and gender minorities resources:

- Refs [49, 65–80]

5. Intimate partner violence and gender-based violence

Data from this and other public health emergencies indicate an increased risk of intimate partner violence (IPV) during quarantine/stay-at-home directives.[81] Access to health services, including IPV support services, is limited while movement is restricted[32], which increases the urgency of identifying and responding to IPV. As part of a holistic response to violence against women—including community-based COVID-19 diagnostic settings—the entire health care system can act in a coordinated way to intervene on behalf of victims of violence by incorporating screening into all clinical encounter–related diagnostics.[82, 83]

Potential research topics:

- Development and testing of culturally competent and responsive IPV-reduction interventions aimed at perpetrators
- Developing and testing community-based interventions to reduce IPV in regions with high prevalence rates
- Developing and testing IPV resources to include in COVID-19 communication and counseling materials
- Examining the influence of IPV on willingness and ability to get tested for COVID-19
- Testing the feasibility, acceptability, and practicality of IPV screening in the context of COVID-19 diagnostics
- Prevalence and outcomes of online violence/cyberstalking during times of increased social isolation

IPV and gender-based violence resources:

- Refs [32, 81–93]

6. Pregnancy, breastfeeding, and reproductive health

Pregnancy is associated with alterations in the immune system, and pregnant women are susceptible to respiratory pathogens and to the development of severe pneumonia, which possibly makes them more susceptible to SARS-CoV-2 infection than the general population, especially if they have chronic diseases or maternal complications. Limited data from previous respiratory viral pandemics—influenza, SARS,



and MERS—indicate more severe illness in pregnant women and an increased risk of pregnancy complications and neonatal complications.[94] Preliminary information about COVID-19 in pregnant women suggests that pregnant women are not more severely affected than the general population.[95] However, the numbers of pregnant women reported have been small, and more studies are needed that compare pregnant women with nonpregnant women of similar ages rather than with all COVID-19 patients. There have been a few published cases of clinical evidence of possible vertical transmission in pregnant women with severe COVID-19.[96] Findings from the small group of cases suggest that there is no evidence for intrauterine infection caused by vertical transmission in women who develop COVID-19 pneumonia during the third trimester of pregnancy.[97, 98] Also, current meta-analysis data support a lack of evidence for intrauterine transmission of COVID-19 from infected pregnant women to their fetuses.[99] Regarding lactation, limited data have suggested that SARS-CoV-2 is not transmitted through breast milk[100], but numbers on which to determine evidence-based recommendations are too small.

Potential research topics:

- Impact of COVID-19 on home birth versus hospital birth, including rural/urban, racial, and socioeconomic status differences in trends
- Long-term mental health outcomes related to pregnancy/delivery during the COVID-19 pandemic, including postpartum depression, symptoms of post-traumatic stress disorder, and breastfeeding decisions
- Evaluating the reach, access, engagement, and effectiveness of health intervention strategies for pregnant women
- Psychosocial impacts of COVID-19 on labor and delivery personnel
- Indirect impacts of COVID-19 on maternal morbidity and mortality and infant mortality
- Changes in access to and engagement with sexual and reproductive health services during the pandemic, with attention to regional variation and women in understudied, underrepresented, and underreported (U3) populations (e.g., those with low socioeconomic status, those who live in rural areas, and those who are racial and ethnic minorities)
- Role of doulas and emotional support personnel during pregnancy and post-pandemic

Pregnancy and breastfeeding resources:

- Refs [94-96, 98–117]

Sexual and reproductive health resources:

- Refs [33, 34, 72, 118–126]

7. Stress, trauma, and resilience

Unprecedented and extended COVID-19-related upheavals have understandably resulted in widespread increases in stress across multiple domains (e.g., economic, health, career, caregiving). Local shutdowns and restrictions on large gatherings have limited physical access to social supports, such as religious gatherings, sporting and recreational events, and entertainment (dining out, movies). A baseline analysis of Americans' COVID-19-related stress and coping confirmed this elevated stress, reporting that large



majorities of survey participants responded that they had experienced such stressors as “reading/hearing about the severity and contagiousness of COVID-19 (96.6%), uncertainty about length of quarantine and social distancing requirements (88.3%), and changes to social (83.7%) and daily personal care (80.1%) routines.”[127] Significant gender differences have been identified in pandemic-related stress. Women report more worry about getting sick and losing income than men do, and women report taking more health precautions (including social distancing) than men.[128] The gender gap in reported social distancing measures has widened over the course of the pandemic.[129] At least one study identified increased alcohol use as a frequent response to the perceived COVID-19-related threat—an increase that was more dramatic for women.[130] Intersectional analyses will elucidate differences in stress and trauma for members of health disparity populations (including SGM individuals[65-67] and racial and ethnic minorities[131, 132]), who had higher baseline/pre-pandemic levels of stress exposures and experiences.

Essential workers face a complex set of stressors. Front-line health care workers are experiencing high levels of unfavorable mental health symptoms—including depression, anxiety, insomnia, and post-traumatic stress symptoms—and symptom severity is higher in women than men.[133, 134] Other essential workers—including grocery employees, sanitation workers, and mass transit employees—are expected to continue working in potentially hazardous situations, often for low wages and without adequate personal protective equipment (PPE); many of these minimum-wage workers are from marginalized communities and, according to researcher Neeta Kantamneni, “feel they have to choose between their health and the need to earn wages to pay for basic necessities.”[135]

Potential research topics:

- Characterizing stress exposure, stress response, coping strategies, and resilience, with multidimensional attention to sex, gender, race, ethnicity, age, and caregiving status
- Developing and testing culturally competent strategies to promote resilience, particularly in vulnerable populations
- Developing and testing interventions and prevention strategies to mitigate the impact of COVID-19 on adolescent mental health[136]
- Developing and testing strategies for sustainable delivery of evidence-based interventions to improve COVID-19-related stress and emotional trauma outcomes in under-resourced settings
- Developing rapidly deployable, innovative, and effective stress management interventions for health professionals and other essential workers[137]
- Developing and testing the feasibility of self-care and adaptive coping digital health interventions, deployable at the county level, during public health emergencies
- Characterize and understand long-term impacts of stress related to conflict arising from having multiple roles[135]

Stress, trauma, and resilience resources:

- Refs [127–130, 133–144]



8. Comorbidities and underlying conditions

The multidimensional framework recognizes that health outcomes for any individual woman are impacted by multiple factors, including comorbidities and underlying conditions. For example, women taking hydroxychloroquine for autoimmune diseases such as lupus and rheumatoid arthritis have been impacted by shortages of that drug because it temporarily had emergency use authorization from the Food and Drug Administration (FDA).[145] Racial and ethnic minorities bear a disproportionate burden of many comorbidities and underlying conditions—including diabetes, obesity, and hypertension—that have been shown to negatively impact COVID-19 outcomes.[59]

Potential research topics:

- Investigating psychosocial impacts of the pandemic on communities with histories of pandemic-induced trauma (e.g., long-term survivors of HIV)
- Developing and testing culturally responsive strategies for sustainable delivery of evidence-based interventions to mitigate the impact of comorbidities and underlying conditions
- Developing, deploying, and evaluating the impact of targeted health communication messaging for diverse communities, with attention to gender, race, ethnicity, disability, age, and language
- Examining structural racism, biases, and the impact on utilization of health care in the treatment of racial and ethnic populations

Comorbidities and underlying conditions resources:

- Refs [59, 145–149]

9. Workforce

Women account for 70% of the global health workforce but, on average, account for only about 25% of COVID-19 task force teams.[150] Front-line health care workers are at risk of exposure to SARS-CoV-2 through contact with patients—a risk that increases in the absence of adequate PPE. Essential workers who have children are in the difficult position of having to go to work while day care facilities and schools are closed. These workers must also decide whether to limit contact (and, if so, how much) with their households, especially if their households include vulnerable members. Conversely, some essential workers are unable to limit their contact with members of their households, potentially causing stress and increased household exposure risk. Increased risk of exposure via low-wage, public-facing essential work (e.g., mass transit, retail) or residence in crowded living spaces disproportionately impacts racial and ethnic minority communities, economically disadvantaged populations, people in geographically isolated areas, and other vulnerable communities (e.g., homeless and incarcerated populations).[59] Furthermore, many care workers hold multiple jobs, and risk mitigation plans must account for multiple jobs and unpaid caregiving.[151]

Potential research topics:

- Qualitative and quantitative projects related to work conditions for health care workers
- Designing and piloting PPE that considers diverse bodies of all genders
- Developing and testing rapidly deployable and effective screening tools to identify health professionals at risk for suicide and adverse coping during public health emergencies



- Developing rapidly deployable and effective stress management interventions for health professionals and other essential workers

Workforce resources:

- Refs [103, 108, 133, 152–156]

10. Child care and caregiving responsibilities

COVID-19 has made the typically unpaid job of the family caregiver even more challenging by limiting access to the typical social supports and adding the burden of performing clinical tasks. Women do the lion's share of formal and informal caregiving, both in homes and in the public sphere.[135] With day care facilities and schools closed, many women are now tasked with home-schooling children and managing children's psychological responses to COVID-19 while navigating their own pandemic-related stress.[157] Mothers—even those in egalitarian-oriented mixed-gender partnerships—are disproportionately expected to manage household needs while also attending to their professional careers.[158]

Pandemic-related closures limit the availability of supportive services, extending caregiver responsibilities to include medication management, wound care, surrogate financial decision-making, and infectious disease control and prevention functions.[159–163] Caregivers also contend with the care recipient's heightened anxiety and feelings of isolation related to dramatic disruptions to everyday life.[164] These factors create grave consequences for the physical and emotional health of the caregiver.[165] Prior to the COVID-19 pandemic, nearly one-quarter of family caregivers reported that caregiving contributed to a worsening of their own health.[166] Researchers indicate that caregivers are at even greater risk of physical and mental exhaustion, sleeplessness, and caregiver burnout with the shift toward more responsibility during the coronavirus emergency.[36, 164, 165, 167]

Potential research topics:

- Developing community-based interventions to ease the psychological and practical burdens of increased child care responsibilities (e.g., mutual aid programs, family/elder respite care navigation, and mHealth)
- Developing, deploying, and evaluating community-based health communication initiatives focused on self-care, resilience, and burnout prevention messaging for caregivers
- Developing, testing, and evaluating virtual peer-support group interventions
- Examining the impact of the increased need to multitask on women's mental health and overall physical health

Child care and caregiving resources:

- Refs [135, 155, 157–170]

11. Rural women

Rural communities report higher rates of mental health disorders, substance use, obesity, and other comorbid conditions, along with higher rates of poverty and premature death, geographic isolation, and limited access to health care services.[171–174] Diverse populations of rural women—including



veterans[175], women of color[172], immigrants[176], caregivers[177], and LGBTQ+ individuals[178]—face additional compounding factors that can exacerbate these health disparities. Although the absolute number of COVID-19 cases is lower in rural areas than urban areas, many rural areas have experienced disproportionately high per-capita rates of death. Many rural hospitals lack the infrastructure, funds, and institutional connections to conduct COVID-19 clinical trials and attain experimental and expanded access medications (e.g., remdesivir).[179] Rural mothers and pregnant women, as well as rural caregivers, must navigate an additional set of concerns, including lack of proximity to health facilities, increased reliance on telemedicine, loss of social support because of stay-at-home orders, and overburdened health systems.[9] Pursuing COVID-19 research questions relevant to rural women can ensure that this U3 population's health needs are adequately considered.

Potential research topics:

- Role of rural context (geographic isolation, longer distance to care, higher poverty, higher elderly population, weather-related challenges, clinician and behavioral health provider shortages) in COVID-19 outcomes and experiences
- Feasibility of mobile diagnostics and treatment units in studies and trials conducted in rural settings
- Role of community-based efforts on COVID-19 education, health communication, and behavioral change

Rural women and COVID-19 resources:

- Refs [44, 171–183]

12. Incarcerated populations

The characteristics of corrections settings (close quarters, crowding/overcrowding, supply shortages) have important implications for COVID-19.[184, 185] Women are the fastest-growing proportion of the incarcerated population in the United States, with women and girls of color, transgender women, and women experiencing poverty facing a higher lifetime chance of justice system involvement than more advantaged populations of women.[186, 187] Studies have shown that histories of IPV, sexual assault, and childhood trauma are far more common among incarcerated women than men—traumatic experiences that can be compounded by elements of the prison environment itself.[188, 189]

Confinement poses many health risks (stress and interruptions in medical treatment and care, mental health services, and addiction recovery services). Physical and mental health conditions are greater among both genders with a history of incarceration as compared with the general population. However, women with a history of incarceration bear the greatest burden of disease, including conditions that are infectious—such as tuberculosis, hepatitis, and HIV—as well as conditions such as high blood pressure. Despite women's greater burden and unique needs—e.g., feminine hygiene products, gynecologic services, and prenatal care for pregnant detainees—correctional health professionals may not have as much capacity to meet health care utilization demands for incarcerated women as they have for incarcerated men.[190]



Across the United States, jails, prisons, and detention centers have reported outbreaks of COVID-19, with a dramatic impact on the local prevalence rate in at least one jurisdiction (Cook County, Illinois).[191] In the age of COVID, already-stretched prison health care and mental health services may be challenged even further.[192] A comprehensive response to COVID-19 must attend to—and create structures to provide for—the health, resilience, and safety of diverse incarcerated populations.[193]

Potential research topics:

- Prevalence and outcomes in incarcerated populations and correctional workers
- Research to support understanding how state policies and initiatives mitigate or exacerbate disparities in health services use and health outcomes in health disparity and other vulnerable populations
- Attitudes and health literacy about COVID-19 among incarcerated and recently released populations

Incarceration resources:

- Refs [184–204]

13. People experiencing homelessness or housing instability

In 2019, more than a half-million people experienced homelessness in the United States; close to 39% of that population was female, and 1% was transgender or gender-nonconforming.[205] Racial and ethnic minority groups are overrepresented among those experiencing homelessness. For example, Black people constitute 13.4% of the total population in the U.S. but 40% of the homeless population.[205, 206] Surveillance data show similar overrepresentation of Hispanic, Native American, and Pacific Islander populations. Ethnic minority women with children make up the fastest-growing segment of the homeless population.[207] More than 40% of Blacks and Hispanics experiencing homelessness are part of families. Women experiencing homelessness face some of the greatest health and health care disparities, including higher risk of illness, lower health status, injury/victimization (e.g., sexual violence), poor birth outcomes, and higher rates of mortality (e.g., deaths attributable to IPV).[208]

People without housing age prematurely, display geriatric difficulties commonly associated with advanced age, have lower overall health status, and have a much shorter average life span.[209-212] COVID-19 prevention and mitigation measures—such as social distancing, frequent handwashing, and self-isolation—are difficult or impossible to implement for individuals experiencing homelessness. The demographics of the U.S. homeless population, coupled with the unique health risks posed by homelessness, create a situation of precarity for individuals experiencing homelessness or housing insecurity during the COVID-19 pandemic.

Potential research topics:

- Feasibility of community-based rapid rehousing interventions during public health emergencies
- Investigating strategies to safeguard subsidized housing/service-intensive living environment initiatives during public health emergencies



- Developing and testing field tools for real-time assessment of public health emergency–related psychosocial stress among populations experiencing housing instability
- Feasibility of rapidly deployable training related to stress and adaptive coping skills for unstably housed populations

Homelessness resources:

- Refs [205–225]

14. Stigma and bias

Social stigma, bias, and discrimination are public health threats that damage the physical health and emotional wellness of vulnerable groups (e.g., LGBTQ+, Asian American, African American, American Indian, Latinx, and Muslim populations). Previous epidemics have been accompanied by increases in stigma and bias for communities perceived to be linked to the epidemic. LGBTQ+ individuals and Haitian immigrants experienced increased stigma and bias early in the HIV epidemic[226]. Latinx farmworkers reported heightened stigma during the 2009 H1N1 outbreak[227]. And Chinese Americans have faced stigma and bias during COVID-19.[228] Key lessons have been learned from the public health response to the HIV epidemic that could be leveraged to address stigma and discriminatory behavior fueled by the current COVID-19 pandemic. For example, like the early HIV response, some early reports on COVID-19 used stigmatizing language (e.g., referring to COVID-19 as the Chinese virus) and engendered bias against people thought to be of Chinese descent, stimulating a lack of awareness that everyone is at risk of viral transmission.

As COVID-19 response and mitigation plans are made, it will be important to ensure that stigmatizing language linking any epidemic or pandemic to a particular group or geographical region is avoided, that myths are challenged with information from reputable sources, that measures are taken to protect labor rights (i.e., those seeking testing do not face stigma or discrimination when returning to work and that their confidentiality is preserved), and that those who have recovered do not face stigma in resuming their jobs (i.e., rights to confidentiality and privacy of medical information are respected). A critical lesson from the HIV response and mitigation is that stigma manifests differently in different contexts and settings and may impact certain groups in ways that make testing, care, and disease management difficult; accordingly, COVID-19 prevention, control, and diagnostic and treatment responses must adopt intentional, thoughtful, effective, and practical measures (i.e., include the use of non-stigmatizing terminology and limit punitive and exclusionary policies and laws) that emphasize health education to improve knowledge, prioritize inclusion and human rights, and prevent dangerous behaviors and attitudes.

Potential research topics:

- Experiences of stigma
- Studies on the impacts of bias and stigma on COVID-19 diagnostics access, treatment, and outcomes
- Studies on infectious disease–related stigma’s impacts on public health policies and the design and uptake of services during emergencies



- Development and testing of interventions to mitigate stigma and implicit bias in COVID-19 care settings

Stigma resources:

- Refs [226–235]



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