

Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

# American Journal of Preventive Medicine

#### **CURRENT ISSUES**

# COVID-19 Risk and Resilience Among U.S. Transgender and Gender Diverse Populations



Dougie Zubizarreta, BA, Mai-Han Trinh, MS, Sari L. Reisner, ScD1,2,3,4

# INTRODUCTION

idespread economic, social, and psychological impacts of the coronavirus disease 2019 (COVID-19) pandemic disproportionately impact marginalized populations. Affected groups include transgender and gender diverse (TGD) individuals, with greater harm to multiply marginalized populations, such as TGD people of color, those who are low income, those with disabilities, and those at the intersections of other minority identities. 1,2 There is a need to increase the scientific evidence base surrounding COVID-19-related risks and prevention in TGD populations because many of these factors will also impact public health strategies to mitigate the pandemic, such as vaccination. This commentary describes a framework to conceptualize COVID-19 vulnerabilities and response efforts for TGD people.

# **CONCEPTUALIZING VULNERABILITIES TO** COVID-19-RELATED HARMS

Individuals who are TGD share many vulnerabilities to COVID-19-related morbidity and mortality with the U. S. general population, yet they have unique TGD-specific vulnerabilities necessitating consideration in public health research, practice, and policy (Figure 1). These vulnerabilities, which impact COVID-19 prevention and treatment strategies (Table 1), span across domains of physical health, mental health, healthcare access, economic stability, and law enforcement. Importantly, many of these unique vulnerabilities and corresponding experiences co-occur, compounding their affects across domains. For example, a nonbinary person who becomes unemployed because of COVID-19-related business closures and who cannot access stimulus payments because of having differing names on official documents may later experience difficulty in paying for gender-affirming care because many procedures are not covered by insurance and are paid for out-of-pocket. This paper discusses each domain in depth, highlighting COVID-19-relevant opportunities for resilience and resistance.

# PHYSICAL HEALTH

Studies have documented that TGD individuals are at a disproportionate risk for chronic health conditions,<sup>3</sup> including asthma, hypertension, and diabetes, which are risk factors for COVID-19-related morbidity and mortality. In addition, behavioral risks such as smoking and substance use, which are associated with decreased lung capacity and more common among TGD than among cisgender people, may place this population at greater risk for severe COVID-19-related illness.

### MENTAL HEALTH

COVID-19-related stressors and measures taken to prevent infection may exacerbate poor mental health among TGD people, who disproportionately bear negative mental health outcomes relative to cisgender people. Shelter-in-place orders may heighten the danger of domestic violence for TGD individuals, who experience intimate partner violence at nearly twice the rate of their cisgender counterparts.<sup>6</sup> Physical distancing, a COVID-19-preventive strategy, may force TGD individuals to isolate with abusive partners or families, contributing to a greater risk of violence. Moreover, access to hotlines and other support services for survivors of violence may be restricted because individuals sheltering with abusive partners may be unable to make private calls.

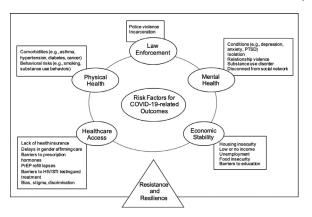
In addition, adherence to shelter-in-place orders and physical distancing may contribute to increased mental health morbidity through social isolation and stress.

From the <sup>1</sup>Department of Epidemiology, Harvard T.H. Chan School of Public Health, Boston, Massachusetts; <sup>2</sup>Department of Medicine, Harvard Medical School, Boston, Massachusetts; <sup>3</sup>Division of Endocrinology, Diabetes and Hypertension, Brigham and Women's Hospital, Boston, Massachusetts; and <sup>4</sup>The Fenway Institute, Fenway Health, Boston, Massachusetts

Address correspondence to: Dougie Zubizarreta, BA, Department of Epidemiology, Harvard T.H. Chan School of Public Health, 677 Huntington Avenue, Kresge Building 9th Floor, Boston MA 02115. E-mail: dzubizarreta@hsph.harvard.edu.

0749-3797/\$36.00

https://doi.org/10.1016/j.amepre.2021.07.017



**Figure 1.** General and TGD-specific risk factors of COVID-19–related outcomes.

TGD, transgender and gender diverse; PrEP, pre-exposure prophylaxis; PTSD, post-traumatic stress disorder; STI, sexually transmitted infections

With schools implementing online instruction, some TGD youth are confined at home with unsupportive or abusive families, losing the crucial social support fostered within schools. The Recent research found that transgender college students experienced more frequent mental distress and higher anxiety symptoms during the pandemic than cisgender students. Other work found that reduced lesbian, gay, bisexual, transgender, queer/questioning/nonbinary—specific social support was associated with increased psychological distress among TGD people, even after controlling for prepandemic mental health.

Among TGD individuals, who are at disproportionate risk for post-traumatic stress disorder, depression, anxiety, self-injury, and suicidality, COVID-19-related stressors

compounded with existing vulnerabilities may increase the risk for suicide. Furthermore, chronic stress exposures exacerbated by the pandemic may increase coping-related substance dependence, including coping with grief after COVID-19–related deaths. For TGD individuals with substance use disorders, COVID-19–related closures and physical distancing guidelines may disrupt in-person treatment programs and support groups and limit access to syringe service programs, reducing access to new syringes, syringe disposal, and naloxone to prevent overdoses. Disruptions in service delivery, along with chronic stress experiences heightened by the pandemic, may lead to increased substance abuse and place individuals in recovery at increased risk for relapse. <sup>11</sup>

#### **HEALTHCARE ACCESS**

Despite similar health insurance coverage rates in TGD and cisgender populations, many TGD people face barriers to care such as healthcare costs and mistreatment during care. One third of the U.S. Transgender Survey respondents who had seen a provider within the past year reported a negative experience during care, such as being asked invasive questions, teaching providers about TGD people to receive care, and being denied care.<sup>5</sup> These negative experiences may lead TGD people to delay or avoid seeking care for COVID-19 symptoms, which may contribute to worse COVID-19–related outcomes.

Research shows that gender-affirming care, both hormonal and surgical, is linked to psychological well-being among TGD individuals. The pandemic has caused cancelations and delays in gender-affirming surgeries for many individuals. In addition, efforts made in health care to prevent COVID-19 transmission, including

**Table 1.** COVID-19 Transmission Prevention Strategies and Examples of Barriers to Prevention for Transgender and Gender Diverse Populations

Prevention behaviors	Examples of barriers to prevention behaviors
Practice physical distancing	In-person work requirements (e.g., TGD people who are sex workers or essential workers may be unable to work remotely)
Wear masks	Financial barriers (e.g., TGD people who are low income or are unemployed may not have the financial resources available to purchase masks)
Wash hands often	Housing insecurity (e.g., TGD people who are housing insecure or unhoused may not have regular access to restrooms for handwashing)
Limit contact with commonly touched surfaces or shared items	Need for public transportation (e.g., TGD people who are low income may rely on public transportation to travel to work)
Monitor health	Lack of access to health care (e.g., TGD people who have previous experience and fear of discrimination in healthcare settings may delay or avoid seeking routine care)
Get vaccinated	Medical mistrust (e.g., TGD people who mistrust the healthcare system owing to the historical context of mistreatment of LGBTQ people in health care may be wary of the COVID-19 vaccines)

LGBTQ, lesbian, gay, bisexual transgender, and queer/questioning; TGD, transgender and gender diverse.

physical distancing and limited staffing, may delay initiation of hormone therapy<sup>12</sup> and monitoring of its effects. 13 These barriers to gender-affirming care may contribute to increased severity of mental health conditions, including depression, anxiety, and psychological distress. Furthermore, COVID-19-related barriers to accessing medications such as pre-exposure prophylaxis may increase the risk of HIV transmission among TGD people, who bear a disproportionate burden of HIV/sexually transmitted infections compared with the U.S. general population.<sup>13</sup> Moreover, limited access to HIV/ sexually transmitted infections testing may cause HIV/ sexually transmitted infections to remain undiagnosed and untreated, leading to delays in treatment access, worse clinical outcomes, and HIV transmission risk owing to uncontrolled viremia. 13,14

#### **ECONOMIC STABILITY**

Economic impacts of COVID-19 have been and will likely continue to unduly impact TGD communities.<sup>2</sup> COVID-19 prevention strategies have resulted in closed businesses and increased unemployment, with TGD individuals experiencing job loss at higher rates than cisgender individuals.<sup>2</sup> Higher prevalence of unemployment and poverty will likely contribute to greater food and housing insecurity for TGD individuals, who are already more likely than cisgender people to be food and housing insecure. More than 1 in 10 U.S. Transgender Survey participants reported engaging in sex work for income,5 and sex workers may be at high risk for COVID-19 infection owing to limitations in adhering to preventive strategies. Among TGD unhoused individuals, those living in shelters may face challenges in adhering to physical distancing, and those who are unsheltered may lack access to handwashing stations and showers.

Undocumented TGD individuals, who are more likely to be essential workers than the U.S. general population, may be unable to practice physical distancing owing to in-person work requirements and the need to commute by public transportation. Furthermore, undocumented TGD individuals likely experience additional financial concerns during the pandemic because Social Security numbers are required for financial assistance by stimulus checks.<sup>13</sup>

# LAW ENFORCEMENT

Individuals who are TGD experience disproportionate targeting by police, which contributes to high rates of arrest and incarceration along with physical violence in jails and prisons.<sup>5</sup> Carceral settings place TGD individuals at elevated risk of COVID-19–related morbidity and mortality owing to lack of adequate personal protective

equipment, healthcare staff and resources, and space for physical distancing. In carceral settings, TGD people are typically assigned to housing units according to sex assigned at birth rather than according to gender identity, placing them at high risk of physical, mental, and sexual abuse. Psychological distress resulting from such experiences of targeted discrimination and violence may be exacerbated by gender-affirming medical care and mental healthcare denials, intensifying poor mental health for incarcerated TGD individuals.

# **RESILIENCE AND RESISTANCE**

Throughout history, TGD communities have shown remarkable resilience and resistance to systematic discrimination and oppression. In response to the pandemic, TGD people have continued to support their communities by accompanying peers to healthcare visits, providing emotional and instrumental support, connecting to employment opportunities, and organizing against police violence. Limited in-person opportunities for connection have led TGD people to bolster opportunities to connect virtually. For example, TGD youth have engaged in mutual support online through text-based platforms (e.g., TrevorSpace), and lesbian, gay, bisexual, transgender, and queer/questioning community centers have hosted youth programming online. Peer-led organizations have spearheaded initiatives to provide their communities with material support (e.g., cash transfers, food, hygiene supplies, housing), social and mental health support, and other mutual aid. In addition, community-based sex worker organizations have produced COVID-19 guidelines for risk reduction strategies, which include reducing in-person and increasing virtual work, evaluating personal and client symptoms, and modifying sexual practices (e.g., limiting sexual positions with face-toface contact).<sup>15</sup> These rapid mobilization and grassroots responses to this crisis offer key insights for effective interventions by and for TGD individuals.

#### WAY FORWARD

At the structural level, political organizing both in support of TGD-affirming policies and against anti-TGD policies is crucial, particularly in light of the pandemic. In 2021, Rachel Levine became the first openly transgender federal official confirmed by the Senate. The Biden—Harris administration secured protections for TGD people, including withdrawal of the Trump administration's proposed changes to the Equal Access Rule, which protects TGD people against gender identity—based discrimination in the U.S. Department of Housing and Urban Development—funded housing and programs. The Biden—Harris administration also enforced federal policy

protecting TGD people from gender identity-based discrimination in health care through Section 1557 of the Affordable Care Act. 16 Yet, in 2021, there have been renewed efforts to undermine transgender rights with the introduction of 82 anti-TGD bills to the state legislative session, including bills forbidding provision of gender-affirming care to youth, excluding TGD youth from athletic participation, and denying TGD people the right to use restrooms matching their gender identity. In response, it is crucial for policymakers to advocate for policies protecting TGD individuals from gender identity-based discrimination across all domains (e.g., legal, educational, health care, employment, housing). For example, early in the pandemic, COVID-19-related court closures may have barred TGD people from changing their legal name and gender marker. There is a need for policymakers to advocate for less burdensome name and gender marker change processes at the state level and for protections for TGD who have differing names on official documents to access state and federal relief programs.

At the institutional level, addressing TGD health disparities requires clinical care that is sensitive to and respectful of patients' gender identities. Guidelines for delivery of gender-affirming care have been outlined previously<sup>18</sup> and include collecting information on gender identity in intake forms and using correct names and pronouns. Because the organ configurations of transgender people can vary (e.g., a person could have both breasts and a prostate), these guidelines also include relying on organ-based approaches rather than on sex assigned at birth or gender identity when providing care (e.g., a person with both breasts and a prostate would need screenings related to both these organs regardless of their sex assigned at birth or gender identity). In addition, meaningful engagement with local TGD communities is necessary to ensure that healthcare practices meet the needs of TGD patients. For example, health systems can foster collaborations with TGD-led organizations to support the development of educational materials addressing TGD-specific concerns regarding COVID-19 vaccination, such as how vaccines may interact with genderaffirming hormones. For all care, opportunities for patient and community feedback should be available and should be used to inform practice. Provision of trans-competent, gender-affirming care is crucial to build trust between providers and patients and ensure that TGD people feel safe seeking any necessary care during the pandemic. Moreover, it is crucial for local health departments to provide instrumental support to TGD-led organizations interested in serving as vaccination sites and community engagement partners to

disseminate information and address TGD-specific concerns regarding COVID-19 vaccination.

The health of TGD people remains an understudied research area, and the impact of COVID-19 on TGD communities is equally under-researched. More research is needed to develop intervention strategies to address TGD-specific challenges and ensure equity in COVID-19 response efforts such as vaccination distribution and uptake. First, to identify potential disparities, COVID-19 data collection must capture information on gender identity. Recommended approaches include the 2-step method, which measures sex assigned at birth and gender identity.<sup>19</sup> Additional approaches, such as including a question on whether participants identify as transgender or using a write-in option to specify gender, have been proposed by TGD individuals.<sup>19</sup> With few exceptions (e.g., Massachusetts, Oregon, Rhode Island, and San Francisco), most U.S. states and cities collect data using binary sex/gender measures conflating sex assigned at birth with gender identity.<sup>20</sup> Of the few U.S. regions collecting data on both sex assigned at birth and gender identity, Rhode Island's measures are most inclusive, with data reported for cases and hospitalizations by both sex assigned at birth (categorized as female, male, and other) and gender identity (categorized as cisgender woman; cisgender man; gender nonconforming, gender nonbinary, or transgender; and other).<sup>20</sup> Furthermore, disaggregation of TGD categories is needed to examine the potential subgroup differences in COVID-19-related outcomes between binary and nonbinary TGD people. Making visible the inequities faced by TGD people during this crisis represents a crucial first step toward successful COVID-19 responses to promote public health and ensure health equity for all populations.

#### **ACKNOWLEDGMENTS**

All authors are responsible for the reported research and have participated in the concept and design and drafting or revising of the manuscript. No financial disclosures were reported by the authors of this paper.

#### CREDIT AUTHOR STATEMENT

Dougie Zubizarreta: Conceptualization; Writing - original draft. Mai-Han Trinh: Conceptualization; Writing - original draft. Sari L. Reisner: Supervision; Writing - review and editing.

# **REFERENCES**

 Ruprecht MM, Wang X, Johnson AK, et al. Evidence of social and structural COVID-19 disparities by sexual orientation, gender identity, and race/ethnicity in an urban environment. *J Urban Health*. 2021;98(1):27–40. https://doi.org/10.1007/s11524-020-00497-9.

- Human Rights Campaign Foundation. The economic impact of COVID-19 intensifies for transgender and LGBTQ communities of color. Washington, DC: Human Rights Campaign Foundation. https://assets2.hrc.org/files/assets/resources/COVID19-EconImpact-Trans-POC-061520.pdf?\_ga=2.236580740.426704569.1609437466-2101299290.1609437466. Published April 2020. Accessed February 24, 2021
- Dragon CN, Guerino P, Ewald E, Laffan AM. Transgender Medicare beneficiaries and chronic conditions: exploring fee-for-service claims data. LGBT Health. 2017;4(6):404-411. https://doi.org/10.1089/ lgbt.2016.0208.
- Buchting FO, Emory KT, Scout, et al. Transgender use of cigarettes, cigars, and e-cigarettes in a national study. Am J Prev Med. 2017;53

   e1-e7. https://doi.org/10.1016/j.amepre.2016.11.022.
- James SE, Herman JL, Rankin S, Keisling M, Mottet L, Anafi M. The report of the 2015 U.S. transgender survey. Washington, DC: National Center for Transgender Equality. https://transequality.org/sites/ default/files/docs/usts/USTS-Full-Report-Dec17.pdf. Published December 2016. Accessed August 24, 2021.
- Peitzmeier SM, Malik M, Kattari SK, et al. Intimate partner violence in transgender populations: systematic review and meta-analysis of prevalence and correlates. Am J Public Health. 2020;110(9):e1-e14. https:// doi.org/10.2105/AJPH.2020.305774.
- Fish JN, McInroy LB, Paceley MS, et al. I'm kinda stuck at home with unsupportive parents right now": LGBTQ youths' experiences with COVID-19 and the importance of online support. *J Adolesc Health*. 2020;67(3):450–452. https://doi.org/10.1016/j.jadohealth.2020.06.002.
- Gonzales G, Loret de Mola E, Gavulic KA, McKay T, Purcell C. Mental health needs among lesbian, gay, bisexual, and transgender college students during the COVID-19 pandemic. *J Adolesc Health*. 2020;67 (5):645–648. https://doi.org/10.1016/j.jadohealth.2020.08.006.
- Hoyt LT, Cohen AK, Dull B, Maker Castro E, Yazdani N. Constant stress has become the new normal": stress and anxiety inequalities among U.S. college students in the time of COVID-19. *J Adolesc Health*. 2021;68 (2):270–276. https://doi.org/10.1016/j.jadohealth.2020.10.030.
- Kidd JD, Jackman KB, Barucco R, et al. Understanding the impact of the COVID-19 pandemic on the mental health of transgender and gender nonbinary individuals engaged in a longitudinal cohort study. J Homosex. 2021;68(4):592-611. https://doi.org/10.1080/ 00918369.2020.1868185.
- Poteat TC, Reisner SL, Miller M, Wirtz AL. American Cohort To Study HIV Acquisition Among Transgender Women (LITE).

- Vulnerability to COVID-19-related harms among transgender women with and without HIV infection in the Eastern and Southern U.S. *J Acquir Immune Defic Syndr.* 2020;85(4):e67–e69. https://doi.org/10.1097/QAI.0000000000002490.
- van der Miesen AIR, Raaijmakers D, van de Grift TC. You have to wait a little longer": transgender (mental) health at risk as a consequence of deferring gender-affirming treatments during COVID-19.
   Arch Sex Behav. 2020;49(5):1395–1399. https://doi.org/10.1007/s10508-020-01754-3.
- MacCarthy S, Izenberg M, Barreras JL, Brooks RA, Gonzalez A, Linnemayr S. Rapid mixed-methods assessment of COVID-19 impact on Latinx sexual minority men and Latinx transgender women. *PLoS One.* 2020;15(12):e0244421. https://doi.org/10.1371/journal.pone.0244421.
- Torian LV, Wiewel EW, Liu KL, Sackoff JE, Frieden TR. Risk factors for delayed initiation of medical care after diagnosis of human immunodeficiency virus. *Arch Intern Med.* 2008;168(11):1181–1187. https:// doi.org/10.1001/archinte.168.11.1181.
- 15. Callander D, Meunier É, DeVeau R, et al. Sex workers are returning to work and require enhanced support in the face of COVID-19: results from a longitudinal analysis of online sex work activity and a content analysis of safer sex work guidelines. Sex Health. 2020;17(4):384-386. https://doi.org/10.1071/SH20128.
- President Biden's pro-LGBTQ+ timeline. Human Rights Commission. https://www.hrc.org/resources/president-bidens-pro-lgbtq-timeline. Updated June 2021. Accessed October 20, 2021.
- Ronan W. Breaking: 2021 becomes record year for anti-transgender legislation. Human Rights Commission. March 13, 2021. https://www. hrc.org/press-releases/breaking-2021-becomes-record-year-for-antitransgender-legislation. Accessed May 23, 2021.
- Reisner SL, Radix A, Deutsch MB. Integrated and gender-affirming transgender clinical care and research. J Acquir Immune Defic Syndr. 2016;72(suppl 3):S235–S242. https://doi.org/10.1097/QAI.0000000 000001088.
- Puckett JA, Brown NC, Dunn T, Mustanski B, Newcomb ME. Perspectives from transgender and gender diverse people on how to ask about gender. *LGBT Health*. 2020;7(6):305–311. https://doi.org/10.1089/lgbt.2019.0295.
- Jillson K, Shattuck-Heidorn H. The "unknown" side of state COVID-19 gender/sex reporting. Cambridge, MA: GenderSCILab. https:// www.genderscilab.org/blog/unknown-covid19-gendersex-reporting. Published April 28, 2021. Accessed May 23, 2021.