

## COVID-19 Vulnerability in Trans Women

### COVID-19 Vulnerability of Transgender Women With and Without HIV Infection in the Eastern and Southern U.S.

Tonia C. Poteat, PhD<sup>1§</sup>, Sari L. Reisner, ScD<sup>2,3</sup>, Marissa Miller, BS<sup>4</sup>, Andrea L. Wirtz, PhD<sup>5</sup> on behalf of the American Cohort To Study HIV Acquisition Among Transgender Women (LITE)

1 Department of Social Medicine, University of North Carolina Chapel Hill, Chapel Hill, USA

2 Department of Medicine, Harvard Medical School, Boston, MA, USA

3 Department of Epidemiology, Harvard T.H. Chan School of Public Health, Boston, MA USA

4 TransSolutions LLC, Washington, DC, US

5 Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, USA

§ Corresponding author: Tonia C. Poteat

333 South Columbia Street

Chapel Hill, NC 27516 USA

+1-919-445-6364

tonia\_poteat@med.unc.edu

E-mail addresses of authors:

TP: tonia\_poteat@med.unc.edu

SR: sreisner@bwh.harvard.edu

MM: mmiller@transsolutionsconsulting.org

AW: awirtz1@jhu.edu

**Funding:** Research reported in this publication was jointly supported by the National Institute of Allergy and Infectious Diseases, the National Institute of Mental Health, and the National Institute of Child Health and Human Development of the National Institutes of Health under Award Number UG3/UH3AI133669 (MPI: ALW and SLR). Research reported in this publication was also supported by HIV/AIDS, Hepatitis, STD, and TB Administration (HAHSTA), Washington DC Department of Health. The LITE study is also appreciative of support from the CFAR at partner institutions, including JHU (P30AI094189), Emory University (P30AI050409), Harvard University (P30AI060354), DC CFAR (AI117970), and the University of Miami (P30AI073961). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health or HAHSTA. TP received support for her effort from the National Institute of Minority Health and Health Disparities (R01MD013499).

#### Competing interests

TP and AW have received research grant support from Gilead Sciences and Viiv Healthcare. MM has received grant support from Gilead Sciences.

## COVID-19 Vulnerability in Trans Women

### 39 **Abstract**

40 **Background:** COVID-19 is a new global pandemic and people with HIV may be particularly  
41 vulnerable. Gender identity is not reported, therefore data are absent on the impact of COVID-19  
42 on transgender people, including transgender people with HIV. Baseline data from the American  
43 Cohort to Study HIV Acquisition Among Transgender Women in High Risk Areas (LITE) Study  
44 provide an opportunity to examine pre-COVID vulnerability among transgender women.

45 **Setting:** Atlanta, Baltimore, Boston, Miami, New York City, Washington, DC

46 **Methods:** Baseline data from LITE were analysed for demographic, psychosocial, and material  
47 factors that may affect risk for COVID-related harms.

48 **Results:** The 1020 participants had high rates of poverty, unemployment, food insecurity,  
49 homelessness, and sex work. Transgender women with HIV (n=273) were older, more likely to be  
50 Black, had lower educational attainment, and were more likely to experience material hardship.  
51 Mental and behavioural health symptoms were common and did not differ by HIV status. Barriers  
52 to healthcare included being mistreated, mistreatment, uncomfortable providers, and past negative  
53 experiences; as well as material hardships, such as cost and transportation. However, most reported  
54 access to material and social support – demonstrating resilience.

55 **Conclusions:** Transgender women with HIV may be particularly vulnerable to pandemic harms.  
56 Mitigating this harm would have positive effects for everyone, given the highly infectious nature  
57 of this coronavirus. Collecting gender identity in COVID-19 data is crucial to inform an effective  
58 public health response. Transgender-led organizations' response to this crisis serve as an important  
59 model for effective community-led interventions.

60  
61 **Keywords:** COVID-19, HIV, transgender, health inequities, intersectionality

62  
63 **Abstract: 243/250 words**

64  
65 **Manuscript: 1494/1500**

66

## COVID-19 Vulnerability in Trans Women

### 67 **Introduction**

68 In a few short months, more than 2.5 million people in the United States (US) have tested positive  
69 for SARS-CoV-2, the novel coronavirus responsible for COVID-19; and more than 128,00 people  
70 have died.<sup>1</sup> The impact of COVID-19 on people with HIV is not yet known. However, individuals  
71 with immune compromise are more vulnerable to severe illness.<sup>2</sup> Marked racial and ethnic  
72 disparities exist for both COVID-19 and HIV. Black communities bear the brunt of these diseases  
73 as well as the underlying conditions associated with negative COVID-19 outcomes.<sup>2,3</sup> Latinx  
74 populations have some of the highest SARS-CoV-2 positivity rates (43%)<sup>4</sup> and represent one-  
75 fourth of new HIV diagnoses in the US, despite representing 17% of the US population.<sup>5</sup>

76  
77 Social conditions play an important role in COVID-19 vulnerability. Many essential workers earn  
78 low wages and face increased risk for SARS-CoV-2 exposure.<sup>6</sup> Sex workers in the underground  
79 economy cannot maintain social distancing and also work to meet their economic needs.

80  
81 While data on race are now reported for COVID-19,<sup>7</sup> only one state plans to collect data  
82 disaggregated by gender identity.<sup>8</sup> The American Cohort to Study HIV Acquisition Among  
83 Transgender Women in High Risk Areas (LITE) Study provides an opportunity to examine pre-  
84 COVID conditions that may impact transgender women's socioeconomic, health, and mental  
85 health outcomes following this crisis.<sup>9</sup>

86  
87 LITE is a longitudinal study of transgender women at risk for HIV. Facility-based participants  
88 were recruited via convenience sampling in Atlanta, Baltimore, Boston, Miami, New York City,  
89 and Washington, DC. Eligibility included identity as a woman or along a transfeminine spectrum,  
90 male sex assignment at birth, and age 18 years and older. Participants self-administered a survey  
91 about demographics, mental and behavioural health, material hardship, sex work, and social  
92 support; and they provided biological samples for HIV testing. We analysed data from baseline  
93 study visits conducted from study onset in March 2018 to March 2020 when WHO declared  
94 COVID-19 a pandemic. We compared pre-pandemic experiences by baseline HIV status.

95

## COVID-19 Vulnerability in Trans Women

96 A total of 1,020 transgender women completed the baseline assessment, among whom 27% had  
97 HIV. Participants with HIV were older, more likely to be Black, and had lower educational  
98 attainment. There were no differences in ethnicity or immigration by HIV status.

99

### 100 **Material Hardship**

101 COVID-19 and efforts to contain it may induce serious harm among socioeconomically vulnerable  
102 people, including transgender women.<sup>10,11</sup> Overall, more than half of LITE participants were  
103 unemployed (53.6%, n=547); 46% had incomes below the federal poverty level (n=470); 13% had  
104 been homeless in the prior 3 months (n=131); and 21% (n=207) had engaged in sex work in the  
105 prior 3 months. Almost half of LITE participants were food insecure (48.2%; n=488), almost 5-  
106 fold that of the general US population.<sup>12</sup> Material hardship were even greater for transgender  
107 women with HIV, who were significantly more likely than those without HIV to be unemployed  
108 (76.6% vs. 45.2%; p<0.001), have public insurance (88.6% vs. 48.5% (p<0.001), earn an income  
109 below the federal poverty level (66.3% vs. 38.7%, p<0.001), engage in sex work (30.3% vs. 17.2%;  
110 p<0.001), experience food insecurity (63.7% vs. 42.5%; p<0.001), and be homeless in the prior 3  
111 months (17.5% vs. 11.4%; p=0.02).

112

113 High baseline rates of unemployment added to COVID-19-related job losses may push transgender  
114 women even deeper into poverty, exacerbating food insecurity and likely increasing reliance on  
115 sex work. Sex work may then increase transgender women's risk for acquiring COVID-19.  
116 Transgender women who were already engaged in sex work may have a reduced income due to  
117 social distancing. However, criminalization of sex work precludes access to economic relief from  
118 federal funds while also increasing the risk of incarceration where again, they face elevated risk of  
119 COVID-19.<sup>13</sup>

120

121 The high rate of homelessness among transgender women also puts them at substantial risk for  
122 COVID-19. Regular handwashing and social distancing may be impossible without a home.  
123 Transgender women seeking refuge in the sex-segregated shelter system often face discrimination  
124 and outright denial of services. If they are able to access shelter services, they may face crowded  
125 conditions that increase COVID-19 risk. Given national shortages of personal protective

## COVID-19 Vulnerability in Trans Women

126 equipment for essential workers, it is unlikely that transgender women in shelters will have means  
127 to protect themselves from COVID-19.

128

### 129 **Psychosocial vulnerabilities**

130 Overall, transgender women in LITE reported high pre-COVID levels of psychosocial  
131 vulnerability. Psychological distress was common, with more than a quarter of participants scoring  
132 13 or higher on the Kessler 6 (27.4%; n=279). A remarkable 41% reported symptoms indicative  
133 of post-traumatic stress disorder (PTSD; n=417) and 28% reported suicidal ideation in the prior 6  
134 months (n=279). Transgender women with HIV were less likely to report these symptoms than  
135 HIV-negative transgender women (**Figure 1**). This difference may be explained by access to  
136 mental health services available to people with HIV through federal Ryan White HIV Care Act  
137 funding. More than one-quarter of participants reported symptoms of alcohol (29.0; n=296) and  
138 substance use disorder (29.4%; n=294), with no difference by HIV status. The overall prevalence  
139 of mental health symptoms in LITE exceed the 19% prevalence of any mental illness found in the  
140 general population.<sup>14</sup> The prevalence of PTSD symptoms is twice that reported in primary care  
141 samples (23%) and rivals rates found among Vietnam War veterans (31%).<sup>15,16</sup>

142

143 In response to the COVID-19 crisis, state and local governments have encouraged social  
144 distancing, closed non-essential businesses and schools, prohibited large gatherings, and declared  
145 mandatory stay-at-home orders for all but essential workers. Social distancing measures, while  
146 critical to curbing the epidemic, have isolated many people with alcohol and substance use  
147 disorders (AUD and SUD) from treatment programs and 12-step groups, increasing the risk for  
148 relapse. In addition, some individuals may use alcohol and drugs to cope with coronavirus stress  
149 or stress of isolation. Prior to the pandemic, transgender women in this study reported almost five  
150 times the national rate of AUD (5.8%) and three times the rate of SUD (8.9%), suggesting  
151 transgender women may be vulnerable to worsening behavioral health from COVID-19 stress.<sup>17</sup>

152

153 Recent data indicate that a significantly higher proportion of people who were sheltering in place  
154 (47%) reported negative mental health effects of coronavirus stress than people who were not  
155 sheltering in place (37%).<sup>18</sup> Negative mental health effects due to social isolation and stress may  
156 be particularly pronounced for transgender women with HIV who are already at high risk for

## COVID-19 Vulnerability in Trans Women

157 distress and suicidal ideation. Similar stressors may exist for perpetrators of violence. Before  
158 COVID-19, 38.2% of participants reported some form of gender-based violence within the prior 3  
159 months, and these levels may climb as transgender women are forced to isolate with abusive  
160 partners or others.

161

### 162 **COVID-19 and access to healthcare**

163 Despite lack of available data on COVID-19 by gender identity, social and structural  
164 vulnerabilities suggest transgender women, particularly transgender women with HIV, may be  
165 disproportionately impacted by the pandemic. Lack of employment, reliance on public insurance,  
166 and higher probability of living in an urban area mean that transgender women who develop  
167 COVID-19 symptoms will have few choices for care beyond crowded urban hospitals which may  
168 already be overwhelmed with COVID-19 patients.

169

170 LITE participants reported frequent barriers to healthcare, including mistreatment for being  
171 transgender (19.3%), a provider who was uncomfortable caring for transgender patients (28.9%),  
172 bad experiences in the past (35.7%), as well as significant challenges related to material hardship,  
173 such as cost (43%) and transportation (43.7%). Several reports have documented reductions in  
174 emergency care visits due to concerns of acquiring COVID-19 in health facilities,<sup>19,20</sup> such  
175 concerns coupled with unique barriers to care may lead transgender women to delay care-seeking  
176 for COVID-19, HIV, or other conditions until symptoms are severe, thus increasing their risk for  
177 negative outcomes or death.

178

### 179 **Support and community resilience**

180 In the face of significant adversities, transgender women exhibit remarkable resilience. In LITE,  
181 most transgender women could identify someone who provided them with emotional and material  
182 support. Sixty-four percent (n=652) had someone to care for them if they were sick, and 60%  
183 (n=611) had someone who could lend them money. This support was present regardless of HIV  
184 status. Such mutual support has come to the fore in the wake of the COVID-19 pandemic, as  
185 numerous transgender-led organizations have stepped up to provide both social and material  
186 support, including rapid response funding for community members in need.<sup>21-23</sup>

## COVID-19 Vulnerability in Trans Women

187

### 188 **Conclusions**

189 Transgender women with HIV may be particularly vulnerable to harms associated with COVID-  
190 19 due to precarious access to employment, income, food, housing, and heightened vulnerability  
191 to violence. Evolving national policies have the potential to reduce or increase vulnerability. In  
192 June 2020, the US Supreme Court ruled that Title VII of the Civil Rights Act of 1964 protects  
193 transgender people against employment discrimination,<sup>24</sup> creating opportunities to reduce  
194 socioeconomic vulnerabilities. Yet, a week prior, the Department of Health and Human Services  
195 excluded gender identity from protections against sex discrimination in healthcare,<sup>25</sup> creating  
196 another barrier to care. Given the highly contagiousness nature of SARS-CoV-2, understanding  
197 and mitigating its impact on vulnerable communities will benefit everyone. Collecting gender  
198 identity in COVID-19 surveillance data will be crucial to inform public health responses.  
199 Transgender-led organizations' response to this crisis serve as an important model for effective  
200 community-led interventions.

201

202

203

204

205

206

## COVID-19 Vulnerability in Trans Women

### 207 **Authors' contributions**

208 TP conceived of the manuscript and led writing. AW and SR led data collection activities. AW  
209 conducted statistical analyses and MM reviewed results for face validity. All authors contributed  
210 to reviewing and editing drafts of the manuscript.

211

### 212 **Author information**

213 Among co-authors, diversity existed along lines of gender identity, race, and sexual orientation.  
214 Two authors identify as transgender, two identify as Black, and two identify as queer. All authors  
215 are deeply committed to the health and well-being of transgender communities and strive to  
216 conduct research that advances health equity.

217

### 218 **Acknowledgements**

219 The authors would like to express their gratitude to the transgender women who take part in this  
220 study. This study would not be possible without their participation. We also acknowledge the work  
221 of the entire American Cohort To Study HIV Acquisition Among Transgender Women team:  
222 Andrea Wirtz (multiple PI; JHU); Sari Reisner (multiple PI; Harvard University); Keri Althoff  
223 (JHU); Chris Beyrer (JHU); James Case (JHU); Erin Cooney (JHU); Oliver Laeyendecker (JHU);  
224 Kathleen Powers (JHU) and Jeffrey Herman (JHU); Tonia Poteat (University of North Carolina);  
225 Kenneth Mayer (Fenway Health); Asa Radix (Callen-Lorde Community Health Center);  
226 Christopher Cannon (Whitman-Walker Health); W. David Hardy (Whitman-Walker Health);  
227 Jason Schneider (Emory University and Grady Hospital); Sonya Haw (Emory University and  
228 Grady Hospital); Allan Rodriguez (University of Miami); Andrew Wawrzyniak (University of  
229 Miami); the incredible research teams at each study site; and the LITE community advisory board,  
230 including the following individuals: Jennifer Lopez, Sherri Meeks, Sydney Shackelford, Nala  
231 Toussaint, SaVanna Wanzer, and Joseph Zolobczuk, as well as those who have remained  
232 anonymous.

233

### 234 **References**

235 1. Johns Hopkins University. COVID-19 Dashboard. <https://coronavirus.jhu.edu/map.html>.  
236 Accessed.



## COVID-19 Vulnerability in Trans Women

- 237 2. Centers for Disease Control and Prevention. Cases of Coronavirus Disease (COVID-19) in  
238 the U.S. <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html>.  
239 Accessed April 24, 2020.
- 240 3. Marron MM, Ives DG, Boudreau RM, Harris TB, Newman AB. Racial Differences in  
241 Cause-Specific Mortality Between Community-Dwelling Older Black and White Adults.  
242 *J Am Geriatr Soc*. 2018;66(10):1980-1986.
- 243 4. Martinez DA, Hinson JS, Klein EY, et al. SARS-CoV-2 Positivity Rate for Latinos in the  
244 Baltimore-Washington, DC Region. *JAMA*. 2020.
- 245 5. Centers for Disease Control and Prevention. *Estimated HIV incidence and prevalence in*  
246 *the United States, 2010–2015. HIV Surveillance Supplemental Report*. 2018.
- 247 6. Jin B, McGill A. Who is most at risk in the coronavirus crisis: 24 million of the lowest-  
248 income workers. Politico. [https://www.politico.com/interactives/2020/coronavirus-](https://www.politico.com/interactives/2020/coronavirus-impact-on-low-income-jobs-by-occupation-chart/)  
249 [impact-on-low-income-jobs-by-occupation-chart/](https://www.politico.com/interactives/2020/coronavirus-impact-on-low-income-jobs-by-occupation-chart/). Updated March 22, 2020. Accessed  
250 April 26, 2020.
- 251 7. Millett GA, Jones AT, Benkeser D, et al. Assessing Differential Impacts of COVID-19 on  
252 Black Communities. *Annals of epidemiology*. 2020.
- 253 8. Gov. Wolf Announces Inclusion of Gender Identity, Sexual Orientation or Expression in  
254 COVID-19 Data Collection. Commonwealth of Pennsylvania.  
255 [https://www.governor.pa.gov/newsroom/gov-wolf-announces-inclusion-of-gender-](https://www.governor.pa.gov/newsroom/gov-wolf-announces-inclusion-of-gender-identity-sexual-orientation-or-expression-in-covid-19-data-collection/)  
256 [identity-sexual-orientation-or-expression-in-covid-19-data-collection/](https://www.governor.pa.gov/newsroom/gov-wolf-announces-inclusion-of-gender-identity-sexual-orientation-or-expression-in-covid-19-data-collection/). Updated May 13,  
257 2020. Accessed June 29, 2020.
- 258 9. Wirtz AL, Poteat T, Radix A, et al. American Cohort to Study HIV Acquisition Among  
259 Transgender Women in High-Risk Areas (The LITE Study): Protocol for a Multisite  
260 Prospective Cohort Study in the Eastern and Southern United States. *JMIR Res Protoc*.  
261 2019;8(10):e14704.

## COVID-19 Vulnerability in Trans Women

- 262 10. United Nations DoEaSA. The Social Impact of COVID-19.  
263 <https://www.un.org/development/desa/dspd/2020/04/social-impact-of-covid-19/>.  
264 Published 2020. Updated April 6, 2020. Accessed April 26, 2020.
- 265 11. Herman JL, O'Neill K. Vulnerabilities to COVID-19 Among Transgender Adults in the  
266 U.S. Williams Institute. [https://www.un.org/development/desa/dspd/2020/04/social-  
267 impact-of-covid-19/](https://www.un.org/development/desa/dspd/2020/04/social-impact-of-covid-19/). Published 2020. Updated April 2020. Accessed April 26, 2020.
- 268 12. USDA. Food Security Status of U.S. Households in 2018.  
269 [https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-  
270 statistics-graphics.aspx](https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics.aspx). Published 2019. Accessed June, 2020.
- 271 13. Hurley M. Why prisoners are at higher risk for the coronavirus: 5 questions answered. The  
272 Conversation. [https://theconversation.com/why-prisoners-are-at-higher-risk-for-the-  
273 coronavirus-5-questions-answered-136111](https://theconversation.com/why-prisoners-are-at-higher-risk-for-the-coronavirus-5-questions-answered-136111). Published 2020. Updated April 17, 2020.  
274 Accessed April 26, 2020.
- 275 14. Results from the 2017 National Survey on Drug Use and Health. Substance Abuse and  
276 Mental Health Services Administration.  
277 [https://www.samhsa.gov/data/sites/default/files/cbhsq-  
278 reports/NSDUHDetailedTabs2017/NSDUHDetailedTabs2017.htm#tab8-33A](https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHDetailedTabs2017/NSDUHDetailedTabs2017.htm#tab8-33A). Published  
279 2017. Accessed April 26, 2020.
- 280 15. Liebschutz J, Saitz R, Brower V, et al. PTSD in urban primary care: high prevalence and  
281 low physician recognition. *J Gen Intern Med*. 2007;22(6):719-726.
- 282 16. Gradus JL. Epidemiology of PTSD. U.S. Department of Veterans Affairs, PTSD: National  
283 Center for PTSD.  
284 <https://www.ptsd.va.gov/professional/treat/essentials/epidemiology.asp#two>. Accessed  
285 April 26, 2020.

## COVID-19 Vulnerability in Trans Women

- 286 17. Substance Abuse and Mental Health Services Administration. National Survey on Drug  
287 Use and Health. [https://www.samhsa.gov/data/sites/default/files/cbhsq-](https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHDetailedTabs2018R2/NSDUHDetTabsSect5pe2018.htm#tab5-4b)  
288 [reports/NSDUHDetailedTabs2018R2/NSDUHDetTabsSect5pe2018.htm#tab5-4b](https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHDetailedTabs2018R2/NSDUHDetTabsSect5pe2018.htm#tab5-4b).  
289 Published 2018. Accessed April 26, 2020.
- 290 18. Kirzinger A, Kearney A, Hamel L, Brodie M. KFF Health Tracking Poll - Early April  
291 2020: The Impact of Coronavirus on Life In America. In: Kaiser Family Foundation; 2020.
- 292 19. McFarling UL. "Where are all our patients?": Covid phobia is keeping people with serious  
293 heart symptoms away from ERs. STAT News.  
294 [https://www.statnews.com/2020/04/23/coronavirus-phobia-keeping-heart-patients-away-](https://www.statnews.com/2020/04/23/coronavirus-phobia-keeping-heart-patients-away-from-er/?utm_source=STAT+Newsletters&utm_campaign=acc8d5e249-Weekend+Reads+COPY+02&utm_medium=email&utm_term=0_8cab1d7961-acc8d5e249-149836233)  
295 [from-er/?utm\\_source=STAT+Newsletters&utm\\_campaign=acc8d5e249-](https://www.statnews.com/2020/04/23/coronavirus-phobia-keeping-heart-patients-away-from-er/?utm_source=STAT+Newsletters&utm_campaign=acc8d5e249-Weekend+Reads+COPY+02&utm_medium=email&utm_term=0_8cab1d7961-acc8d5e249-149836233)  
296 [Weekend Reads COPY 02&utm\\_medium=email&utm\\_term=0\\_8cab1d7961-](https://www.statnews.com/2020/04/23/coronavirus-phobia-keeping-heart-patients-away-from-er/?utm_source=STAT+Newsletters&utm_campaign=acc8d5e249-Weekend+Reads+COPY+02&utm_medium=email&utm_term=0_8cab1d7961-acc8d5e249-149836233)  
297 [acc8d5e249-149836233](https://www.statnews.com/2020/04/23/coronavirus-phobia-keeping-heart-patients-away-from-er/?utm_source=STAT+Newsletters&utm_campaign=acc8d5e249-Weekend+Reads+COPY+02&utm_medium=email&utm_term=0_8cab1d7961-acc8d5e249-149836233). Published 2020. Updated April 23, 2020. Accessed April 26,  
298 2020.
- 299 20. Garcia S, Albaghdadi MS, Meraj PM, et al. Reduction in ST-Segment Elevation Cardiac  
300 Catheterization Laboratory Activations in the United States during COVID-19 Pandemic.  
301 *Journal of the American College of Cardiology*. 2020.
- 302 21. Black Trans COVID-19 Community Response <https://blacktrans.org/covid-19-volunteers/>.  
303 Accessed April 26, 2020.
- 304 22. COVID-19 Trans Resources Directory. [https://translash.org/covid-19-trans-resources-](https://translash.org/covid-19-trans-resources-directory/)  
305 [directory/](https://translash.org/covid-19-trans-resources-directory/). Accessed April 26, 2020.
- 306 23. Solutions T. COVID-19 Relief Rapid Response.  
307 [https://www.transolutionsconsulting.org/covid-19-](https://www.transolutionsconsulting.org/covid-19-relief?fbclid=IwAR3upkLpagxu9Gj_xehLIJZ2i882AEzyFFmjfx4lkNZzDjymujm87ztod64)  
308 [relief?fbclid=IwAR3upkLpagxu9Gj\\_xehLIJZ2i882AEzyFFmjfx4lkNZzDjymujm87ztod](https://www.transolutionsconsulting.org/covid-19-relief?fbclid=IwAR3upkLpagxu9Gj_xehLIJZ2i882AEzyFFmjfx4lkNZzDjymujm87ztod64)  
309 [64](https://www.transolutionsconsulting.org/covid-19-relief?fbclid=IwAR3upkLpagxu9Gj_xehLIJZ2i882AEzyFFmjfx4lkNZzDjymujm87ztod64). Accessed April 26, 2020.

## COVID-19 Vulnerability in Trans Women

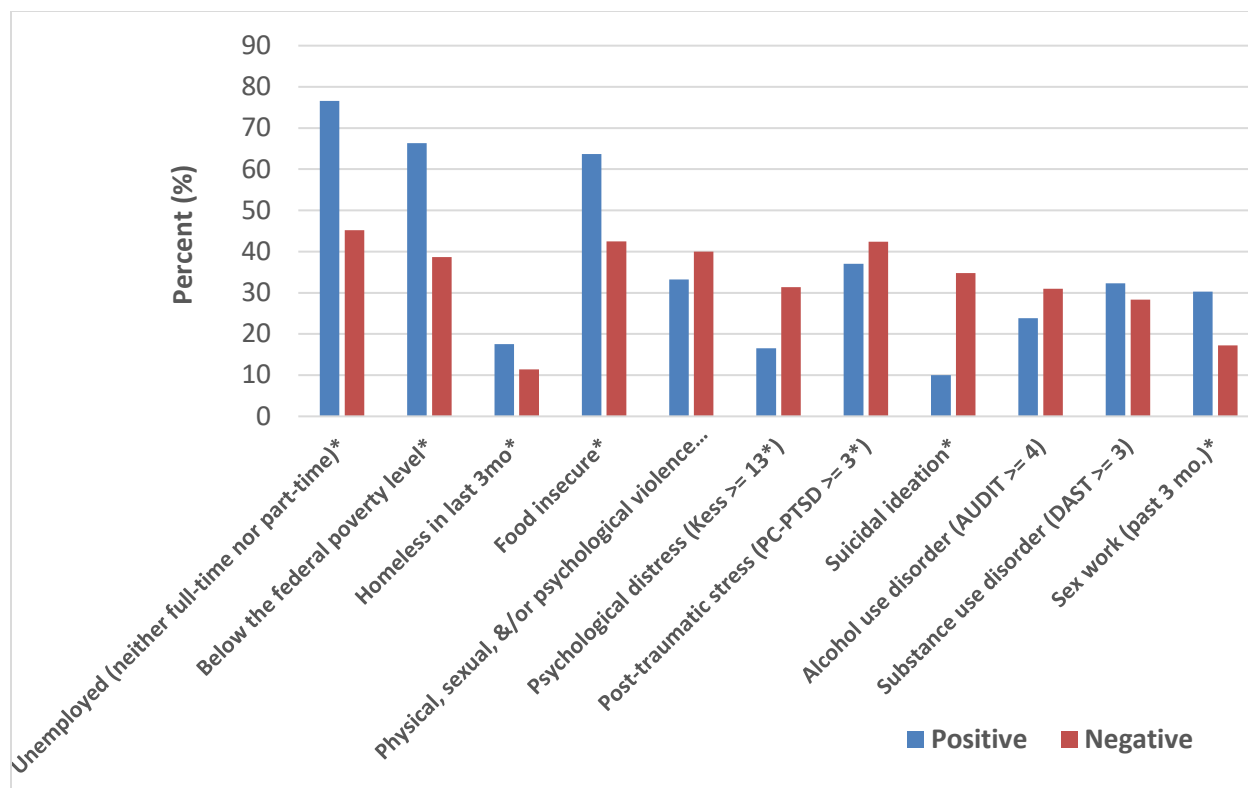
310 24. Robb M. Supreme Court Ruling Protects LGBTQ and Transgender Employees against  
311 Discrimination. *The National Law Review*. 2020;X.

312 25. Simons-Duffin S. Transgender Health Protections Reversed By Trump Administration.  
313 *NPR*,. 12 June 2020, 2020.

314

315

### COVID-19 Vulnerability in Trans Women



316  
 317 Figure 1. Pre-COVID-19 Socioeconomic and Psychosocial Characteristics by Laboratory-  
 318 Confirmed HIV Status at Baseline in the LITE Study

319