

INFECTION

Sexual orientation, gender identity and COVID: a complicated picture

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The COVID-19 pandemic has been associated with considerable disparities in outcomes across a number of patient groups according to race, gender and socioeconomics. For example, COVID outcomes in men have been shown to be significantly worse than in women; which is postulated to be due to factors including differences in male and female biology and immune function, reluctance of men to seek medical care, and increased rates of underlying health concerns.

However, whether COVID infection is associated with sexual orientation and gender identity (SOGI) — including lesbian, gay, bisexual, transgender and queer (LGBTQ+) communities — is poorly understood: data are sparse, and the underlying causes of any disparity in outcomes in these communities are difficult to determine. However, LGBTQ+ patients have been suggested to be at increased risk of complications of SARS-CoV-2 infection.

Only three US states have collected data on SOGI and COVID-19 testing. Now, the data from Rhode Island have been analysed and presented in *Public Health Reports*.

Data from the Rhode Island Department of Health portal

of adults aged ≥ 18 years with a SARS-CoV-2 test were included in the sample. Patients answered a number of questions surrounding SOGI; this information was used to create an LGBTQ+ patient category for comparison purposes. Further demographic information was also taken into account — for example, median annual household income by zip code area was used as a proxy for socioeconomic status. Multivariable generalized estimating equations were used to estimate the odds of receiving a positive test result for SARS-CoV-2 according to SOGI adjusting for age, race and ethnicity, and other socioeconomic variables.

During the study period, 280,240 SARS-CoV-2 tests were performed in 168,574 adults. Invalid or inconclusive tests were excluded, leaving 279,309 tests in 168,341 people in the final sample, of which 7.3% were performed in people identifying as LGBTQ+, 75.7% were in cisgender heterosexual (cis-het) people, and 16.9% could not be categorized.

Interestingly, SARS-CoV-2 tests in cis-het people were more likely to be positive than tests in LGBTQ+ people (8.7% versus 5.4%). Even on multivariable analysis adjusted for other confounding demographic characteristics, LGBTQ+ people were still significantly less likely to test positive than cis-het people (aOR 0.62; 95% CI 0.58–0.67).

Test results were also assessed according to ethnicity and SOGI. In this analysis, positive test results were lowest in LGBTQ+ white people (4.9%), followed by cis-het white people (7.4%), then LGBTQ+ people of colour (POC) (7.5%) and cis-het POC (14.1%). In the multivariable analyses, LGBTQ+ white people

were significantly less likely to test positive than cis-het white people (aOR 0.67; 95% CI 0.61–0.73). Likewise, LGBTQ+ POC were less likely to receive a positive test result than cis-het POC (aOR 0.53; 95% CI 0.46–0.60).

The reasons for this disparity are unclear. Behavioural factors might have a role: US national surveys have suggested that LGBTQ+ people are more likely to take precautions around COVID-19 spread, such as mask-wearing and social distancing. This factor could act in a double-hit manner — increased care might put LGBTQ+ people at lower risk of contracting COVID-19 but make them more likely to seek testing, increasing the proportion of negative tests. Another factor could be social isolation, which is more common in LGBTQ+ people than in cis-het counterparts and which would reduce the risk of contracting SARS-CoV-2. Disparities between LGBTQ+ POC and LGBTQ+ white people reflect the racial disparity seen in cis-het POC versus white people (~1.5-fold higher test positivity rates in POC than their white counterparts).

Although not without limitations, not least the reliance on self-reporting of SOGI data and the use of proxy measures, this study highlights the need for more rigorous research and data collection regarding SOGI and disease. “Future research should focus on disparities in the LGBTQ+ community,” comments lead author Tracy Jackson. “This should be related not only to COVID-19 but also to other areas of public health such as mental health, substance use, HIV and STIs, and health-care access.”

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ORIGINAL ARTICLE Jackson, T. L. et al. Statewide evaluation of SARS-CoV-2 diagnoses and sexual orientation and gender identity. *Public Health Rep.* <https://doi.org/10.1177/00333549221077073> (2022)

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