Challenges Encountered in the Public Health Data Collection of COVID-19 Cases Among People Experiencing Homelessness

Sarah Axelrath, MD

The ongoing COVID-19 pandemic has highlighted gaps and weaknesses in US public health surveillance and reporting systems. The study by Meehan et al.\(^1\) draws on data collected from local and state public health departments to estimate incidence of COVID-19 among people experiencing homelessness compared with the general population. Between January 1, 2020, and September 30, 2021, 18 states reported 26,349 cases of COVID-19 and 27 local public health departments reported 20,487 cases of COVID-19 among people experiencing homelessness. Using the annual point-in-time (PIT) count of people experiencing homelessness from the Department of Housing and Urban Development (HUD) as the denominator, Meehan et al.\(^1\) estimated the incidence of COVID-19 among people experiencing homelessness and compared this with the COVID-19 incidence among the general population, as derived from publicly available data from the Centers for Disease Control and Prevention and 2019 US Census Bureau, within similar jurisdictions. Meehan et al.\(^1\) estimated a rate of 567.9 cases of COVID-19 per 10,000 people experiencing homelessness per year, compared with 715.0 cases of COVID-19 per 10,000 people in the general population per year at the state level. At the local level, they found an estimated incidence of 799.2 cases of COVID-19 per 10,000 people experiencing homelessness per year, compared with 812.5 cases of COVID-19 per 10,000 people in the general population per year. Overall, these findings suggest that people experiencing homelessness may have experienced lower incidence of COVID-19 compared with the general population over the study period.

Meehan et al.\(^1\) appropriately urge caution in interpreting these surprising results. It has been well-established that, in general, people experiencing homelessness experience higher burden of chronic illnesses, particularly infectious diseases and cardiopulmonary conditions, compared with the general population.\(^2\) Indeed, the results of the study by Meehan et al.\(^1\) would seem to largely contradict on-the-ground experience of public health and medical professionals who have been working within homeless shelters and encampments throughout the COVID-19 pandemic providing surveillance testing and responding to significant outbreaks. For example, a study by Baggett et al.\(^3\) conducted during one large outbreak in the Boston, Massachusetts, shelter system reported that SARS-CoV-2 positivity rates among people experiencing homelessness surpassed 30%, and the authors estimated that 10% of the city's people experiencing homelessness may have been infected over a 6-week period. Although the study by Baggett et al.\(^3\) describes only one city, it illustrates the fact that the specific health experiences of people experiencing homelessness are often not captured or accurately described by national public health data reporting systems.

The results of the study by Meehan et al.\(^1\) should be understood and contextualized within a history of challenging data collection practices related to homelessness and health. Public health researchers and medical practitioners focused on improving health care outcomes among people experiencing homelessness have long voiced concern about inadequate public health data collection methods, which often exclude the experiences of people experiencing homelessness by failing to capture and connect relevant housing status data to public health information. The HUD's annual PIT count is currently the leading source of census data collection on people experiencing homelessness. On a single designated night each January, homeless service agencies and outreach workers attempt to count the number of unduplicated sheltered (accessing emergency homeless shelters or transitional housing) and unsheltered (residing outdoors in a tent, in a car, or in any other place

Open Access. This is an open access article distributed under the terms of the CC-BY License.
unsuitable for human habitation) individuals and families experiencing homelessness. The PIT count is the main data source by which communities measure progress on initiatives to end homelessness and has implications for local allocation of funds through HUD and other federal health care agencies. Unsurprisingly, the PIT faces methodological challenges in its mandate to count people experiencing homelessness, particularly unsheltered people experiencing homelessness who may be residing in cars, tents, or abandoned buildings located in purposefully difficult to access locations. These methodological challenges limit the PIT’s utility as a cross-sectional snapshot of homelessness, as well as its reliability as a year-over-year trend marker of demographic information for people experiencing homelessness. To give one example, the Los Angeles, California, Homeless Services Authority, which represents the county with the nation’s second largest homeless population, has estimated that for every individual experiencing homelessness captured by the PIT count, an additional 2.2 to 5.1 people experiencing homelessness may reside in the county, depending on the year. Although efforts are ongoing to improve the PIT count by standardizing methods across jurisdictions and supplementing the count with other data sources, the COVID-19 pandemic has caused additional disruption to the process. In 2021, citing COVID-19 safety concerns, 40% of communities, including many with the highest rates of homelessness and almost the entire state of California, did not conduct a full count of people experiencing unsheltered homelessness. Because of these significant inconsistencies in methods among jurisdictions and from year to year, it is unclear to what extent the PIT count can be considered an accurate and reliable reflection of homelessness demographic data.

Despite strong analytical methods, Meehan et al could only draw their conclusions from an incomplete data set. The limitations of the PIT count may bias the calculation of COVID-19 incidence among people experiencing homelessness by underestimating the denominator (total number of people experiencing homelessness in a jurisdiction). Meehan et al also report that only about 50% of the nation’s total population of people experiencing homelessness are represented in the states and territories that collected COVID-19 data among people experiencing homelessness, a finding that may bias the calculation of COVID-19 incidence among people experiencing homelessness by underestimating the numerator (number of COVID-19 cases among people experiencing homelessness). Additionally, as Meehan et al acknowledge, states and territories with more robust public health data collection systems may also be better equipped to mitigate COVID-19 risk among people experiencing homelessness, further skewing the observed results toward lower incidence of COVID-19 among people experiencing homelessness.

Ultimately, inconsistency between the findings of Meehan et al and experiences of public health and medical professionals on the ground illuminate the failures at the local, state, and national levels to adequately capture homelessness data within the existing public health data reporting systems. There is urgent need for improved coordination among public health jurisdictions to ensure consistency in definitions of homelessness, to standardize PIT survey methods, and to integrate homelessness demographic data with local health informatics systems to inform future coordinated responses to emerging public health threats among people experiencing homelessness.
REFERENCES