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RESEARCH ARTICLE

Comparison of Demographic Characteristics and Social Determinants of Health Between Adults With Diagnosed HIV and All Adults in the U.S.

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Introduction: Quantifying disparities in social determinants of health between people with HIV and the total population could help address health inequities, and ensure health and well-being among people with HIV in the U.S., but estimates are lacking.

Methods: Several representative data sources were used to assess differences in social determinants of health between adults with diagnosed HIV (Centers for Disease Control and Prevention Medical Monitoring Project) and the total adult population (U.S. Census Bureau's decennial census, American Community Survey, Household Pulse Survey, the Current Population Survey Annual Social and Economic Supplements; the Department of Housing and Urban Development's point-in-time estimates of homelessness; and the Bureau of Justice Statistics). The differences were quantified using standardized prevalence differences and standardized prevalence ratios, adjusting for differences in age, race/ethnicity, and birth sex between people with HIV and the total U.S. population.

Results: Overall, 35.6% of people with HIV were living in a household with an income at or below the federal poverty level, and 8.1% recently experienced homelessness. Additionally, 42.9% had Medicaid and 27.6% had Medicare; 39.7% were living with a disability. Over half (52.3%) lived in large central metropolitan counties and 20.6% spoke English *less than very well* based on survey responses. After adjustment, poverty (standardized prevalence difference=25.1%, standardized prevalence ratio=3.5), homelessness (standardized prevalence difference=8.5%, standardized prevalence ratio=43.5), coverage through Medicaid (standardized prevalence difference=29.5%, standardized prevalence ratio=3.0) or Medicare (standardized prevalence difference=7.8%), and disability (standardized prevalence difference=30.3%, standardized prevalence ratio=3.0) were higher among people with HIV than the total U.S. population. The percentage of people with HIV living in large central metropolitan counties (standardized prevalence difference=13.4%) or who were recently incarcerated (standardized prevalence ratio=5.9) was higher than the total U.S. population.

Conclusions: These findings provide a baseline for assessing national-level disparities in social determinants of health between people with HIV and the total U.S. population, and it can be used as a model to assess local disparities. Addressing social determinants of health is essential for achieving health equity, requiring a multipronged approach with interventions at the provider, facility, and policy levels.

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INTRODUCTION

Achieving and maintaining health equity is a national priority, but requires addressing longstanding injustices; improving social, economic, and other environmental conditions that adversely affect health; and eliminating preventable health disparities.[1] HHS's *Healthy People 2030* framework defines *social determinants of health* (SDOH) as "the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks."[2] SDOH can drive disparities in health outcomes—including among people with HIV (PWH)[3]—leading to health inequities in the population.[1] For instance, a recent analysis demonstrated that individual-level SDOH are strongly associated with having ≥1 missed HIV care appointments, antiretroviral therapy nonadherence, and an unsuppressed viral load among PWH. Furthermore, having a greater number of SDOH is associated with increasing deleterious effects.[3]

A large percentage of PWH may experience certain socioeconomic disadvantages or other SDOH associated with adverse outcomes.[4] The National HIV/AIDS Strategy underscores the importance of addressing SDOH to meet the national HIV prevention and care goals related to improving HIV outcomes and quality of life of PWH.[5] During 2022, the National HIV/AIDS Strategy updated its national indicators to include 6 measures related to SDOH or quality of life, including HIV stigma, self-rated health status, unmet needs for mental health services, food insecurity, unemployment, and unstable housing.[6]

It is essential to assess the disparities in SDOH between PWH and the total U.S. population at a national and local level. Understanding these disparities could help focus valuable public health resources, address inequities, and ensure optimal health and well-being for PWH. Comparisons to assess such disparities using representative data sources are lacking but could provide a national baseline for assessing SDOH disparities and evaluation of trends over time to assess progress toward meeting national goals. Using representative data sources, the authors compared demographic characteristics and SDOH between U.S. adults with diagnosed HIV and all U.S. adults.

METHODS

In this study, the authors used multiple data sources to compare SDOH between PWH and the total adult population in the U.S. For PWH, data from the Centers for Disease Control and Prevention's Medical Monitoring Project (MMP) were used. Several representative data sources were used to describe characteristics among the total U.S. adult population, including: the U.S. Census Bureau's decennial census, American Community Survey (ACS), Household Pulse Survey (HPS), and Current Population Survey (CPS) Annual Social and Economic Supplements; the Department of Housing and Urban Development's point-in-time estimates of homelessness; and the Bureau of Justice Statistics.

Study Sample

MMP is a national surveillance system that collects annual cross-sectional data on demographic characteristics and SDOH among a nationally representative sample of adults with diagnosed HIV in the U.S. During the 2020 cycle, data were collected from June 2020 to May 2021. MMP uses a 2-stage complex sample survey design. First, 16 states (including 6 separately funded jurisdictions) and Puerto Rico were sampled from all U.S. states, the District of Columbia, and Puerto Rico. Next, simple random samples of adults with diagnosed HIV were drawn for each jurisdiction from the National HIV Surveillance System (NHSS), a census of people with diagnosed HIV in the U.S. As required, jurisdictions received approval from local IRBs, and informed consent was obtained from all respondents. The response rate at the jurisdiction level was 100% and at the person level was 40%. Details on MMP's sampling methodology have been described elsewhere.[4,7]

Data from the U.S. Census Bureau's decennial census, ACS, HPS, and CPS Annual Social and Economic Supplements; the Department of Housing and Urban Development's point-in-time estimates of homelessness; and the Bureau of Justice Statistics were used to describe certain characteristics among the total U.S. population.

Measures

Details on measures describing demographic characteristics and SDOH among U.S. adults with diagnosed HIV and all U.S. adults are provided in Appendix Tables 1

and 2 (available online), which includes data sources, years of data included, populations of inference, captured data elements, and analysis categories. Demographic characteristics and SDOH for MMP respondents were obtained through interview and were based on the past 12 months unless otherwise noted. Current county of residence for MMP respondents was obtained from NHSS based on the most recent information available at the time of participant sampling (i.e., December 31, 2019).

Analysis characteristics were limited to those considered comparable between the 2 populations in measurement, including demographic characteristics (age, sex at birth, race, Hispanic, Latino/a or Spanish origin, current gender identity, and sexual orientation), socioeconomic status and education (household income at or below the federal poverty level, homelessness, educational attainment), health-related factors including healthcare access (healthcare coverage or insurance, disability), neighborhood and built environment (urbanicity of county of residence), and social and community context (English proficiency, history of incarceration). Urbanicity of residence was categorized based on the 2013 National Center for Health Statistics urban−rural classification scheme.[8] Because National Center for Health Statistics does not assign urbanicity categories for Puerto Rican municipios, the urbanicity analysis for MMP excluded people from Puerto Rico.

Statistical Analysis
Using data from the 2020 MMP cycle (*n*=3,710), weighted estimates and 95% CIs were calculated for characteristics among adults with diagnosed HIV. Two sets of estimates were calculated. The first set of weighted estimates (referred to as unstandardized estimates) accounted for the complex survey design, adjusting for nonresponse and post-stratifying to known population totals from NHSS by age, race/ethnicity, and sex. This allowed for inferences to be made on all adults with diagnosed HIV. The second set of weighted estimates (referred to as standardized estimates) were further adjusted to match the distribution of age, race/ethnicity, and sex at birth of the U.S. adult population based on the U.S. Census Bureau's national population projection for 2020. Categories for multiracial and intersex/ambiguous gender persons were not available in the census estimates. Therefore, for the second set of estimates, MMP participants who identified as multiracial or being intersex/ambiguous sex (*n*=157) did not have their weights adjusted further. For the urbanicity analysis, 3,616 of 3,710 MMP respondents had information on current county of residence; 79 were excluded because they were found to have lived in a different

jurisdiction than where they were sampled (i.e., based on information from the interview or updates to NHSS), and 15 had missing information on county of residence.

Estimates were also calculated among all U.S. adults. For some sources of data based on complex sample surveys (i.e., ACS, HPS, CPS), weighted percentages and margins of error shown at the 90% confidence level were available. However, because not all U.S. population estimates came from complex sample survey data, margins of error were omitted for this analysis for comparability.

The authors assessed absolute and relative differences in SDOH between the 2 populations using prevalence differences and prevalence ratios, respectively. Two sets of differences—one based on the unstandardized estimates and the other based on the standardized estimates among PWH—were calculated. No statistical testing was conducted. Standardized prevalence differences (SPDs) of ≥5% or ≤ −5% and standardized prevalence ratios (SPRs) of ≥2 or ≤0.5 were considered to be meaningful. All analyses were conducted using SAS 9.4 (SAS Institute, Cary, NC).

RESULTS
Of all adults with diagnosed HIV, 54.6% were aged ≥50 years. A total of 45.5% identified as Black or African American, 5.9% as multiracial, and 1.7% as American Indian or Alaska Native; 23.6% were of Hispanic, Latino/a, or Spanish origin (Table 1). Overall, 74.8% identified as male, 23.0% as female, and 2.1% as transgender; 45.1% were lesbian or gay, 42.6% were heterosexual or straight, and 9.1% were bisexual.

Overall, 35.6% of adults with diagnosed HIV were living in a household at or below the federal poverty level, and 8.1% experienced homelessness in the past 12 months (Table 1). More than 2 in 5 (40.3%) had private insurance, 42.9% had Medicaid, 27.6% had Medicare, and 9.5% were uninsured. Nearly 2 in 5 (39.7%) were living with a disability. More than half (52.3%) lived in large central metropolitan counties, 20.7% lived in large fringe metropolitan counties, 15.5% lived in medium metropolitan counties, 5.6% lived in small metropolitan counties, and 5.9% lived in nonmetropolitan counties. More than 1 in 5 (20.6%) spoke English *less than very well* per survey responses, and 3.5% were incarcerated during the past 12 months.

There were substantial differences in demographic characteristics and SDOH between U.S. adults with diagnosed HIV and all U.S. adults, even after adjusting for differences in the distribution of age, birth sex, and race/ethnicity. Specifically, the percentage of people who were lesbian or gay (SPD=32.9%, SPR=11.0) and bisexual (SPD=5.2%, SPR=2.2) was higher among adults with

Table 1. Comparison of Demographic Characteristics and Social Determinants of Health Between U.S Adults With HIV and All U.S. Adults

Characteristics	Total U.S. population, %	People with HIV							
		Unstandardized estimates		Unstandardized prevalence difference, %	Unstandardized prevalence ratio	Standardized estimates		Standardized prevalence difference, %	Standardized prevalence ratio
		n	Weighted Col% (95% CI)			n	Weighted Col% (95% CI)		
Total population		3,710							
Demographic characteristics, standardized variables									
Age									
18–29 years	20.8	257	8.1 (6.3, 9.8)	−12.7	0.4	—	—	—	—
30–39 years	17.4	635	17.8 (16.3, 19.4)	0.4	1.0	—	—	—	—
40–49 years	15.7	642	19.4 (17.8, 21.1)	3.7	1.2	—	—	—	—
50–64 years	24.4	1,712	43.8 (41.5, 46.1)	19.4	1.8	—	—	—	—
≥65 years	21.7	464	10.8 (9.6, 12.0)	−10.9	0.5	—	—	—	—
Sex at birth									
Male	49.0	2,818	76.7 (73.8, 79.6)	27.7	1.6	—	—	—	—
Female	51.0	888	23.3 (20.4, 26.2)	−27.7	0.5	—	—	—	—
Race									
American Indian or Alaska Native	1.1	57	1.7 (1.1, 2.3)	0.6	1.5	—	—	—	—
Asian	6.1	51	1.5 (1.0, 1.9)	−4.6	0.2	—	—	—	—
Black or African American	12.0	1,594	45.5 (38.2, 52.8)	33.5	3.8	—	—	—	—
Native Hawaiian or other Pacific Islander	0.2	—	—	—	—	—	—	—	—
White	64.1	1,690	45.1 (38.8, 51.4)	−19.0	0.7	—	—	—	—
Other	7.7	—	—	—	—	—	—	—	—
Multiracial	8.8	241	5.9 (4.7, 7.1)	−2.9	0.7	—	—	—	—
Hispanic, Latino/a, or Spanish origin	16.8	874	23.6 (16.5, 30.7)	6.8	1.4	—	—	—	—
Other demographic characteristics									
Gender identity									
Male	47.2	2,750	74.8 (71.8, 77.8)	27.6	1.6	2,750	50.2 (44.0, 56.4)	3.0	1.1
Female	50.5	877	23.0 (20.2, 25.8)	−27.5	0.5	877	47.9 (41.7, 54.2)	−2.6	0.9
Transgender	0.6	79	2.1 (1.6, 2.6)	1.5	3.5	79	1.8 (0.9, 2.6)	1.2	3.0
None of these/something else[a]	1.7	—	—	—	0.1	—	—	—	—
Sexual orientation									
Lesbian or gay	3.3	1,677	45.1 (41.5, 48.7)	41.8	13.7	1,677	36.2 (31.0, 41.5)	32.9	11.0
Heterosexual or straight	88.3	1,546	42.6 (38.8, 46.4)	−45.7	0.5	1,546	51.9 (47.3, 56.5)	−36.4	0.6
Bisexual	4.4	313	9.1 (8.1, 10.1)	4.7	2.1	313	9.6 (7.3, 11.9)	5.2	2.2
Something else/other	4.0	111	3.2 (2.6, 3.9)	−0.8	0.8	111	2.3 (1.4, 3.2)	−1.7	0.6

(continued on next page)

Table 1. Comparison of Demographic Characteristics and Social Determinants of Health Between U.S Adults With HIV and All U.S. Adults (*continued*)

| Characteristics | Total U.S. population, % | People with HIV | | Unstandardized prevalence difference, % | Unstandardized prevalence ratio | | | Standardized prevalence difference, % | Standardized prevalence ratio |
| | | Unstandardized estimates | | | | Standardized estimates | | | |
		n	Weighted Col% (95% CI)			n	Weighted Col% (95% CI)		
Socioeconomic status and education									
Person lives in household with income at or below federal poverty level	10.1	1,189	35.6 (31.9, 39.2)	25.5	3.5	1,189	35.2 (29.9, 40.5)	25.1	3.5
Homelessness	0.2	298	8.1 (6.6, 9.6)	7.9	40.5	298	8.7 (6.4, 11.0)	8.5	43.5
Socioeconomic status and education									
<High school diploma	10.8	550	14.6 (12.9, 16.3)	3.8	1.4	550	14.6 (12.2, 16.9)	3.8	1.4
High school diploma or equivalent	27.3	899	25.0 (22.8, 27.3)	−2.3	0.9	899	24.2 (19.2, 29.3)	−3.1	0.9
>High school	62.0	2,240	60.4 (57.7, 63.1)	−1.6	1.0	2,240	61.2 (54.6, 67.8)	−0.8	1.0
Health-related factors									
Healthcare coverage/insurance (nonmutually exclusive groups)									
Private	70.4	1,445	40.3 (37.9, 42.6)	−30.1	0.6	1,445	37.3 (32.8, 41.8)	−33.1%	0.5
Medicaid	14.4	1,590	42.9 (40.6, 45.3)	28.5	3.0	1,590	43.9 (40.2, 47.6)	29.5	3.0
Medicare	23.0	1,071	27.6 (25.9, 29.3)	4.6	1.2	1,071	30.8 (25.1, 36.4)	7.8	1.3
VA	2.9	85	3.7 (2.6, 4.8)	0.8	1.3	85	2.2 (1.3, 3.1)	−0.7	0.8
Uninsured	9.9	295	9.5 (7.7, 11.3)	−0.4	1.0	295	8.0 (6.1, 9.8)	−1.9	0.8
Has a disability	15.4	1,507	39.7 (36.8, 42.6)	24.3	2.6	1,507	45.7 (42.0, 49.3)	30.3	3.0
Neighborhood and built environment									
Urbanicity of county of residence (Puerto Rico not categorized)[b]									
Large central metropolitan	30.8	1,899	52.3 (46.0, 58.5)	21.5	1.7	1,899	44.2 (36.2, 52.2)	13.4	1.4
Large fringe metropolitan	25.1	721	20.7 (15.5, 25.9)	−4.4	0.8	721	23.4 (16.7, 30.0)	−1.7	0.9
Medium metropolitan	21.0	453	15.5 (8.8, 22.2)	−5.5	0.7	—	—		
Small metropolitan	9.2	184	5.6 (4.6, 6.6)	−3.6	0.6	184	7.5 (5.1, 9.8)	−1.7	0.8
Nonmetropolitan (micropolitan and noncore)	14.1	165	5.9 (2.8, 9.0)	−8.2	0.4	165	7.1 (4.3, 10.0)	−7.0	0.5
Social and community context									
Speaks English *less than very well* per survey response	9.1	801	20.6 (14.4, 26.8)	11.5	2.3	801	15.7 (9.2, 22.3)	6.6	1.7
Recent history of incarceration	0.7	107	3.5 (2.4, 4.6)	2.8	5.0	107	4.1 (1.8, 6.4)	3.4	5.9

MMP, Medical Monitoring Project; NCHS, National Center for Health Statistics; PR, prevalence ratio; VA, Veterans Administration.

[a]Only applies for total U.S. population estimates.

[b]Because NCHS does not assign urbanicity categories for Puerto Rican municipios, the urbanicity analysis for MMP excluded persons from Puerto Rico.

HIV than all adults in the U.S. (Table 1). The percentages of people living in a household at or below the federal poverty level (SPD=25.1%, SPR=3.5) or who experienced homelessness (SPD=8.5%, SPR=43.5) were higher among adults with HIV than all adults in the U.S. The percentage of people who had private insurance was lower (SPD= −33.1%, SPR=0.5), but the percentages of people who had Medicaid (SPD=29.5%, SPR=3.0) or Medicare (SPD=7.8%) were higher among adults with HIV than all adults in the U.S. The prevalence of disability was higher (SPD=30.3%, SPR=3.0) among adults with HIV than all adults in the U.S. The percentages of people living in large central metropolitan counties (SPD=13.4%) or who were recently incarcerated (SPR=5.9) were higher among adults with HIV than all adults in the U.S.

DISCUSSION

To the best of our knowledge, this is the first analysis to use nationally representative data sets to comprehensively assess differences in demographic characteristics and SDOH between U.S. adults with HIV and all U.S. adults. Even after accounting for differences in the distribution of age, birth sex, and race/ethnicity between the populations, disparities among PWH related to socioeconomic status, healthcare access, neighborhood and built environment, and social and community context remained. The results from this analysis established the following:

1. a baseline for assessing national disparities in demographic characteristics and SDOH between PWH and the total population in the U.S. and for evaluating changes in those disparities over time, and
2. a model for how health departments (HDs) can assess disparities in SDOH between PWH and the total population in their local service areas; monitoring these disparities is essential for improving the lives of PWH.

Reflecting the diversity in people's backgrounds, culture, and life experiences, a recent analysis demonstrated that the distribution of SDOH among PWH and the total population varies by state[8,9]; disparities could differ locally as well. Local analyses of SDOH among PWH, paired with comparisons to the total population, could uncover areas where disparities are more pronounced and are recommended in the most recent version of the national guidance for developing epidemiologic profiles.[10] These profiles are used to guide local HIV prevention and care efforts to improve the outcomes among PWH and address disparities in local service areas. For instance, availability of existing resources and infrastructure to address SDOH—such as safety net programs related to housing assistance, Medicaid benefits, and meal or food assistance—are highly localized, and these data could be used to inform funding allocation based on need. The methodology in this paper provides resources for HDs to assess SDOH disparities, including a catalog of representative data sources and measures that could be used to compare characteristics between PWH and the total population.

Compared with the total population, PWH experience higher levels of socioeconomic disadvantage, including unemployment, poverty, and homelessness. Sufficient access to ancillary services related to subsistence, such as those related to housing, food, and transportation assistance, is associated with better HIV outcomes.[11] The Health Resources and Services Administration's Ryan White HIV/AIDS Program (RWHAP) is a federally funded program that provides comprehensive care services, including ancillary services, to PWH who have low income.[12] This program is essential for addressing SDOH among PWH. However, without requesting a core medical services waiver, RWHAP funds to cover support services—including those related to subsistence—are capped at 25% of total funds.[13,14] Although some subsistence services are legislatively defined RWHAP service categories, low-income PWH often rely on other safety net programs to address basic needs, including the Supplemental Nutrition Assistance Program or the Women, Infants, and Children Nutrition Program for food assistance and the Housing Opportunities for People with AIDS (HOPWA) for housing. RWHAP providers often refer clients to these programs through case management.[14]

Allocating public funds based on the needs of the population could help to address subsistence needs and subsequently improve outcomes among PWH. A recent analysis demonstrated that >1 in 4 PWH reported shelter or housing service needs, with substantial variation among states. However, availability of HOPWA funding may not align with local shelter or housing assistance needs. Funds are distributed based on poverty level of the local population, but do not account for the fact that PWH are disproportionately affected by poverty and housing instability as shown in this study; this could result in a mismatch between the availability of funds and local housing assistance needs.[15] Routinely reporting local information on SDOH among PWH in the epidemiologic profile is a first step in ensuring that safety net programs are using the most current and accurate information to allocate funds based on subsistence needs, which could reduce disparities.

A higher percentage of PWH rely on publicly funded insurance programs, such as Medicaid and Medicare. These differences likely reflect higher levels of socioeconomic disadvantage and disability status among PWH. Matching availability of resources through safety net programs such as Supplemental Security Income and Social Security Disability Insurance based on local needs could help improve access to HIV medical care and essential support services for PWH. Medicaid expansion may also benefit low income PWH living in nonexpansion states by increasing their access to healthcare services. A recent analysis demonstrated that, among PWH residing in a nonexpansion state who would receive Medicaid benefits if their state expanded, a third were unable to pay their medical bills. More than 1 in 10 of these PWH delayed filling their antiretroviral therapy prescription to save money, and 8% skipped doses to save on costs.[16] Expanding access to safety net programs that provide healthcare coverage could ensure that PWH have an equal opportunity to maintain viral suppression without barriers related to the cost of medication or healthcare services.

A higher percentage of PWH lived in large central metropolitan counties than the total population. However, nearly half of PWH lived outside large central metropolitan counties, including over a quarter of PWH living in medium or small or nonmetropolitan counties. Understanding where PWH live is essential in assessing important aspects of people's neighborhoods, including community demography and cultural diversity, as well as the availability of community resources, support, public transportation, and healthcare services. In addition to individual-level characteristics, information on community-level characteristics could be used to assess disparities and inform allocation of resources so as to improve access to care.[17,18] Specifically, HIV care facilities are often located in large urban areas, potentially leading to a gap of available care services for PWH residing in rural areas.[19] The Ending the HIV Epidemic in the U.S. initiative prioritizes public health action, such as improving access to care and treatment, in 57 jurisdictions, including 7 states with a large number of HIV diagnoses in rural areas (i.e., Alabama, Arkansas, Kentucky, Mississippi, Missouri, Oklahoma, and South Carolina).[20]

Discussion of SDOH without a clear understanding of *intersectionality*, which refers to "a theoretical framework that posits that multiple social categories (e.g., race, ethnicity, gender, sexual orientation, socioeconomic status) intersect at the micro level of individual experience to reflect multiple interlocking systems of privilege and oppression at the macro, social-structural level (e.g., racism, sexism, heterosexism),"[21] would be incomplete.[22] For instance, aspects of socioeconomic disadvantage, such as poverty and housing instability, disproportionately affect marginalized populations of PWH, including people experiencing unstable housing, living with disabilities, and who have a history of recent incarceration.[23−25] In addition, socioeconomic disadvantage could affect where a person lives[8] and, therefore, one's available resources, access to health care, and coverage of healthcare services. All these aspects of SDOH can affect the quality of life and a person's health and well-being.[22] SDOH differences by race/ethnicity may be rooted in interpersonal and structural racism, which is a serious public health threat.[26] Addressing the intersectionality of SDOH and interpersonal and structural racism requires a multipronged approach. Specifically, providers and clinic staff could routinely assess the needs of all HIV patients for services that may address SDOH, including housing assistance, meal or food services, and transportation services. Assessment of many of these factors is recommended through national guidelines.[27] In addition, facilities could also develop and encourage providers and staff to take trainings to address interpersonal and structural racism, help address barriers to care engagement, and improve cultural competencies during patient−provider interactions. However, awareness around the importance of addressing SDOH and interpersonal and structural racism is merely a first step. Funding safety net programs based on the needs of the population—including housing assistance programs like HOPWA, disability assistance programs such as Supplemental Security Income and Social Security Disability Insurance, and programs that assist with covering the cost of healthcare services and medications such as RWHAP and Medicaid—could be an important step in achieving health equity. In addition, public health plays a role in using data to inform policy changes that could address perpetuated injustices that pervasively drive inequities.

Limitations

This analysis is subject to limitations. Although measures between MMP and other representative data sources were considered comparable, there were some differences in either the population of inference or the way questions were answered; more details regarding this are available in the appendices. Because the underlying data were not available for the total population, statistical comparisons could not be made between PWH and the total population; in addition, the population of adults with HIV is contained in total U.S. adult population, making the 2 groups non-independent. Although the response rate for MMP was suboptimal, estimates were adjusted for nonresponse and post-stratified to population total by age, race/ethnicity, and sex from NHSS based on standard methodology. MMP respondents were not selected randomly

with respect to urbanicity, and thus, findings may not be representative of PWH by urbanicity. Furthermore, municipios in Puerto Rico could not be grouped into urbanicity categories, which could have affected results. Not all jurisdictions report to MMP, and thus may not be able to use the methodology presented to report representative estimates of SDOH among PWH. However, non-MMP reporting jurisdictions could consider reporting SDOH among PWH using data from RWHAP or local research studies.

CONCLUSIONS

Even after accounting for differences in the distribution of age, birth sex, and race/ethnicity between populations, disparities in socioeconomic status, healthcare access, neighborhood and built environment, and social and community context among PWH remained. These findings provide a baseline for assessing national disparities in SDOH between U.S. adults with HIV and the total U.S. population, and for evaluating changes in those disparities over time. This analysis can also be used as a model for how HDs can assess disparities in SDOH between PWH and the total population in local service areas. However, describing SDOH is merely a first step. Addressing SDOH requires a multipronged approach rooted in data-based evidence, with interventions at the provider, facility, and policy levels, and is essential for achieving health equity.

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SUPPLEMENTARY MATERIALS

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