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BRIEF REPORT

The Psychology Workforce and Disadvantaged Communities: A Brief Report on State-Level Differences

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Disadvantaged communities are common in the United States and face disproportionate mental health burden. The psychology workforce has a critical role in addressing their burden, but it is not clear whether it is geographically positioned to play this role. Identifying states with high disadvantage yet an inadequate psychology workforce can allow for more intentional efforts to redress imbalances at the state level. Data regarding the psychology workforce (e.g., adequacy of supply relative to demand) as well as markers of a state's disadvantage (e.g., proportion living below poverty line) were extracted from five national data sets to examine state-level differences. There was a strong negative association between the proportion of a state's population living in disadvantaged communities and the adequacy of its psychology workforce, although some states defied this trend. The psychology workforce is not well positioned geographically to meet the mental health of one third of the U.S. population living in disadvantaged communities. Stakeholders at the state and national level will need more intentional policies to redress the imbalance.

Public Significance Statement
U.S states with higher proportions of disadvantaged communities tended to have lower levels of psychology workforce adequacy (i.e., lower supply of psychologists relative to demand). Such distortions represent a less visible but insidious threat to the profession's purported principle of beneficence. The imbalance risks exacerbating geographic differences in mental health burden and highlights the need for national and state stakeholders to more intentionally train and deploy psychologists to areas of greatest need.

Keywords: psychology workforce, disadvantage, geography, poverty, disparities

Over 100 million residents in the United States—approximately 34% of the population—live in communities identified as disadvantaged (Council on Environmental Quality [CEQ], 2022). Various definitions exist to capture these vulnerable communities, but the Council on Environmental Quality defines these as communities that face poverty (i.e., >65% of residents with incomes <200% of the federal poverty level) as well as at least one other major climate, health or environmental burden (e.g., living near waste facilities; low average life expectancy). These communities are unevenly distributed across the country, with some states having far more of their population (i.e., >40%) living in these communities than others (CEQ, 2022).

The risk of mental health burden in disadvantaged communities is significantly increased over that of more advantaged areas. Chronic exposure to environmental stressors, including poverty, has long been recognized as a key factor influencing mental health outcomes

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(Huggard et al., 2023). Kirkbride et al. (2024) found that socioeconomic disadvantages and early-life adversity were all linked to increased risk of mental health disorders later in life. Similarly, Baranyi et al. (2020) reported that older adults residing in neighborhoods characterized by adversity had approximately 25% higher odds of developing depression, even after controlling for confounding variables. Children from lower income neighborhoods also demonstrated more severe posttraumatic stress disorder symptoms over time, independent of trauma history or family income (Ravi et al., 2023). A systematic review by Singh et al. (2019) further revealed a strong association between early-life exposure to housing disadvantage and poorer mental health outcomes in adulthood. These intersecting forms of disadvantage compound across the lifespan, placing affected populations at heightened risk for depression, anxiety, posttraumatic stress disorder, and related conditions (Alegría et al., 2023; Huggard et al., 2023). Public health authorities, including the Centers for Disease Control and Prevention and World Health Organization, have long emphasized the role of social determinants of health in shaping both general and mental health outcomes (e.g., Bakolis et al., 2023; Baranyi et al., 2020; Ravi et al., 2023; Singh et al., 2019; Sui et al., 2022).

Concurrently, access to mental health services remains limited in disadvantaged areas. Cummings et al. (2017) documented that communities with high poverty and low income are significantly less likely to have mental health providers or treatment facilities. For instance, only 23% of communities in the lowest income quartile had access to outpatient mental health clinics or providers compared with 42% in the highest income quartile. Similar shortages have been reported in rural and socioeconomically disadvantaged regions (Andrilla et al., 2018). These provider gaps are associated with poorer mental health outcomes, including higher rates of suicide among youth (Hoffmann et al., 2023; Ramesh et al., 2023).

Given this context, it is essential to examine whether the psychology workforce is geographically distributed in ways that make them available to disadvantaged communities or whether training and service provision remain concentrated in areas with relatively less need. In doing so, this is not to diminish or ignore the role of other providers or even approaches to addressing mental health needs in these communities. For example, a robust literature shows how nonspecialist community members can effectively deliver core aspects of psychosocial interventions (e.g., Karyotaki et al., 2022; Raviola et al., 2019). Rather, we focus on psychology specifically because (a) psychologists' expertise in psychodiagnostic assessment, evidence-based interventions, and culturally responsive care brings a unique skill set to addressing complex mental health needs in disadvantaged communities (Achenbach, 2017; Asnaani, 2023; Ebrahim, 2022; Singla et al., 2023) and (b) focusing on the profession allows for the identification of gaps in training and deployment, thereby informing future improvements in psychology education and service delivery (Asnaani, 2023; Miles & Fassinger, 2021).

To this end, prior research at the census block level found that psychologists were significantly less likely to practice in areas with a high disadvantage index (odds ratio [*OR*] = 1.29), particularly in comparison to professionals in other mental health disciplines such as counseling (Lombardi et al., 2025). However, it remains untested whether this pattern persists at the state level—an important scale for workforce planning and policy implementation.

The present report examined state-level associations between the degree of population disadvantage and the adequacy of the psychology workforce. The psychology workforce was defined as the number of trained psychologists at the doctoral level. This included both PhD and PsyD degree holders who provide therapy and assessment for mental health problems (Health Resources and Services Administration, 2024). The state level was selected as the unit of analysis due to data availability and because workforce planning and policy decisions are predominantly made at this level. For instance, the establishment and approval of psychology training programs typically fall under the purview of state agencies and state-appropriated public universities. Identifying states with the greatest mismatch between mental health need and workforce capacity is therefore critical for informing targeted, state-level interventions and policy development. To address this question, data from five national data sets were collated to describe state-level differences in the psychology workforce vis-a-vis levels of disadvantage. Disadvantage was defined by socioeconomic status (households earning less than or equal to 200% of the federal poverty level) combined with other burdens identified by the Council on Environmental Quality (2022), and workforce adequacy was estimated by the Health Resources and Services Administration's (HRSA) Health Workforce Simulation Model (Health Resources and Services Administration [HRSA], 2024), which estimates the psychology workforce supply and demand but does not take into account levels of disadvantage in a state. We hypothesized that the adequacy of the psychology workforce would be constrained in states with the greatest proportion of disadvantaged communities, but we also anticipated that there may be exceptions to this trend.

Method

State-level data for the present report were pulled in June 2025 from five national data projects, including the HRSA Behavioral Health Workforce Projections 2022 to 2037 (HRSA, 2024), the Climate and Economic Justice Screening Tool (CEQ, 2022), the Annual Estimates of the Resident Population from 2024 (U.S. Census Bureau, 2024), the 2023 American Community Survey (ACS) 1-Year Estimates (U.S. Census Bureau, 2023a, 2023b), and the American Psychological Association's (APA) 2024 Center for Workforce Studies Data Tool (APA, 2024a). Puerto Rico, other U.S. territories, and DC were excluded from analyses. Specific data included the following.

Psychology Workforce Adequacy Percentage

HRSA projected the psychology health workforce from 2022 to 2037 using national data sources from the APA, Bureau of Labor Statistics, National Board for Certified Counselors, National Center for Education Statistics, and the ACS. The psychology workforce was defined as consisting of psychologists at the doctoral level who assess, diagnose, and treat mental disorders and learning disabilities, as well as cognitive, behavioral, and emotional problems. HRSA used baseline data to estimate workforce supply and demand based on full-time equivalents and projected this into the future using factors such as new workforce entrants, provider attrition, hours worked, and interstate migration. Demand was projected based on utilization patterns, staffing ratios, and population trends, with adjustments for demographic changes and service needs. Percent adequacy was calculated as the supply of providers divided by

demand (i.e., were enough psychologists being supplied to meet the demand). The current analyses used 2024 state-level estimates and winsorized adequacy estimates to a 100% maximum. There is no absolute agreed-upon metric for what would be deemed an "adequate" supply of psychologists in a state, so we instead report adequacy levels (i.e., the HRSA estimated ratio of supply to estimated demand for a full-time equivalent psychologist) to allow stakeholders to make their own judgments. Most would assume that 100% adequacy or more (i.e., in which there are more psychologists in a state than anticipated demand for them) would be deemed "adequate." For the purposes of this brief report, we selected a less restrictive 75% or more in the discussion as the level of adequacy that we considered showing progress toward meeting the psychology workforce needs of a state.

Percentage of Population in Disadvantaged Communities

Disadvantaged communities were identified using Version 1.0 of the Climate and Economic Justice Screening Tool (CEQ, 2022). This was created by the Council on Environmental Quality using U.S. Census data and other publicly available federal data sets. Communities were defined using 2010 census tract boundaries organized by state. Communities are classified in these data as disadvantaged if they have a high socioeconomic burden, primarily defined as 65% or more in low income (i.e., <200% poverty level excluding students) as well as at least one of eight other environmental, climate, or health burdens at or above 90th percentile (e.g., low life expectancy). Table 1 details the categories needed beyond low income. Communities located on the lands of Federally Recognized Tribes or those surrounded by disadvantaged tracts with moderate-to-low income levels are also included. Proportions of the population living in these tracts were aggregated by state.

State Poverty, Education, and Population Estimates

Additional variables related to disadvantage (i.e., poverty levels) and demographics (i.e., population level) were extracted from the U.S. Census (U.S. Census Bureau, 2023a, 2023b, 2024). State-level population estimates for 2024 were obtained from the Annual Estimates of the Resident Population. Two measures of the proportion of the state's population below the poverty line were drawn from the 2023 ACS 1-Year Estimates: The Official Poverty Measure, which is based solely on cash income, and the Supplemental Poverty Measure, which provides an alternative poverty estimate that accounts for cost-of-living differences across states. Educational attainment variables were also extracted from the ACS. To calculate the total percentage of the population without a high school education, values for individuals aged 18–24 with less than a high school diploma were combined with those aged 25 and older who had less than a ninth-grade education or had

Table 1

Overview of Climate and Economic Justice Screening Tool Methodology Used to Define Disadvantaged Communities

Category	Socioeconomic burden	Environmental, climate, or other burden
Climate change	Low income[a]	1. Expected agriculture loss rate ≥90th percentile OR 2. Expected building loss rate ≥90th percentile OR 3. Expected population loss rate ≥90th percentile OR 4. Projected flood risk ≥90th percentile OR 5. Projected wildfire risk ≥90th percentile
Energy	Low income[a]	1. Energy cost ≥90th percentile OR 2. Particulate matter 2.5 in the air ≥90th percentile
Health	Low income[a]	1. Asthma ≥90th percentile OR 2. Diabetes ≥90th percentile OR 3. Heart disease ≥90th percentile OR 4. Low life expectancy ≥90th percentile
Housing	Low income[a]	1. Historic underinvestment = Yes 2. Housing cost ≥90th percentile OR 3. Lack of green space ≥90th percentile OR 4. Lack of indoor plumbing ≥90th percentile OR 5. Lead paint ≥90th percentile
Legacy pollution	Low income[a]	1. Abandoned mine land present = Yes OR 2. Formerly used defense site present = Yes OR 3. Proximity to hazardous waste facilities ≥90th percentile OR 4. Proximity to superfund or national priorities list sites ≥90th percentile OR 5. Proximity to risk management plan sites ≥90th percentile
Transportation	Low income[a]	1. Diesel particulate matter ≥90th percentile OR 2. Transportation barriers ≥90th percentile OR 3. Traffic proximity and volume ≥90th percentile
Water and wastewater	Low income[a]	1. Underground storage tanks and releases ≥90th percentile OR 2. Wastewater discharge ≥90th percentile
Workforce development	High school education <10%	1. Linguistic isolation ≥90th percentile OR 2. Low median income ≥90th percentile OR 3. Poverty ≥90th percentile OR 4. Unemployment ≥90th percentile

[a] Low income = 65th percentile or above for census tracts that have people in households whose income is less than or equal to twice the federal poverty level, not including students enrolled in higher education. Pulled from Version 1.0 of the Climate and Economic Justice Screening Tool Technical Support Document.

completed some high school but did not earn a diploma. A similar method was used to calculate the total percentage with a college degree.

Psychology Degrees Awarded and Programs

The official list of APA-accredited doctoral programs was used to identify the number of clinical, counseling, and school psychology PhD and PsyD programs in the United States for the year 2024 (APA, 2024b) by state. To create the variable doctoral psychology degrees awarded, data were compiled from the APA 2024 Center for Workforce Studies Data Tool for all psychology doctoral degrees (clinical, counseling, and school) by state (APA, 2024a). Universities did not reliably distinguish PsyD versus PhD degrees awarded; therefore, degrees were reported according to the categories above, and both PsyD and PhD graduates were included.

Results

Analyses for the present report were primarily descriptive (see Table 2) to highlight each state's estimated psychology workforce supply versus demand (i.e., percent adequacy) vis-à-vis markers for that state's level of disadvantage. Nonparametric Spearman's rank order correlation (r_s) were also conducted to provide estimates of the effect between adequacy levels and the different markers of disadvantage.

Table 2 (Column 1) shows that states varied significantly in the proportions of their population living in disadvantaged communities. Five states (i.e., Mississippi, Arkansas, West Virginia, New Mexico, and Louisiana) had more than 40% of their population living in communities designated as disadvantaged, whereas rates were far lower in others (i.e., 10% or less in Minnesota, Vermont, North Dakota, Wyoming, and New Hampshire). More populous states tended to have higher levels of disadvantage ([Spearman] $r_s = .38$, $p < .01$). As expected, levels of disadvantage had a very strong rank order correlation with the proportion of the population living below the poverty line ($r_s = .87$, $p < .01$) as well as the cost-of-living adjusted poverty index (i.e., 2023 U.S. Supplemental Poverty Measure; $r_s = .78$, $p < .01$). Moreover, as expected, proportions of disadvantage were also strongly associated with the proportion of the population without a high school (i.e., $r_s = .77$, $p < .01$) or with a college degree (i.e., $r_s = -.55$, $p < .01$).

Table 2 (Column 2) reports the 2024 estimated percent adequacy of the psychology workforce by state winsorized for a maximum of 100%. Twenty states were estimated to have an adequate psychology workforce, but all others did not. Twelve states had less than half the psychology workforce needed to meet anticipated demand, and of these, eight (i.e., Louisiana, Tennessee, Mississippi, Texas, Arkansas, Idaho, South Carolina, and Oklahoma) had less than 40% workforce adequacy levels. Levels of psychology workforce adequacy were unrelated to the size of the states' population (i.e., $r_s = .02$, $p = .92$). As expected, given how it was estimated, psychology workforce adequacy was related to the number of doctoral psychology degrees (PsyD and PhD including clinical, counseling, and school psychology) awarded in the state (i.e., $r_s = .40$, $p < .01$) but had a nonsignificant association with the number of psychology graduate programs (PsyD and PhD including clinical, counseling, and school psychology) in the state (i.e., $r_s = .12$, $p = .42$).

With respect to this report's central question, Figure 1 displays what is a significant negative association (i.e., $r_s = -.55$, $p < .01$) between the proportion of the state's population living in a disadvantaged community and the adequacy of its psychology workforce (effects remained significant and were suppressed even after controlling for population size [$r_s = -.59$, $p < .01$] or other population-based correlates, such as number of psychology graduate schools). Adequacy was also related to secondary markers of disadvantage (i.e., with proportion below poverty line $r_s = -.60$, $p < .01$; with proportion below cost-adjusted supplemental poverty line $r_s = -.32$, $p < .05$; with proportion lacking a high school degree $r_s = -.60$, $p < .01$; and with proportion with a college degree $r_s = .42$, $p < .01$). In short, the psychology workforce adequacy diminished as markers of disadvantage increased. To provide a sense of scope of the difference, for example, the 10 states with the highest proportions living in disadvantage had substantially lower rates of psychology workforce adequacy (i.e., $M = 50\%$, $SD = .21$) relative to the 10 states with the lowest proportion living in disadvantaged areas (i.e., $M = 87\%$, $SD = .17$). Notably, there were exceptions to the general trend: California, New York, and West Virginia had high levels of psychology workforce adequacy (i.e., >75%) despite a third or more of their population in disadvantaged communities.

Discussion

The present study found a significant mismatch between a state's levels of disadvantage and the adequacy of its psychology workforce: States with the highest proportion of residents living in disadvantaged communities (defined by CEQ, 2022) tended to have the lowest levels of psychologist supply relative to mental health needs. Specifically, in the 10 states with the highest levels of disadvantage, the number of psychologists available was only about half of what was needed. There were, however, notable exceptions. California, New York, and West Virginia, for example, maintained relatively strong psychology workforces (i.e., >75% adequacy) despite a third or more of their population classified as living in a disadvantaged community.

Findings are important and concerning, but not unexpected. Major economic, social, and historical forces contributing to states having high levels of disadvantage are similar to those likely to constrain a state's ability to maintain an adequate psychology workforce. Despite their expected nature, findings have at least five major implications. First, the shortage of providers is likely to exacerbate existing patterns of disadvantage. Living in a disadvantaged community already increases mental health burden, and findings from the present study suggest that this burden will only be exacerbated by the lack of providers at the state level (e.g., Huggard et al., 2023; Kirkbride et al., 2024). Second, the findings point to the need for states to prioritize the training and retention of psychologists, particularly in high-need areas, or to find creative solutions to address this. Third, national and state stakeholders have a unique opportunity to help rebalance the workforce through policies that incentivize mobility, such as encouraging psychologists in workforce-rich states to practice in those with high levels of disadvantage and unmet need. Policies

Table 2

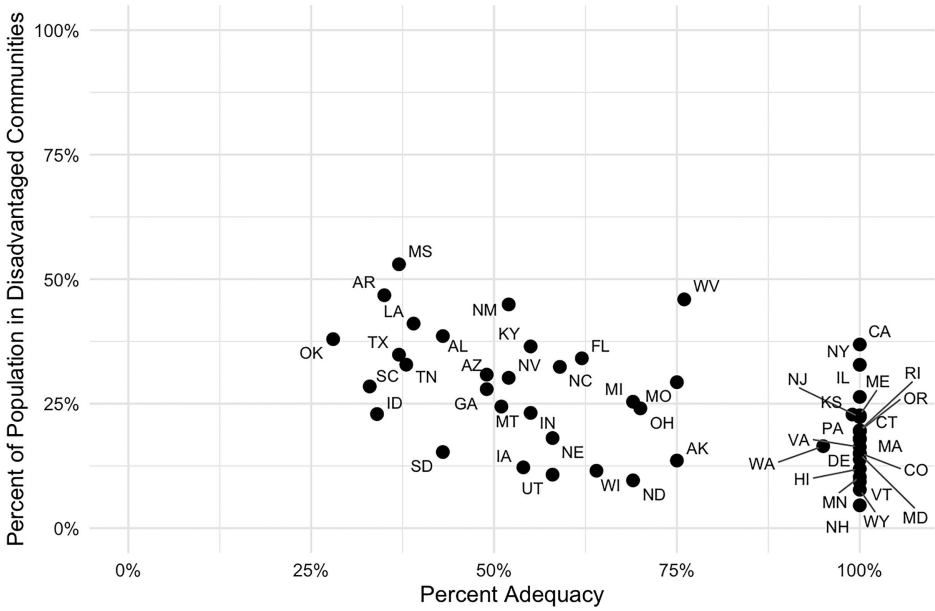
Psychology Workforce Adequacy, Sociodemographic, and Other Indicators by State

State	Percentage of population in disadvantaged communities[a]	Percentage of psych workforce adequacy[b]	Percentage below poverty line[c]	Percentage below poverty SPM[d]	Percentage with no high school education[e]	Percentage with college education[f]	No. of doctor psych degrees[g]	No. of psych grad programs[h]
AK	13	75	10	12	20	51	4	1
AL	39	43	16	16	22	58	26	5
AR	46	35	16	16	24	54	4	2
AZ	31	49	12	16	25	58	86	7
CA	36	100	12	19	25	64	783	38
CO	16	100	9	11	18	67	106	11
CT	18	100	10	13	18	60	26	4
DE	13	100	11	12	20	60	0	1
FL	34	62	12	18	22	62	175	17
GA	28	49	14	17	24	58	38	9
HI	11	100	10	16	16	60	15	2
IA	13	54	11	10	17	63	0	3
ID	23	34	10	11	22	63	5	1
IL	26	100	12	14	20	60	282	23
IN	23	55	12	13	23	53	57	12
KS	22	99	11	12	19	64	18	5
KY	37	55	16	17	21	53	109	7
LA	42	39	19	19	26	58	4	5
MA	17	100	10	14	18	63	170	16
MD	14	100	10	14	22	60	19	6
ME	23	100	10	9	15	61	2	1
MI	25	69	14	14	20	59	67	13
MN	10	100	9	10	17	65	152	7
MO	29	75	12	12	19	59	20	9
MS	52	37	18	18	24	59	22	7
MT	24	51	12	12	19	60	0	2
NC	32	59	13	15	21	62	15	11
ND	9	69	10	10	15	71	12	2
NE	18	58	11	11	18	66	0	3
NH	5	100	7	10	15	64	21	2
NJ	23	100	10	14	20	63	86	11
NM	44	52	18	15	28	53	6	2
NV	30	52	12	15	28	51	6	3
NY	32	100	14	18	21	63	336	36
OH	25	70	13	13	20	55	56	15
OK	38	28	16	16	26	55	20	5
OR	19	100	12	16	19	61	133	7
PA	20	100	12	14	19	58	181	25
RI	20	100	11	13	20	62	12	1
SC	29	33	14	15	22	58	3	2
SD	16	43	12	12	23	61	6	1
TN	33	38	14	15	20	57	32	9
TX	35	37	14	17	27	60	146	24
UT	11	58	9	12	18	70	9	7
VA	17	100	10	14	17	62	247	11
VT	10	100	10	10	13	66	0	1
WA	17	95	10	13	19	60	42	6
WI	12	64	11	11	16	62	23	9
WV	46	76	17	15	22	50	17	3
WY	7	100	11	12	19	58	0	1

[a] Percentage of the state population living in a disadvantaged community, based on the Climate and Economic Justice Screening Tool. [b] Percentage of adequacy derived from the Health Resources and Services Administration Behavioral Health Workforce Projections data set; indicates 2024 estimated percentage of the current psychologist workforce (supply) relative to the estimated need (demand). [c] Percentage of the state population living below the official poverty line, drawn from the 2023 American Community Survey (ACS) 1-Year Estimates (Official Poverty Measure). [d] Percentage of the state population classified poor under the Supplemental Poverty Measure, which adjusts for geographic differences in cost of living, from the 2023 ACS 1-Year Estimates. [e] Percentage of the adult population (ages 18+) without a high school diploma or equivalent, from the 2023 ACS 1-Year Estimates. [f] Percentage of the adult population with a college degree (associate's or higher), based on 2023 ACS 1-Year Estimates. [g] Number of doctoral psychology degrees (PsyD and PhD in clinical, counseling, and school psychology) awarded in each state, according to the American Psychological Association's 2024 Center for Workforce Studies Data Tool. [h] Number of psychology graduate programs (PsyD and PhD in clinical, counseling, and school psychology) in each state, from the American Psychological Association's 2024 Center for Workforce Studies Data Tool.

Figure 1

Percentage of Population in a Disadvantaged Community Versus Psychology Workforce Adequacy by State



Note. Percentage of psychology workforce adequacy of each state (HRSA, 2024) relative to percentage of population in disadvantaged community (CEQ, 2022). Adequacy was winsorized at 100%.

began before but accelerated during the COVID-19 pandemic, such as interstate Psychology Interjurisdictional Compact, represent important efforts that can redress some of the geographic imbalances highlighted by this report. Fourth, results speak to the need for other providers or stakeholders to fill gaps left in states with shortages. Task-shifting approaches where peers or other community members address mental health needs have a long history of filling providers' gaps (e.g., Karyotaki et al., 2022; Raviola et al., 2019) and are important for states to consider. States may also consider accelerating training and licensure of master's level providers that can provide equally effective interventions for addressing common mental health problems (cf. Washburn, 2019). Fifth, states are not bound by national trends. For example, some states such as California, New York, and West Virginia demonstrate that higher levels of disadvantage need not go hand in hand with a shortage of psychology providers. A deeper examination of these exceptions may provide models for other states to emulate.

The present report had limitations that must be acknowledged. The unit of analysis for the present study was at the state level, making results vulnerable to ecological fallacy (e.g., an "adequate" workforce at the state level does not likely translate into an adequate workforce at the local level; previous work at the census tract level bears this out; Lombardi et al., 2025). Moreover, provision of care is not necessarily bound by state, so the precise impact of shortages vis-à-vis disadvantage may not be captured by state differences. Specific territories and DC were not included, and so the present report remains an incomplete picture of national trends. Furthermore, the present analyses only looked at the psychology workforce, but other professions intersect closely with psychology and may be able to redress shortages. Finally, and importantly, we relied on national data sets, each with major limitations in their collection and that differed with respect to how contemporary they are, so results may be dated or incomplete. For example, estimates of psychology workforce adequacy were based on simulations from HRSA that relied on basic inputs and then assumptions about how those inputs would change over time. The basic inputs may have had errors given how they were collected (e.g., relying on reports from states with respect to licensure), and the assumptions about their changes may also be flawed. These limitations mean that overall findings should be viewed as a best estimate of general trends in the workforce as opposed to exact estimates of the current situation.

Despite limitations, the present study highlights how the psychology workforce is likely not well positioned geographically to meet the mental health needs of the nation's most vulnerable communities. This trend risks worsening mental health burdens in underserved areas. Findings underscore the need for targeted workforce policies to address geographic imbalances.

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