



Left Out: Barriers to Health Equity for Rural and Underserved Communities

*Report of the Committee on Ways and Means Majority
U.S. House of Representatives*

July 2020



Source: Word cloud created from staff analysis that aggregated Ways and Means Committee Rural and Underserved Communities Health Task Force Request for Information responses.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	4
INTRODUCTION	7
BACKGROUND	10
REQUEST FOR INFORMATION (RFI) RESPONSES	39
RFI RESPONSES DISCUSSION	45
CONCLUSION	47
APPENDICES	48

EXECUTIVE SUMMARY

The United States (U.S.) spends almost twice as much on health care as other developed countries, yet our population continues to have worse outcomes. Underserved communities, whether rural or urban, face a complex set of challenges related to public health and health care delivery. From aging infrastructure, economic disinvestment, workforce shortages, and environmental challenges to higher burdens of chronic conditions, residents of underserved communities endure many circumstances that make it difficult to live healthy lives.

Achieving health equity in the U.S. requires all Americans to have the opportunity to attain their highest level of health and not be disadvantaged because of avoidable, unfair, or remediable differences among the communities they call home.¹ For example, there are persistent disparities in prenatal and maternal health outcomes in underserved areas that contribute to poorer overall health status in underserved communities.² Residents of these communities also cope with a higher burden of disease and lower life expectancy, being more likely to die prematurely from heart disease, cancer, unintentional injury, chronic lower respiratory disease, and stroke than individuals living in areas with greater access to health resources. For non-White residents in these communities, health status and outcomes are often exponentially worse than their White counterparts. Consider that from 1969 to 2009, urban dwellers experienced greater improvements in life expectancy than rural residents, yet by 2009, low-income and Black rural residents finally achieved life expectancy that had been achieved by urban Whites *40 years earlier* in the 1970s. This is but one example of systemic failures to meaningfully incorporate decades of health equity research into the design of our nation's health care payment and delivery systems.

The health and economic crisis stemming from the novel coronavirus (COVID-19) crisis has magnified the systemic barriers to health and how they are particularly worse for marginalized groups. Though past and current efforts have focused on addressing health outcomes – racial and geographic health disparities – today's social climate demands that stakeholders acknowledge how systemic racism and economic inequality are drivers of health inequities, which, in turn, perpetuate disparities. This acknowledgement is not only paramount for practical solutions, but it is also a critical part of the conversation needed to repair trust between communities of color and American institutions after decades of racialized politics and policies that are race-neutral in theory only.

In July 2019, Chairman Richard E. Neal and Ranking Member Kevin Brady implemented the bipartisan Ways and Means Committee Rural and Underserved Communities Health Task Force (the Task Force). The Task Force is a forum for identifying solutions to the health disparities seen among underserved populations. In November 2019, Task Force co-chairs, Reps. Terri Sewell (D-AL), Danny Davis (D-IL), Brad Wenstrup (R-OH), and Jodey Arrington (R-TX)

¹ Health Equity. *World Health Organization*, (n.d.). Available at: https://www.who.int/topics/health_equity/en/

² Issue Brief: Improving Access to Maternal Health Care in Rural Communities. *Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services*, (September 2019). Available at: <https://www.cms.gov/About-CMS/Agency-Information/OMH/equity-initiatives/rural-health/09032019-Maternal-Health-Care-in-Rural-Communities.pdf>

issued a Request for Information (RFI) to better understand the challenges impeding health equity and to gather best practices for addressing health disparities throughout the country.

Overall, RFI respondents presented a bleak picture of underserved communities that grapple with similar challenges ranging from population health and coverage barriers, to massive health system deficiencies, to structural environmental factors that adversely impact health. Respondents also emphasized the challenges in collecting data that appropriately quantify and highlight these differences in a meaningful way for researchers and policymakers to better understand – and ultimately propose interventions to address – these inequities.

This report, *Left Out: Barriers to Health Equity for Rural and Underserved Communities*, provides extensive background on the issues impacting health in these communities, highlights themes within the universe of RFI responses and successful models of care delivery, and discusses many of the challenges associated with scalable and sustainable solutions to address health inequities and disparities.

Renewed leadership from the federal government is critically needed to efficiently and effectively address the role that racism and other social and structural determinants have in perpetuating health inequity as seen through disparities. The complexities involved demand accountability, transparency, and solutions that transcend “health” and “health care” as America’s programs have traditionally defined it. The Ways and Means Committee, guided by the Task Force’s findings, is working to answer that call.

REPORT HIGHLIGHTS

The health disparities in rural and urban underserved communities across America are stark, costing billions of dollars in additional expenditures for related care, lost productivity, and premature death. Resources are necessary to support comprehensive studies of these outcomes along with analyses of the ways in which systemic racism within the health care system impedes health equity.

The U.S. can make inroads toward achieving health equity by fully integrating tenets of population health into health care coverage, financing, and delivery systems, and by implementing workforce initiatives.

Public financing of health and human services, infrastructure, agriculture, etc., must adapt to incorporate the resources, services, and workforce needed to address social and structural determinants of health.

The COVID-19 pandemic is a case study on why transformation is critical and long overdue.

AN URGENT CALL TO ACTION

The COVID-19 pandemic has highlighted the need for urgent action to address vulnerabilities in our nation’s overall health, and the findings in this Report underscore the importance of being forthright about the root causes of health inequities.

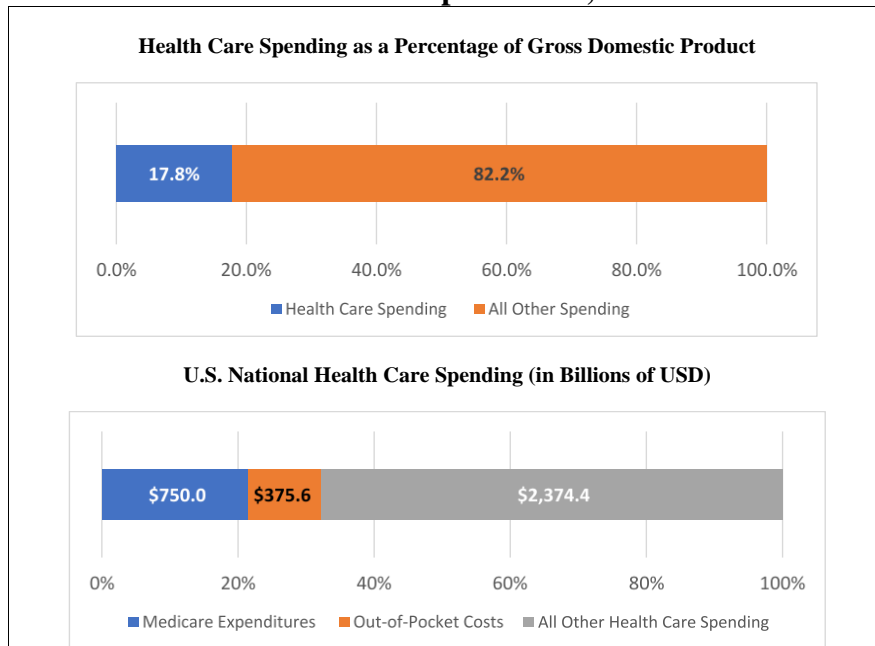
At a Ways and Means Committee hearing in May 2020 exploring *The Disproportionate Impact of COVID-19 on Communities of Color*, witnesses emphasized the need for short- and long-term solutions that address the root causes of health disparities to eradicate them. Brought clearly into focus as “the racial pandemic within the viral pandemic,” systemic and institutionalized racism and bias acutely impact marginalized groups and fuel under- and disinvestment in the communities where they live. The convergence of these complex realities has shown to be particularly devastating for residents of rural and underserved areas.

Bold action and leadership are necessary to bring about the transformational change needed to eliminate inequities within health care once and for all.

INTRODUCTION

The United States (U.S.) spends the most money per capita on health care compared to all other Organization for Economic Cooperation and Development (OECD) countries – nearly double the OECD average in 2017 – yet the return on its investment is markedly poor, as Americans today are less healthy than previous generations and their current OECD counterparts.^{3, 4} As health expenditures skyrocket, accounting for nearly \$2.3 trillion in spending in 2018 (see Figure 1), life expectancy in the U.S. declined for three consecutive years (2015-2017) for the first time in six decades, with a slight increase in 2018.⁵ The health care system is not reaching its full potential to promote health and save lives, and the 2020 health and economic crisis stemming from the novel coronavirus (COVID-19) is exposing many of its shortcomings, particularly for lower income individuals, those with chronic conditions, and even the professionals who deliver care. The burden of our failure to achieve health equity impacts every American, and viable solutions must be a shared concern.

Figure 1. Percent of Gross Domestic Product (GDP) Spent on Health Care and National Health Care Expenditures, 2018



Source: *Historical National Health Expenditure Data, Centers for Medicare & Medicaid Services.*

Notes: Annual health spending in the U.S. by type of good or service delivered, source of funding for those services, and by sponsor.

In response to these challenges, the U.S. Congress has long sought solutions to the inequitable allocation of health resources and misaligned incentives that yield significant

³ Health Spending. *Organization for Economic Co-operation and Development*, (2020). Available at: <https://data.oecd.org/healthres/health-spending.htm>

⁴ Sawyer, Bradley and Cox, Cynthia. How does health spending in the U.S. compare to other countries? *Peterson-KFF Health System Tracker*, (2018). Available at: <https://www.healthsystemtracker.org/chart-collection/health-spending-u-s-compare-countries/>

⁵ Woolf, Stephen H. and Heidi Schoemaker. Life Expectancy and Mortality Rates in the United States, 1959-2017. *JAMA Network*, (2019). Available at: <https://jamanetwork.com/journals/jama/article-abstract/2756187>

disparities in health care and health status. Solutions have sought to indirectly influence disparities through provider-focused solutions, including special payments for rural hospitals and incentivizing clinicians to practice in underserved communities.⁶ But health disparities persist, and gaps in access to care continue to grow as primary care decline and health care facilities close. Health outcomes are inexorably linked to ZIP code, are notably worse for the millions who live in rural and underserved communities and are further compounded by health disparities common among racial and ethnic groups.⁷

To appreciate the relationship between health status and community, it is critical to understand that physical environment, clinical care network, health behaviors, and social and economic factors are determinants of health.⁸ The options that are available within homes and communities across America vary – and options influence choices that have a significant impact on health status and outcomes.⁹ Consider that the U.S. boasts some of the world’s most advanced and innovative hospitals, research institutions, medical schools, and medical therapies; yet, not everyone has an equal opportunity to benefit from proximity to these advances.

Many Americans struggle to access preventive and primary care and often only link to care upon being diagnosed with a chronic condition, such as obesity and diabetes. Chronic conditions are the primary driver of health care costs, plaguing millions of Americans – 60 percent of adults live with one chronic disease, and 40 percent of adults have two or more conditions.¹⁰ Primary care is critical for efficient and cost-effective management of chronic conditions, but many Americans, particularly those in underserved communities, have inadequate access to primary care providers.¹¹ In the absence of primary care, many rely on emergency and hospital care, neither of which is an appropriate substitute for primary care. Hospital closures, downsizing, and provider consolidation further threaten to eliminate the only points of access to care in many underserved communities across the country.^{12, 13}

⁶ Fee, Elizabeth and Ana Rita Gonzalez. The History of Health Equity: Concept and Vision. *Diversity and Equality in Health Care*, 14 (2017). Available at: <http://diversityhealthcare.imedpub.com/the-history-of-health-equity-concept-and-vision.pdf>

⁷ Thornton, Rachel, et al., Evaluating Strategies for Reducing Health Disparities By Addressing The Social Determinants Of Health, 35:8 (August 2015). Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5524193/pdf/nihms877580.pdf>

⁸ Catlin B, et al., “2015 County Health Rankings Key Findings Report,” RWJF. <https://www.rwjf.org/en/library/research/2015/03/2015-county-health-rankings-key-findings-report.html>

⁹ Thornton, Rachel, et al., Evaluating Strategies for Reducing Health Disparities By Addressing The Social Determinants Of Health, 35:8 (August 2015). Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5524193/pdf/nihms877580.pdf>

¹⁰ “Chronic Diseases in America,” National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP). Available at: <https://www.cdc.gov/chronicdisease/resources/infographic/chronic-diseases.htm>

¹¹ Report to the Congress: Medicare and the Health Care Delivery System. *Medicare Payment Advisory Commission*, (2019). Available at: http://medpac.gov/docs/default-source/reports/jun19_medpac_reporttocongress_sec.pdf?sfvrsn=0

¹² Sager, Alan. Threats to Urban Public Hospitals and How To Respond to Them. *Boston University School of Public Health*, (2001). Available at: <https://www.bu.edu/sph/files/2015/05/Threats-to-Urban-Public-Hospitals-DC-General-Medical-Staff-30-Mar-011.pdf>

¹³ P. Hung, et al., “Why Are Obstetric Units in Rural Hospitals Closing Their Doors?” *Health Services Research*, (2016). Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4946037/>

In July 2019, the Committee on Ways and Means launched its Rural and Underserved Communities Health Task Force (the Task Force) to tackle inequity issues facing underserved American communities. As part of the Task Force’s work, bipartisan co-chairs Reps. Terri Sewell (D-AL), Danny Davis (D-IL), Brad Wenstrup (R-OH), and Jodey Arrington (R-TX) issued a Request for Information (RFI) in November 2019. The RFI sought feedback from stakeholders across the country – industry groups, patient advocates, and researchers, among others – on the key factors driving health inequities across the country.

This report contextualizes, aggregates, and analyzes the feedback from the RFI respondents. First, we present a detailed Background section describing the complex web of health and non-health care challenges plaguing rural and underserved American communities; second, we present an analysis of results from the RFI solicitation; and finally, we discuss the implications of these findings. A thorough description of the methodology employed to generate the results of this report is included in Appendix A.

BACKGROUND

Social and structural factors drive health inequities and adverse health outcomes by creating a context in which health risks are unevenly distributed. This context includes policies that influence economic and other inequities, and the specific conditions in which people are born, live, work and age – also known as the social determinants of health. A number of factors impact the health of a community, including physical environment, social and economic factors, clinical care, and health behaviors.

Key Terminology

Policymakers and clinicians currently rely on various designations to identify communities that are medically underserved, experiencing a shortage of health professionals, or rural. Below, we provide descriptions and context for key terms relevant to this report: Rural/Urban, Medically Underserved Areas (MUAs), and Health Professional Shortage Areas (HPSAs).

Rural¹⁴ vs. Urban. The Department of Health and Human Services (HHS) relies on the Census Bureau’s core-based statistical area (CBSA) designations to identify communities as rural or urban areas. Individuals who live within a CBSA are in “urban” communities, and those who reside outside of a CBSA live in “rural” communities.¹⁵ Importantly, these designations were not designed with health factors in mind, and that can make it difficult to extrapolate health facility access or other factors for use in health services research.¹⁶

Throughout this report, we frequently refer to differences between “rural” and “urban” populations, as the literature makes these distinctions. Such references incorporate a broad definition of “urban,” which includes a large metropolitan area, inclusive of underserved segments and, in some instances, suburban areas. This term is distinct from references to “underserved” or “underserved urban” areas, which are subpopulations. Frequently, comparisons of rural vs. urban do not appropriately capture the challenges of many underserved urban communities, as “urban” refers to a broad and diverse area, which often washes out differences between well-resourced urban areas and those that are underserved. Thus, we use the terms “underserved” or “underserved urban” to make a distinction from the commonly used “urban” term.

¹⁴ Frontier and remote areas are the most sparsely populated and isolated from population centers and services but are generally viewed as a subset of rural areas. Job creation, population retention, health care, and access to food, clothing, and other consumer items tends to require increased efforts in very rural, remote communities. Demographic and economic penalties associated with small size and remoteness may be increasing. “Methodology for Designation of Frontier and Remote Areas,” 77 Fed. Reg. 66471, (2012). Available at: <https://www.federalregister.gov/documents/2012/11/05/2012-26938/methodology-for-designation-of-frontier-and-remote-areas>

¹⁵ Frequently Asked Questions: Rural-Urban Disparities in Health Care in Medicare. *Centers for Medicare and Medicaid Services*, (n.d.). Available at: <https://www.cms.gov/About-CMS/Agency-Information/OMH/Downloads/FAQs-Rural-Urban-Disparities-in-Health-Care-in-Medicare-Report.pdf>

¹⁶ Lee Smith, Matthew, et al., The Utility of Rural and Underserved Designations in Geospatial Assessments of Distanced Traveled to Healthcare Services: Implications for Public Health Research and Practice. *From Journal of Environmental and Public Health*, (2013). Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3697777/pdf/JEPH2013-960157.pdf>

Medically Underserved Areas. The Health Resources & Services Administration (HRSA) defines MUAs as areas that lack access to primary care services based largely on the health needs of vulnerable populations. The relevant metrics include: the ratio of primary medical care physicians to 1,000 population, infant mortality rate, percentage of the population with incomes below the Federal Poverty Level (FPL), or percentage of the population age 65 or over.^{17, 18} Approximately 15.5 million Americans live in MUAs.¹⁹

Health Professional Shortage Areas. HRSA also designates geographic regions, population groups, and facilities as HPSAs if there is a lack of primary, dental, or behavioral health care providers. HRSA designates HPSAs based on three scoring criteria: (1) population-to-provider ratio, (2) percentage of the population below 100 percent of FPL, and (3) travel time to the nearest source of care outside the HPSA designation. Scoring for designation as a Mental Health or Primary Care HPSA is on a scale from zero (no HPSA shortage) to 25 (extreme HPSA shortage).²⁰ Designation of Dental Health HPSAs follows the same process, but scoring is on a scale of zero to 26.²¹

About one-third of Americans live in locations with HPSA designations; however, some HPSA designations are based on a community-initiated application process, which can skew existing designations and mask actual need.²² While HPSA designations are imperfect, they do correlate with geographic information system (GIS) mapping of physician-to-population ratios.²³ Ultimately, HPSA designations are useful despite these caveats because they highlight yet another axis of deprivation and vulnerability in communities.

Behavioral health worker access is by far the most critical health professional shortage in the U.S.²⁴ When behavioral health HPSA designations are overlaid with rural designation, a unique pattern of deprivation of access to care emerges; see Figure 16 in Appendix D for more information. These intersections highlight indicators that are associated with disinvestment and visually demonstrate the dire need for multi-faceted policies to address behavioral health needs.

HRSA and Census Bureau definitions guide efforts to prioritize areas in need of health care professionals and services to improve access to care. Still, these definitions have limitations.

¹⁷ Negrusa, Sebastian et al., Provider Retention in High Need Areas Final Report. *Lewin Group*, (2014). Available at: https://aspe.hhs.gov/system/files/pdf/116861/NHSC%20Final%20Report%20508%20compliance%20July_21_2015.pdf

¹⁸ HRSA administers initiatives intended to address health workforce shortages, and uses the underserved areas and populations designations to prioritize and target limited resources.

¹⁹ Shortage Areas. *Health Resources and Services Administration*, (n.d.). Available at: <https://data.hrsa.gov/topics/health-workforce/shortage-areas>

²⁰ *Id.*

²¹ *Id.*

²² *Id.* at 17.

²³ Daly MR, et al., Defining Primary Care Shortage Areas: Do GIS-Based Measures Yield Different Results? *National Center for Biotechnology Information*, (2019). Available at: <https://www.ncbi.nlm.nih.gov/pubmed/29431231>

²⁴ Health Professional Shortage Areas. *Kaiser Family Foundation*, (n.d.). Available at: <https://www.kff.org/state-category/providers-service-use/health-professional-shortage-areas/>

HRSA uses Census-tract level data to define HPSAs.²⁵ Census tracts are geographic areas based on population sizes of 2,500 to 8,000 people.²⁶ They do not follow city, county, or other political boundaries, which can make cross-data comparisons difficult.²⁷ Until recently, the Census Bureau reported data at a macro ZIP code level rather than at the more granular level of Census tract, which likely masked some inequities and outcomes.²⁸

The federal level HPSA and MUA designations provide useful and important evidence of unmet need, but there are omissions that prevent the designations from capturing the true and varying levels of health care professional needs within certain types of underserved communities. For example, HPSAs and MUAs do not include nurse practitioners or physician assistants in their determination, which could mean that health professional needs are overstated, especially with these professionals accounting for 12 to 25 percent of the rural workforce.^{29, 30} From 2010-2015, the number of new nurse practitioner and physician assistant graduates has grown by about 15 percent every year.^{31, 32, 33} In 2018, there were an estimated 270,000 nurse practitioners, 73 percent of whom report delivering primary care, and 119,000 physician assistants nationwide.^{34, 35} Both professions are expected to grow at a rate of about 25-30 percent from 2018-2028, much faster than the average occupation.^{36, 37} (See *Workforce* section below for more information.) Many states have created their own designations for health professional shortages and underserved areas because of the unique local needs at the state level.³⁸ Figures 2 and 3 depict state-level primary care and mental health workforce shortages, respectively.

²⁵ Health Professional Shortage Area Physician Bonus Program. *Centers for Medicare and Medicaid Services*, (2017). Available at: <https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/HPSAfctsht.pdf>

²⁶ Finding Census Tract Data: About Census Tracts. *Michigan State University Library*, (2011). Available at: <https://libguides.lib.msu.edu/tracts>

²⁷ *Id.*

²⁸ Porter R. Sonya and Jones R. Maggie. Where You Grow Up Can Affect Your Future. *United States Census Bureau*, (2018). Available at: <https://www.census.gov/library/stories/2018/10/opportunity-atlas.html>

²⁹ *Id.* at 17.

³⁰ Physicians Assistants in Rural Communities. *Journal of the American Academy of Physician Assistants*, (2016). Available at:

https://journals.lww.com/jaapa/FullText/2016/01000/Physician_assistants_in_rural_communities.9.aspx; Family Nurse Practitioners Meeting Health Needs in Rural Areas. *Duquesne University*, (2016). Available at: <https://onlinenursing.duq.edu/blog/family-nurse-practitioners-meeting-health-needs-in-rural-areas/>

³¹ The Nurse Practitioner, Physician Assistant, And Pharmacist Pipelines: Continued Growth. *Health Affairs*, (2015). Available at: <https://www.healthaffairs.org/doi/10.1377/hblog20150526.047896/full/>

³² Occupational Outlook Handbook: Physician Assistants. *U.S. Bureau of Labor Statistics*, (2020). Available at: <https://www.bls.gov/ooh/healthcare/physician-assistants.htm>

³³ Occupational Outlook Handbook: Nurse Anesthetists, Nurse Midwives, and Nurse Practitioners. *U.S. Bureau of Labor Statistics*, (2020). Available at: <https://www.bls.gov/ooh/healthcare/nurse-anesthetists-nurse-midwives-and-nurse-practitioners.htm>

³⁴ *Id.* at 32.

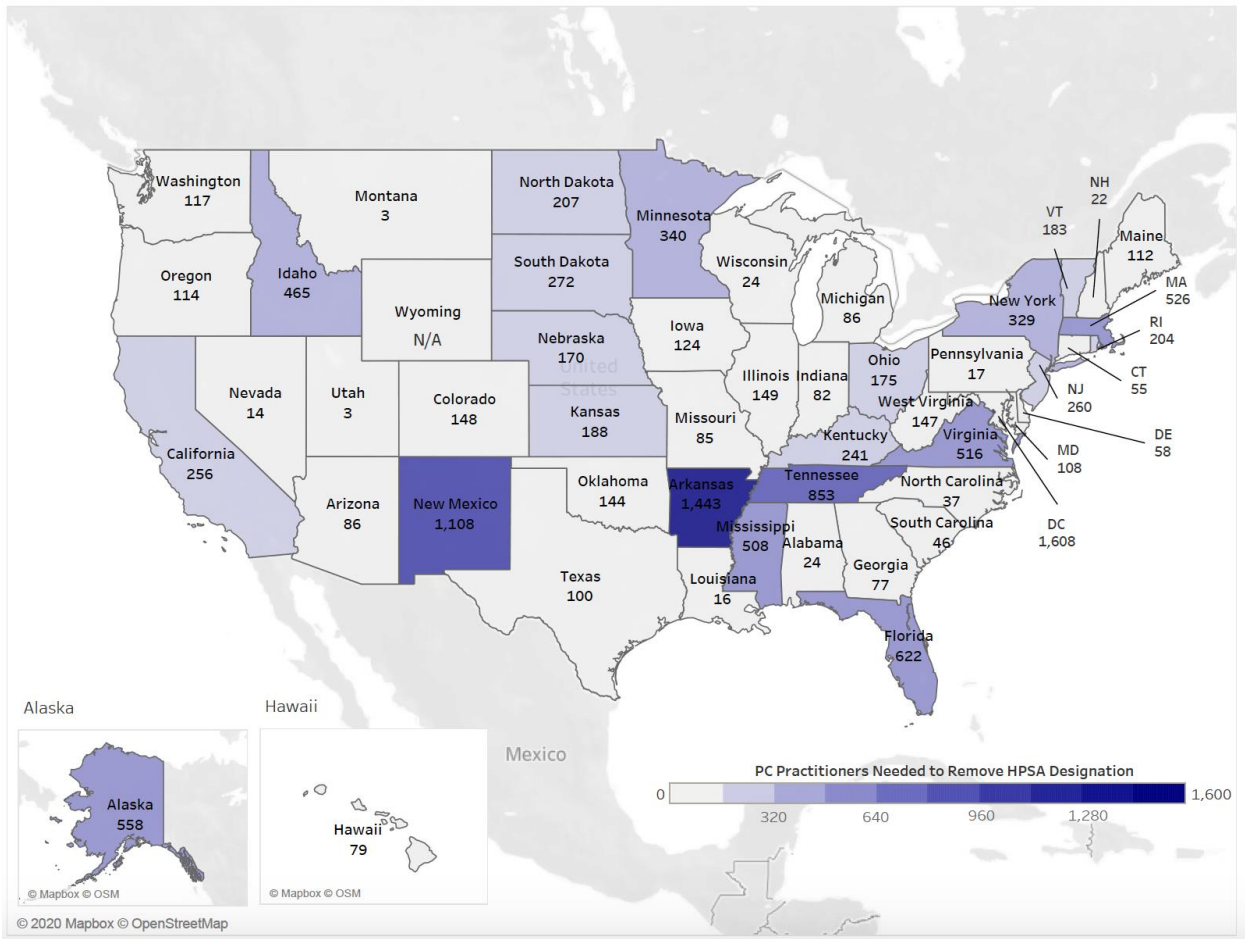
³⁵ *Id.* at 33.

³⁶ *Id.* at 32.

³⁷ *Id.* at 33.

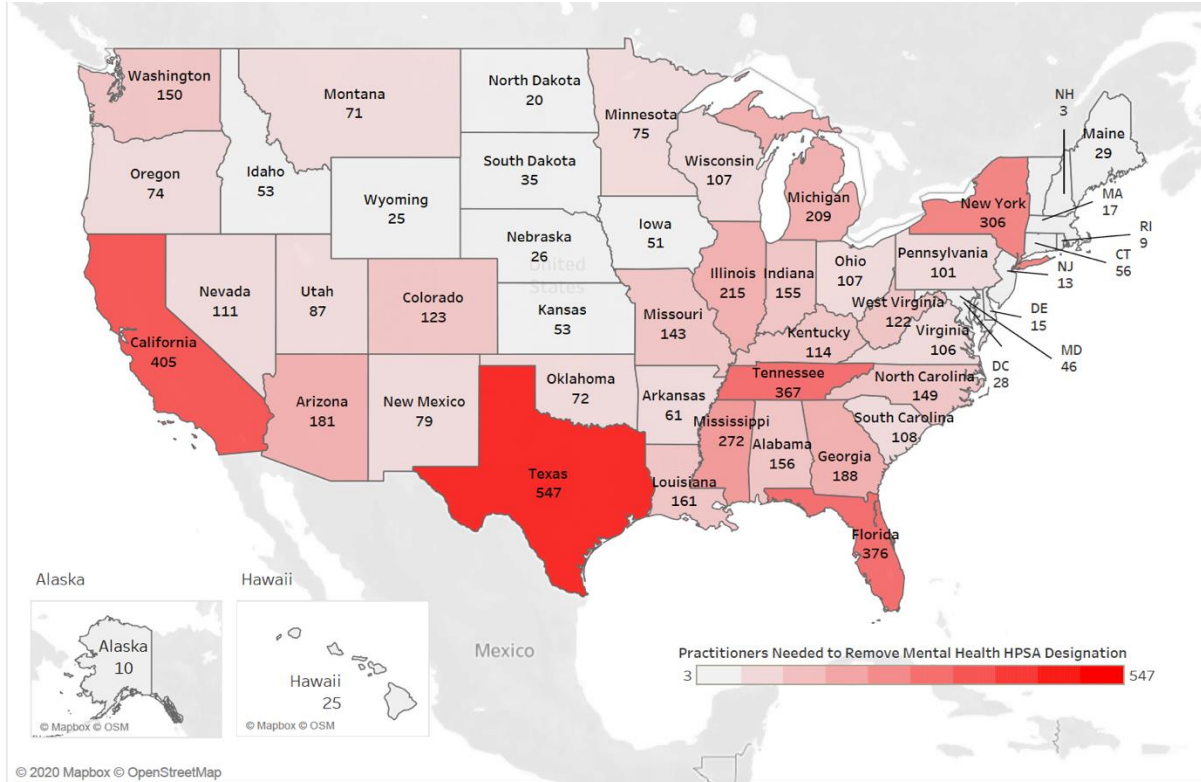
³⁸ *Id.* at 17.

Figure 2. Practitioners Needed to Remove Primary Care HPSA Designation, 2019



Source: Kaiser Family Foundation Primary Care Health Professional Shortage Areas (HPSAs) 2019 datafile.

Figure 3. Practitioners Needed to Remove Mental Health HPSA Designation, 2019



Source: Kaiser Family Foundation Mental Health Care Health Professional Shortage Areas (HPSAs) 2019 datafile;
 Note: Data for Vermont were not available.

Population Demographics

Geographically, almost 97 percent of America is considered rural; yet a disproportionately small number of Americans – 20 percent – live in these communities (see Figure 4 below).^{39, 40} Within this context, rural residents also tend to have fewer health care visits, are less likely to receive recommended preventive services, and are more susceptible to engaging in risky health-related behaviors (e.g., physical inactivity and unhealthy diets) than urban residents.⁴¹ Rural racial and ethnic minority populations can be particularly disadvantaged, with differences observed in infant, child, and maternal health, as well as cancer screening,

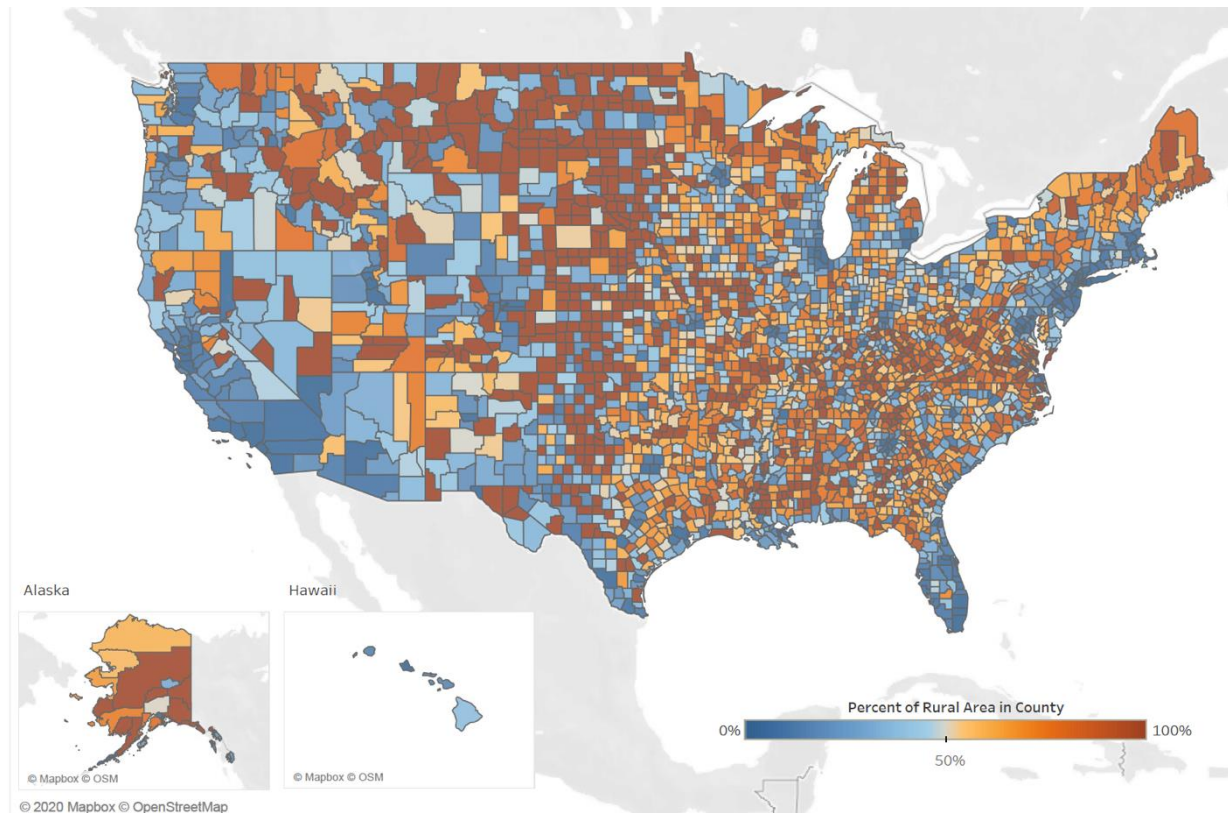
³⁹ Frequently Asked Questions: Rural-Urban Disparities in Health Care in Medicare. Centers for Medicare and Medicaid Services, (n.d.). Available at: <https://www.cms.gov/About-CMS/Agency-Information/OMH/Downloads/FAQs-Rural-Urban-Disparities-in-Health-Care-in-Medicare-Report.pdf>

⁴⁰ One in Five Americans Live in Rural Areas, (2017; updated 2019). U.S. Census Bureau. Available at: <https://www.census.gov/library/stories/2017/08/rural-america.html>

⁴¹ Serving Rural America: How Health Insurance Providers Break Down Barriers to Ensure Access to Care. America’s Health Insurance Plans, (2019). Available at: <https://www.ahip.org/serving-rural-america-how-health-insurance-providers-break-down-barriers-to-ensure-access-to-care/>

management of cardiovascular disease and diabetes, and mental health.^{42, 43} Still, Americans with the lowest incomes who also live in rural areas are still more likely than urban dwellers to find a physician who will accept new patients, including those with Medicaid.⁴⁴

Figure 4. Rurality by County in United States, 2019



Source: Federal Communications Commission 2019 Fixed Broadband Deployment datafile.
Notes: Rurality is defined by decennial census population at the county-level.

Population changes. Since 2000, rural areas have grown much more slowly than urban areas, a trend projected to continue through 2030.⁴⁵ For example, between 2000 and 2010, rural populations increased three percent while urban areas increased by 11 percent.⁴⁶ Between 2020 and 2030, rural populations are projected to increase by only one percent, compared with eight percent in urban areas; thus, the majority of population growth in the country will come from

⁴²*Id.* at 2.

⁴³ Bernhard MJ, et al., “Identifying environmental health priorities in underserved populations: a study of rural versus urban communities,” *Public Health* (November 2013). Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0033350613002667?via%3Dihub>

⁴⁴ “Access in Brief: Rural and Urban Health Care,” Medicaid and Chip Payment Advisory Commission (MACPAC), October 2018. Available at: <https://www.macpac.gov/wp-content/uploads/2018/10/Rural-Access-In-Brief.pdf>

⁴⁵ Pendall, Rolf et al., *The Future of Rural Housing*. *Urban Institute*, (2016). Available at: <https://www.urban.org/research/publication/future-rural-housing>

⁴⁶ Growth in Urban Population Outpaces Rest of Nation, Census Bureau Reports. *United States Census Bureau*, (2012). Available at: https://www.census.gov/newsroom/releases/archives/2010_census/cb12-50.html

urban areas.⁴⁷ In addition, rural America is aging faster than urban America: By 2040, 25 percent of rural heads of household are projected to be age 65 or older, compared with only 20 percent of their urban counterparts.⁴⁸

As such, by 2050, over 75 percent of the country is projected to live in urban communities.⁴⁹ However, higher population density does not necessarily translate into greater availability of health care resources – rather, it increases need and demand for health care services, stressing the supply of health care resources. In many urban areas, social exclusion, population turnover, and the persistence of poverty also contribute to unsafe environments, including high rates of physical violence.⁵⁰ Many urban neighborhoods are segregated with certain areas having high concentrations of diverse and lower income residents and less access to grocery stores, health facilities, and green spaces.⁵¹

Racial and ethnic demographic changes. Urban communities are on the forefront of racial and ethnic demographic changes, as 56 percent of urban residents are non-White, whereas suburban and rural areas remain majority White, with 68 and 79 percent White residents, respectively.⁵² Rural America is becoming increasingly racially diverse – but that change is relative, as rural households are on pace to become as racially diverse by 2030 as the entire nation was in 1990.⁵³

Primary languages. Communication and language barriers are yet another key challenge in delivering health care in both rural and urban underserved communities. These barriers are associated with patients having poorer care and clinical outcomes and longer hospital stays with high readmission rates and increased rates of medical errors.⁵⁴ More than 20 percent of Americans speak a non-English language at home and more than 10 percent have limited English proficiency – and these rates have been increasing.⁵⁵ Medicare beneficiaries residing in urban areas are four times more likely to have limited English proficiency than their rural counterparts.⁵⁶

⁴⁷ *Id.*

⁴⁸ *Id.* at 46.

⁴⁹ World Urban Prospects, The 2018 Revision, *Department of Economic and Social Affairs, United Nations*. Available at: <https://population.un.org/wup/Publications/Files/WUP2018-Report.pdf>

⁵⁰ Salgado de Snyder VN, et al., “Social Conditions and Urban Health Inequities: Realities, Challenges and Opportunities to Transform the Urban Landscape through Research and Action,” 88, *J of Urban Health* (August 2011). Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3232417/>

⁵¹ Gabriel, AC, et al. “The Association Between Perceived Racial Discrimination and Hypertension in a Low-Income, Racially Integrated Urban Community,” 43(2), *Family & Community Health*, (April/June 2020).

⁵² Parker A, et al., “What Unites and Divides Urban, Suburban and Rural Communities,” Pew Research Center (2018). <https://www.pewsocialtrends.org/2018/05/22/what-unites-and-divides-urban-suburban-and-rural-communities/>

⁵³ *Id.* at 46.

⁵⁴ *Id.*

⁵⁵ New American Community Survey Statistics Income, Poverty and Health Insurance Available for States and Local Areas. *United States Census Bureau*, (2017). Available at: <https://www.census.gov/newsroom/press-releases/2017/acs-single-year.html?CID=CBSM+ACS16>

⁵⁶ Understanding Communication and Language Needs of Medicare Beneficiaries. *Centers for Medicare and Medicaid Services*, (2017). Available at: <https://www.cms.gov/About-CMS/Agency-Information/OMH/Downloads/Issue-Briefs-Understanding-Communication-and-Language-Needs-of-Medicare-Beneficiaries.pdf>

Half of all states have experienced a 100 to 300 percent growth in the number of English language learners over the past decade, many of whom have moved beyond urban centers.⁵⁷ In 2000, the federal government published culturally and linguistically appropriate services (CLAS) standards for the nation, which are intended to serve as guidance for organizations providing health care to linguistically diverse communities, but the federal government does not fund implementation, and success has been limited without enforcement mechanisms.⁵⁸ Interpreter services are often underutilized across the country, and there is often no standardization of training of interpreters.⁵⁹

Health Status/Outcomes

Life expectancy metrics can vary drastically by geography but are useful in examining how environmental, political, socioeconomic, and structural conditions impact health.⁶⁰ In the context of decreasing American life expectancy from 2015-2017, the urban-rural gap continues

From 1969 to 2009, urban dwellers experienced greater improvements in life expectancy than rural residents, and by 2009, rural Blacks and low-income rural residents finally achieved life expectancy that had been achieved by urban Whites 40 years earlier in the 1970s.

to widen. From 1969 to 2009, urban dwellers experienced greater improvements in life expectancy than rural residents, and by 2009, rural Blacks and low-income rural residents finally achieved life expectancy that had been achieved by urban Whites 40 years earlier in the 1970s.⁶¹ One study determined the life expectancy for Black Americans was five years shorter in metropolitan areas and 4.4 years shorter in nonmetropolitan areas, compared to White Americans residing in those respective

communities.⁶² Across racial groups, many of these differences can be attributed to organ system diseases, a record number of drug overdoses, alcohol misuse, and suicide, among other factors.⁶³ One study linking life expectancy to racialized policies, such as “Obamacare” and efforts to defund public schools, found that White Tennesseans lost 14.1 days of life for the state’s failure to expand Medicaid, and that the changes to Kansas public schools translated into at least 6,195

⁵⁷ Freeman Field, Rebecca. Keeping Pace in Suburbia and Rural America. *The School Superintendents Association*, (n.d.). Available at: <https://www.aasa.org/schooladministratorarticle.aspx?id=4142>

⁵⁸ National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health and Health Care. *United States Department of Health and Human Service*, (n.d.). Available at: <https://thinkculturalhealth.hhs.gov/assets/pdfs/EnhancedNationalCLASStandards.pdf>

⁵⁹ Baker DW, Parker RM, Williams MV, Coates WC, Pitkin K. Use and effectiveness of interpreters in an emergency department. *JAMA* 1996; 275:783-8. Available at: <https://jamanetwork.com/journals/jama/article-abstract/398141>

⁶⁰ Melix BL, et al. “Florida neighborhood analysis of social determinants and their relationship to life expectancy,” *BMC Public Health*, (2020).

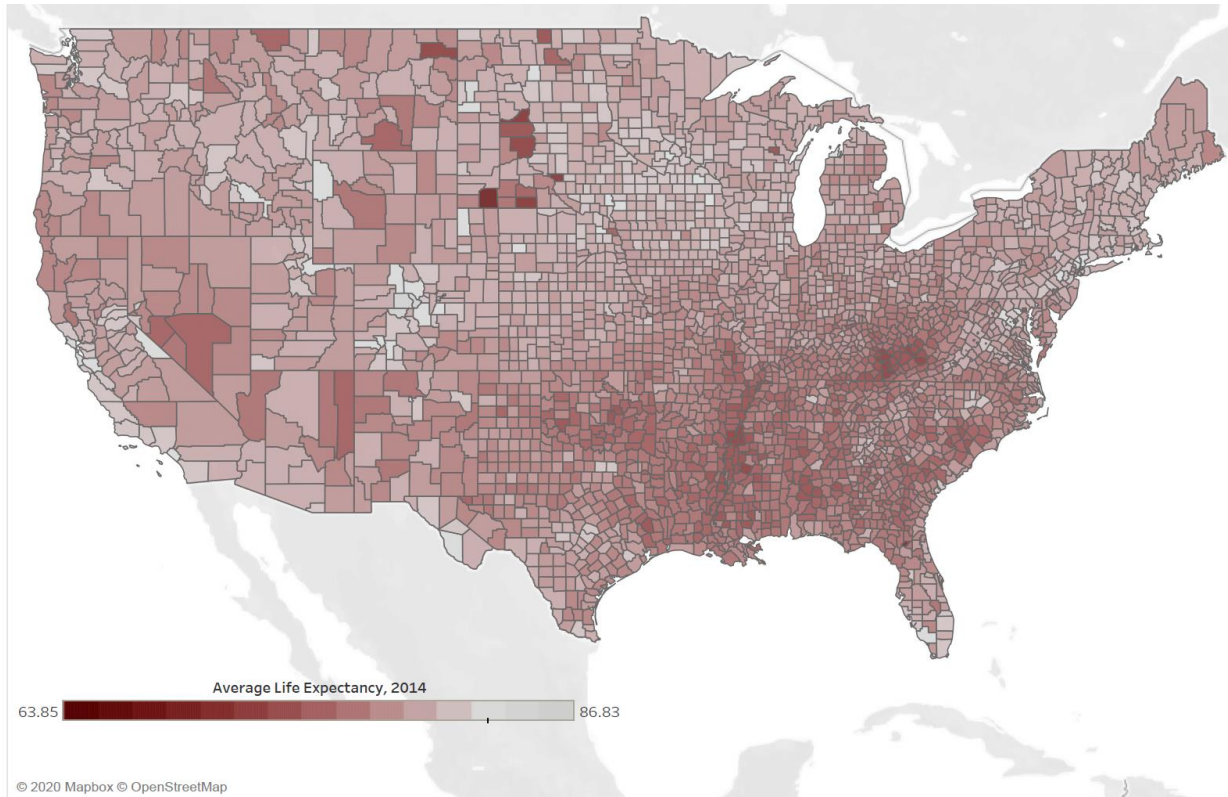
⁶¹ Singh GK and Shiahpush M. “Widening Rural-Urban Disparities in Life Expectancy, U.S., 1969-2009,” *Am J Prev Med*, 45:2, 2014. Available at: [https://www.ajpmonline.org/article/S0749-3797\(13\)00590-4/pdf](https://www.ajpmonline.org/article/S0749-3797(13)00590-4/pdf)

⁶² *Id.*

⁶³ Woolf, Stephen H. and Heidi Schoemaker. Life Expectancy and Mortality Rates in the United States, 1959-2017. *JAMA Network*, (2019). Available at: <https://jamanetwork.com/journals/jama/article-abstract/2756187>

years of lost life among White residents.⁶⁴ Figure 5 shows variations in life expectancies across counties in 2014.

Figure 5. Estimated Life Expectancy at Birth (Years) by County, 2014



Source: County-level estimates retrieved from the National Center for Health Statistics National Vital Statistics System (NVSS) 2014 datafile.

Burden of physical disease. Rural and urban underserved populations experience increased burden of disease and inequitable life expectancy and are more likely to die from heart disease, cancer, unintentional injury, chronic lower respiratory disease, and stroke than individuals living in areas with greater access to health resources.⁶⁵ Cardiovascular disease and cancer remain the top causes of death for all Americans, but inequities continue to persist in rural and underserved urban communities for incidence, prevalence, and outcomes for these diseases.^{66, 67, 68, 69} For example, rural residents have lower rates of new cancer diagnoses but are more

⁶⁴ Metzler, JM. *Dying of Whiteness: How the Politics of Racial Resentment is Killing America's Heartland*, Basic Books, (2019).

⁶⁵ *Id.* at 41.

⁶⁶ Heart Disease Facts. *Centers for Disease Control and Prevention*, (n.d.). Available at: <https://www.cdc.gov/heartdisease/facts.htm>

⁶⁷ Deaths and Mortality. *Centers for Disease Control and Prevention*, (2017). Available at: <https://www.cdc.gov/nchs/fastats/deaths.htm>

⁶⁸ Preventing and Treating Cancer in Rural America. *Centers for Disease Control and Prevention*, (2018). Available at: <https://www.cdc.gov/ruralhealth/cancer/policybrief.html>

⁶⁹ CDC Health Disparities and Inequalities Report – United States, 2013. *Centers for Disease Control and Prevention*, (2013). Available at: <https://www.cdc.gov/mmwr/pdf/other/su6203.pdf>

likely to have high risk factors for and die from cancer.⁷⁰ In addition, non-Hispanic Blacks are 50 percent more likely to die prematurely from cardiovascular disease than Whites.⁷¹ Some of the disproportionate disease burden is likely related to significant workforce shortages in underserved communities and the lack of access to preventive services (see *Workforce* section below).

Maternal and infant morbidity and mortality. Maternal and infant health outcomes are powerful indicators to examine health inequities in rural and underserved communities, as they often indicate overall population wellbeing. Globally, the U.S. ranks 170th (32 out of 36 among OECD countries) for infant mortality, between Gibraltar and Serbia, and 138th (33 out of 36 among OECD countries) for maternal mortality, despite top-ranked spending on health care.^{72, 73} Maternal mortality in the U.S. increased from 23 deaths per 100,000 births in 2005 to 28 deaths in 2013– and racial inequities persist, with Black and indigenous pregnant women dying at three times the rate of White women.⁷⁴ Non-Hispanic Black, American Indian/Alaska Native, Hispanic, and Asian residents of both rural and urban communities have a 33 percent higher risk of severe maternal morbidity and mortality compared to non-Hispanic White residents.⁷⁵ According to the Centers for Disease Control and Prevention (CDC), two-thirds of pregnancy-related deaths between 2008 and 2017 were preventable.⁷⁶

Globally, the U.S. ranks 170th (32 out of 36 among OECD countries) for infant mortality, between Gibraltar and Serbia, and 138th (33 out of 36 among OECD countries) for maternal mortality, despite top-ranked spending on health care.

In rural communities, fewer than 50 percent of women have access to perinatal services within a 30-minute drive from their homes.⁷⁷ Evidence suggests that elements of *de facto* segregation, systemic bias, and racism persist in health care institutions and result in lower quality care at institutions that serve a disproportionately large number of racial minority

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² The World Factbook, Country Comparison: Infant Mortality Rate. *Central Intelligence Agency*, (2017). Available at: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2091rank.html>

⁷³ Comparison with Organization for Economic Cooperation and Development Nations. *United Health Foundation*, (n.d.). Available at: <https://www.americashealthrankings.org/learn/reports/2017-annual-report/findings-comparison-with-oecd-nations>

⁷⁴ Building a Movement to Birth a More Just and Loving World. *The National Perinatal Task Force*, (2018). Available at: <https://perinataltaskforce.com/heads-up-maternal-justice-npt-2018-report-out-now/>

⁷⁵ Kozhimannil KB, *et al.*, Rural-Urban Differences in Severe Maternal Morbidity and Mortality In the US, 2007-15, *Health Affairs*, (December 2019).

⁷⁶ Pregnancy-Related Deaths: Data from 14 U.S. Maternal Mortality Review Committees, 2008-2017. *Centers for Disease Control and Prevention*, (2008-2017). Available at: <https://www.cdc.gov/reproductivehealth/maternal-mortality/erase-mm/mmr-data-brief.html>

⁷⁷ Health Disparities in Rural Women. *The American College of Obstetricians and Gynecologists*, (2014). Available at: <https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2014/02/health-disparities-in-rural-women>

patients.^{78, 79} In fact, 75 percent of Black women delivered at about one quarter of hospitals, and those hospitals tended to be of lower quality with higher rates of complications.^{80, 81} By contrast, only 18 percent of White women delivered at those hospitals.⁸²

Cognitive and behavioral health, substance use disorders, and suicide. The burden of behavioral health issues is increasing at a concerning rate. The Substance Abuse and Mental Health Services Administration (SAMHSA) reported in 2016 that one in five Americans suffered from a mental illness in the prior year.⁸³ Self-reported data from the 2017 National Survey on Drug Use and Health (NSDUH) similarly showed that 46.6 million adults over the age of 18 (18.9 percent of the U.S. population) reported they have a mental illness, and 18.7 million said they were managing a substance use disorder.⁸⁴ At some point in their lives, nearly half (46 percent) of Americans will meet the criteria for a diagnosable mental health or substance use disorder.⁸⁵

The CDC includes barriers to accessing mental health treatment in the list of risk factors for suicide, which is the second-leading cause of death in the U.S. for individuals aged 15-24.^{86, 87} According to one meta-analysis analyzing 27 separate studies, nearly 90 percent of suicides may be attributable to a mental health condition.⁸⁸ The risk of suicide increases significantly after age 65; older Americans made up almost 18 percent of suicides in 2019, and older men are

⁷⁸ Owens, DC and Fett SM. Black Maternal and Infant Health: Historical Legacies of Slavery. *American Journal of Public Health*, (2019).

⁷⁹ Howell EA and Zeitlan J. Improving Hospital Qualities to Reduce Disparities in Severe Maternal Morbidity and Mortality. *U.S. National Library of Medicine, National Institutes of Health*, (2017). Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5592149/>

⁸⁰ Pearson, Catherine, Black Women Face More Trauma During Child Birth. *On Mount Sinai from Huffington Post*, (2018). Available at: <https://www.mountsinai.org/about/newsroom/2018/black-women-face-more-trauma-during-childbirth-catherine-pearson>

⁸¹ *Id.*

⁸² *Id.*

⁸³ Ahrnsbrak, Rebecca, et al., Key Substance Use and Mental Health Indicators in the United States: Results from the 2016 National Survey on Drug Use and Health. *Substance Abuse and Mental Health Services Administration*, (2017). Available at: <https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2016/NSDUH-FFR1-2016.pdf>

⁸⁴ Wik, Amanda, Hollen, Vera and Beck, Angela. Developing Behavioral Health Workforce Equipped to Serve Individuals with Co-Occurring Mental Health and Substance Use Disorders. *National Association of State Mental Health Program Directors*, (2019). Available at: https://www.nasmhpd.org/sites/default/files/TAC_Paper_3_508C_1.pdf

⁸⁵ Alper, Joe and Wojtowicz, Alexis. The Intersection of Behavioral Health, Mental Health, and Health Literacy. *National Academies of Sciences, Engineering, and Medicine*, (2019). Available at: <http://www.nationalacademies.org/hmd/Reports/2019/the-intersection-of-behavioral-health-mental-health-and-health-literacy.aspx>

⁸⁶ Risks and Protective Factors. *Centers for Disease Control and Prevention*, (n.d.). Available at: <https://www.cdc.gov/violenceprevention/suicide/riskprotectivefactors.html>

⁸⁷ *Id.* at 85.

⁸⁸ Arsenault-Lapierre, Genevieve, Kim, Caroline, and Turecki, Gustavo. Psychiatric diagnoses in 3275 suicides: a meta-analysis. *From BMC Psychiatry on National Center for Biotechnology Information*, (2004). Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC534107/>

nearly eight times more likely to die of suicide than older women.^{89, 90} Urban underserved communities further suffer from increased rates of firearm violence and homicide – on the rise for the first time in years – while White males and individuals in rural areas are suffering from alarmingly increasing rates of firearm-related suicide.⁹¹

Both rural and urban underserved populations suffer disproportionately from substance use disorders, which includes misuse of alcohol, tobacco, opioid dependence, and other illicit drugs. Since 1999, both populations have experienced increased rates of overdose deaths.⁹² Figure 6 shows the increasing rates of drug overdose deaths across the country from 2009 to 2017. Overdose deaths increased by 83 percent between 2009 to 2017 and increased 14 percent between 2013 and 2017.^{93, 94} Men dwelling in urban areas had higher overdose death rates than women, while rural women had higher overdose death rates than men.⁹⁵

⁸⁹ Kaplan, M.S. et. al. *Factors Associated with Suicide by Firearm Among U.S. Older Adult Men*, *Psychology of Men & Masculinity*, (2012). Available at: <https://psycnet.apa.org/buy/2011-05870-001>

⁹⁰ Axelrod, Josh, Balaban, Samantha, and Simon, Scott. *Isolated and Struggling, Many Seniors Are Turning to Suicide*. *National Public Radio*, (2019). Available at: <https://www.npr.org/2019/07/27/745017374/isolated-and-struggling-many-seniors-are-turning-to-suicide>

⁹¹ Kegler, R. Scott, Dahlberg, L. Linda, and Mercy, A. James. *Firearm Homicides and Suicides in Major Metropolitan Areas – United States, 2012-2013 and 2015-2016*. *Centers for Disease Control and Prevention*, (2018). Available at: <https://www.cdc.gov/mmwr/volumes/67/wr/mm6744a3.htm>; see also *Id.* at 64.

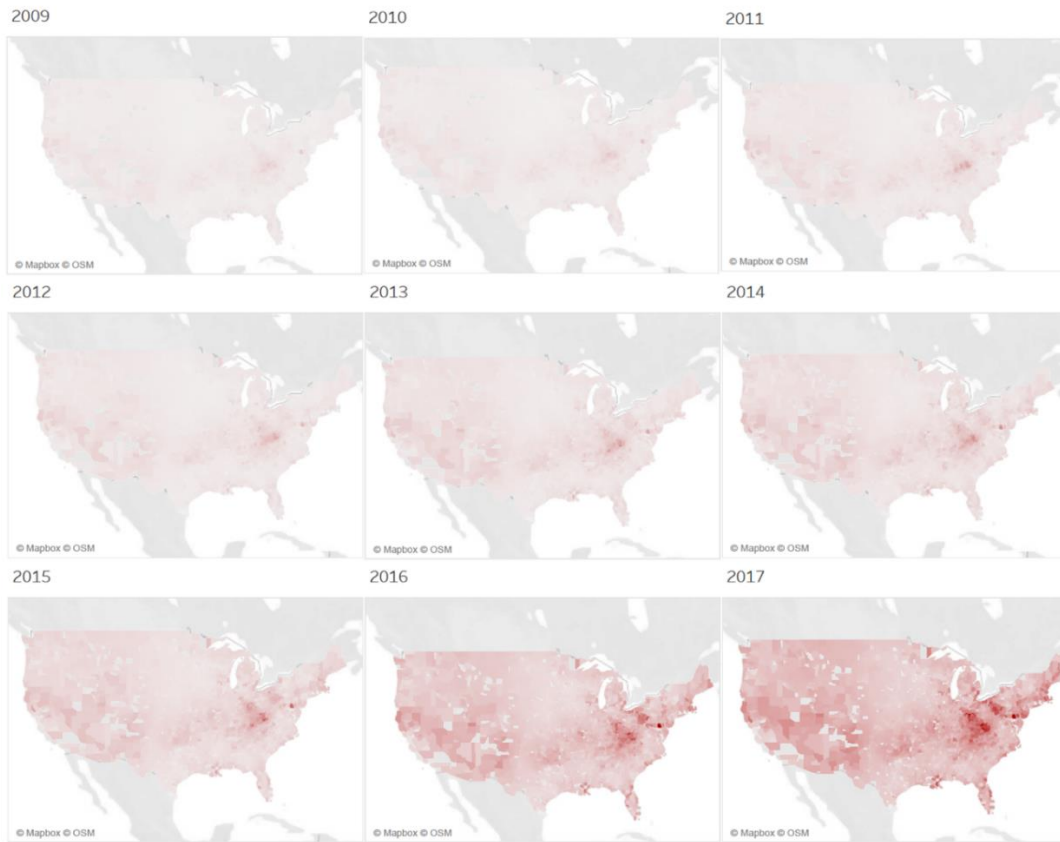
⁹² Hedegaard, Holly, Miniño, M. Arialdi, and Warner, Maragaret. *Urban-rural Differences in Drug Overdose Death Rates, by Sex, Age, and Types of Drugs Involved, 2017*. *Centers for Disease Control and Prevention*, (2019). Available at: <https://www.cdc.gov/nchs/products/databriefs/db345.htm>

⁹³ *Overdose Death Rates*. *National Institute on Drug Abuse*, (2020). Available at: <https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>

⁹⁴ *Id.* at 92.

⁹⁵ *Id.* at 92.

Figure 6. Drug Mortality Rate, 2009 – 2017



Source: Center for Disease Control and Prevention Drug Poisoning Mortality: United States, 1999-2018 datafile.

The Social and Structural Determinants of Health

The most upstream non-medical drivers of health outcomes are structural in nature. These structural drivers represent the difference in the accessibility of goods, services, and opportunities by race (structural racism), gender (structural sexism), class (classism), and most often present as inaction in the face of need.^{96, 97}

Structural non-medical factors are arguably most important in driving health outcomes because they influence all other drivers at every and highlight the importance of distribution of resources to protect communities from all forms of harm that contribute to poor health.⁹⁸ These factors most meaningfully drive outcomes like life expectancy at birth (see Figure 5 above.)

⁹⁶ P. Farmer, et al., “Structural Violence and Clinical Medicine,” *Public Library of Science*, (2006). Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1621099/>

⁹⁷ Jones CP. Levels of Racism: A Theoretic Framework and a Gardener’s Tale. *American Journal of Public Health*. 2000; 90 (8): 1212-1215. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1446334/pdf/10936998.pdf>

⁹⁸ 2016 Country Health Rankings Key Findings Report. *University of Wisconsin and Robert Wood Johnson Foundation*, (2016). Available at: <http://www.countyhealthrankings.org/reports/key-findings-2016>

The non-medical social conditions in which people are born, live, work, worship, and age – often called “social determinants of health” (SDH) – are also fundamental to good health.⁹⁹ SDH include access to reliable income, stable housing, food security, high-quality education from an early age, stable employment, absence of physical violence, and others. Health behaviors, such as substance use, diet and exercise, and sexual health practices, continue to influence health outcomes and are modifiable at a structural policy level. Perhaps the most powerful example of policy influencing health behaviors is federal regulation of the tobacco industry and its resultant impact in decreasing rates of smoking, cancer, and lung disease. Smoking rates among Americans are 2.3 times lower today than when a 1964 Surgeon General report linked smoking to disease. One study estimated that this decline has prevented eight million deaths.^{100, 101}

Food deserts – areas with limited access to healthy food – are another example of how policies can significantly influence behavior, because these communities do not have the option to follow a healthy diet.¹⁰² Supermarket availability is a proxy for food stability, yet a recent study found that low-income Census tracts had half as many supermarkets as wealthier tracts.¹⁰³ Less access to food due to distance or affordability, is a key contributing factor to the higher burden of chronic disease in affected areas. These and other current and historical examples demonstrate the importance of policy influencing health behaviors.

Social and structural factors work in concert with geography to further influence health.¹⁰⁴ Research analyzing root causes for the nation’s poor maternal health outcomes, COVID-19 inequities, and declining life expectancy – particularly in underserved communities – has brought the impact of economic and geography inequality into focus. The COVID-19 pandemic has shown the degree to which extreme concentrations of residents from the same socioeconomic, racial, or ethnic groups influence the ability of the health care system to care for these individuals.¹⁰⁵ The relationship between these realities is not new, however.

In 1906, a time of widespread structural racial discrimination, W.E.B. DuBois made the link between societal conditions and differences in health outcomes between White and Black Americans in northern and southern states.¹⁰⁶ The alarming disparities seen today among residents of rural and underserved areas reflect the longstanding historical pattern of

⁹⁹ Social Determinants of Health. *World Health Organization*, (2010). Available at: https://www.who.int/social_determinants/sdh_definition/en/

¹⁰⁰ Murthy, Vivek. The Health Consequences of Smoking – 50 Years of Progress. *U.S. Department of Health and Human Services*, (2014). Available at: <https://www.hhs.gov/sites/default/files/consequences-smoking-exec-summary.pdf>

¹⁰¹ Holdford, R. Theodore, Meza Rafael, and Warner, E. Kenneth. Tobacco Control and the Reduction in Smoking-Related Premature Deaths in the United States, 1964-2012. *JAMA Network*, (2014). Available at: <https://jamanetwork.com/journals/jama/fullarticle/1812962>

¹⁰² Treuhaft, Sarah and Karpyn, Allison. The Grocery Gap: Who Has Access to Healthy Food and Why it Matters. *The Food Trust and PolicyLink*, (n.d.). Available at: http://thefoodtrust.org/uploads/media_items/grocerygap.original.pdf

¹⁰³ *Id.*

¹⁰⁴ Janevic, Teresa, *et al.* Neighborhood Racial And Economic Polarization, Hospital Of Delivery, And Severe Maternal Morbidity. *Health Affairs*, (2020).

¹⁰⁵ *Id.*

¹⁰⁶ DuBois, WEB. *The Health and Physique of the Negro American*. Atlanta University Press, (1906).

underinvestment and disinvestment in these communities, including housing (i.e., redlining) and infrastructure for health and human services. The poor health status common to underserved areas is a manifestation of policies that have allowed structural racism to persist within communities and institutions that should operate in a manner that supports equal access to social and economic opportunities and resources.^{107, 108, 109}

Clean air and water. Perhaps one of the most important conditions that has the potential to heavily influence positive health outcomes is one's physical environment. Without a healthy

Perhaps one of the most important conditions that has the potential to heavily influence positive health outcomes is one's physical environment. Without a healthy environment, including safe air and safe water, communities are at enhanced risk of communicable diseases, chronic lung conditions, and chronic disease related to poor air quality.

environment, including safe air and safe water, communities are at enhanced risk of communicable diseases, chronic lung conditions, and chronic disease related to poor air quality.¹¹⁰ Urban residents average 10 times the number of low air quality days relative to rural residents.¹¹¹ In addition, more than eight percent of American households report their primary source of water is not safe to drink; the American Society of Civil Engineers has given the U.S. water system infrastructure a grade of "D."¹¹²

Transportation. From road maintenance and safety to ambulance accessibility, road and transportation infrastructure is also a critical determinant of health. Recent research has evaluated the current status of rural transportation infrastructure and has highlighted opportunities for change.¹¹³ The projected uptick in climate-related disasters as well as challenges in ensuring preparedness for both natural and man-made disasters, response coordination, continuity, and surge capacity are additional reasons to invest in infrastructure.^{114, 115} Without a timely response to these infrastructure concerns, health care delivery improvement efforts in rural and underserved communities will be of limited effectiveness.

¹⁰⁷ *Id.* at 104.

¹⁰⁸ Dawes, DE. *The Political Determinants of Health*. Johns Hopkins University Press, (2020).

¹⁰⁹ Kendi, IX. *How to be an Antiracist*. Random House Publishing Group, (2019).

¹¹⁰ Chen, Hong and Goldberg, S. Mark. The effects of outdoor air pollution on chronic illnesses. *From McGill Journal of Medicine on National Center for Biotechnology Information*, (2009). Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2687917/>

¹¹¹ Strosnider, Heather et al., Rural and Urban Differences in Air Quality, 2008 – 2012, and Community Drinking Water Quality, 2010 -2015, United States. *Centers for Disease Control and Prevention*, (2017). Available at: <https://www.cdc.gov/mmwr/volumes/66/ss/ss6613a1.htm>

¹¹² Martin, Carlos, Plerhoples Stacy, Christina, and Oo, Elizabeth. Detroit, Toledo, and other drops in the ocean of America's future water woes. *Urban Institute*, (2014). Available at: <https://www.urban.org/urban-wire/detroit-toledo-and-other-drops-ocean-americas-future-water-woes>

¹¹³ Henning-Smith, Carrie et al., Rural Transportation: Challenges and Opportunities. *University of Minnesota Rural Health Research Center*, (2017). Available at: http://rhrc.umn.edu/wp-content/files_mf/1518734252UMRHRCtransportationChallenges.pdf

¹¹⁴ Leaning, J. and Guha-Sapir, D. (2013). Natural Disasters, Armed Conflict, and Public Health. *New England Journal of Medicine*, 369(19), pp.1836-1842. Available at: <https://www.nejm.org/doi/full/10.1056/nejmra1109877>

¹¹⁵ 2017-2022 Health Care Preparedness and Response Capabilities. *Assistant Secretary for Preparedness and Response*, (2016). Available at: <https://www.phe.gov/Preparedness/planning/hpp/reports/Documents/2017-2022-healthcare-pr-capabilities.pdf>

Broadband. Expansion of access to health care, social, and other related services through technology depends on the availability of affordable broadband internet. About 39 percent of the population in rural areas and about 10 percent of the total U.S. population lack access to broadband; see Figure 7 below and Table 1 in Appendix D for information on select states.¹¹⁶

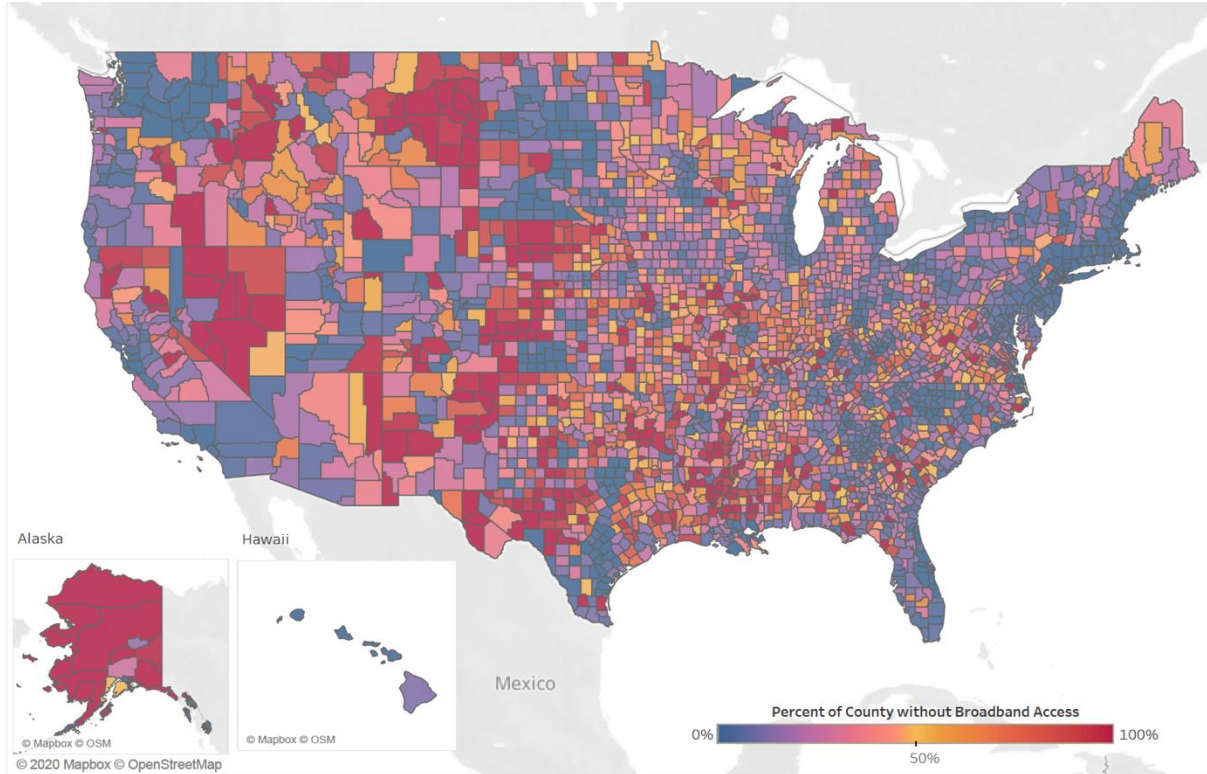
According to a 2017 Joint Economic Committee report, nearly 12 million children live in homes without a broadband connection, and White residents are more likely to have broadband in their homes than people of color.¹¹⁷ Telecommunication companies are often hesitant to invest in installing the infrastructure necessary for broadband access in rural, older, and lower income communities where residents may be less likely to subscribe to broadband services, resulting in a structural bias against those communities.¹¹⁸ Access to broadband overlaid with mental health professional shortages again demonstrates a systematic pattern of disinvestment, both historic and current (see Figure 17 in Appendix D). As the figure shows, many of the areas without access to mental health professionals are also the areas without access to broadband. This suggests that using telehealth to address such provider shortages may not be a feasible solution for many of these communities.

¹¹⁶ West DM and Karsten J. *Rural and urban America divided by broadband access*. The Brookings Institute (2016). Available at: <https://www.brookings.edu/blog/techtank/2016/07/18/rural-and-urban-america-divided-by-broadband-access/>

¹¹⁷ Heinrich, M. *America's Digital Divide*. U.S. Congress Joint Economic Committee, (2017). Available at: https://www.jec.senate.gov/public/_cache/files/ff7b3d0b-bc00-4498-9f9d-3e56ef95088f/the-digital-divide-.pdf

¹¹⁸ *Id.*

Figure 7. Percent of County without Broadband Access in America, 2019



Source: Federal Communications Commission 2019 Fixed Broadband Deployment datafile.

Health Insurance Coverage

Health insurance coverage drives health care access for most Americans, including residents of rural and underserved communities. According to the Census Bureau’s September 2019 report, there were approximately 27.5 million uninsured Americans (8.5 percent of the population) as of 2018, which increased from 25.6 million uninsured people in 2017.¹¹⁹ This was the first time the number of uninsured people increased in a decade.¹²⁰ Experts suggest job losses stemming from the COVID-19 pandemic will add anywhere from 1 to 11 million Americans to this tally.¹²¹ Since the passage of the Affordable Care

In small towns and rural America between 2008 to 2016, the uninsured rate dropped sharply from 35 percent to 16 percent in Medicaid expansion states compared to a decline from 38 percent to 32 percent in non-expansion states.

¹¹⁹ Berchick, R. Edward, Barnett, C. Jessica, and Upton, D. Rachel. Health Insurance Coverage in the United States: 2018. *United States Census Bureau*, (2019). Available at:

<https://www.census.gov/library/publications/2019/demo/p60-267.html>

¹²⁰ Armour, Stephanie. Number of Uninsured Americans Rises for First Time in Decade. *The Wall Street Journal*, (2019). Available at: <https://www.wsj.com/articles/number-of-americans-without-insurance-shows-first-increase-since2008-11568128381>

¹²¹ HMA Estimates of COVID Impact on Coverage. *Health Management Associates*, <https://www.healthmanagement.com/wp-content/uploads/HMA-Estimates-of-COVID-Impact-on-Coverage-public-version-for-April-3-830-CT.pdf>.

Act (ACA), 37 states, including Washington D.C., have expanded Medicaid and 14 states have not.¹²² Between 2017 and 2018, the percentage of people covered by Medicaid decreased to 17.9 percent of the population, while the rate of Medicare coverage increased to 17.8 percent of the population.^{123, 124}

In small towns and rural America between 2008 to 2016, the uninsured rate dropped sharply from 35 percent to 16 percent in Medicaid expansion states compared to a decline from 38 percent to 32 percent in non-expansion states.¹²⁵ The rates of commercial insurance coverage in rural America are lower than in urban areas, and rural America has a larger proportion of people eligible for Medicaid.¹²⁶ Special populations who have pressing health care access needs and who are marginalized in current insurance schemes include incarcerated individuals, unhoused individuals, undocumented immigrants, and others.^{127, 128} The link between employment and health insurance has been shown to be particularly problematic in the context of unemployment resulting from the COVID-19 pandemic. To address the health concerns of rural and underserved communities, insurance coverage must be a priority.

Access to Health Care

Many systemic challenges exist for access to health care and related services in rural and urban underserved communities because access implicates coverage, the adequacy of the workforce, and the determinants of health. Hospital closures are a salient concern of all stakeholders involved in care of rural and underserved communities (see Figure 8 below). For example, the rural South has lost over 3500 hospital beds since 2005.¹²⁹ Several factors drive hospital closures and limited access to care in underserved communities, including the low volume of patients, the high rate of uninsured patients combined with lower rates of commercial payers, challenges attracting health providers, and fixed costs of delivering care in resource-strapped settings. Furthermore, in 2019, half of bankruptcies of rural hospitals were run or managed by Perez Empower companies, which were tied to a \$1.4 billion fraudulent lab-billing scheme.¹³⁰

¹²² Status of State Medicaid Expansion Decisions: Interactive Map. *Kaiser Family Foundation*, (2020). Available at: <https://www.kff.org/medicaid/issue-brief/status-of-state-medicaid-expansion-decisions-interactive-map/>

¹²³ *Id.* at 119.

¹²⁴ Keith, Katie. Uninsured Rate Rose In 2018, Says Census Bureau Report. *Health Affairs*, (2019). Available at: <https://www.healthaffairs.org/doi/10.1377/hblog20190911.805983/full/>

¹²⁵ Hoadley, Jack, Alker, Joan, and Holmes, Mark. Health Insurance Coverage in Small Towns and Rural America: The Role of Medicaid Expansion. *Georgetown University Health Policy Institute*, (2018). Available at: <https://ccf.georgetown.edu/2018/09/25/health-insurance-coverage-in-small-towns-and-rural-america-the-role-of-medicaid-expansion/>

¹²⁶ *Id.*

¹²⁷ Gates, Alexandra, Artiga, Samantha, and Rudowitz, Robin. Health Coverage and Care for the Adult Criminal Justice-Involved Population. *Kaiser Family Foundation*, (2014). Available at: <https://www.kff.org/uninsured/issue-brief/health-coverage-and-care-for-the-adult-criminal-justice-involved-population/>

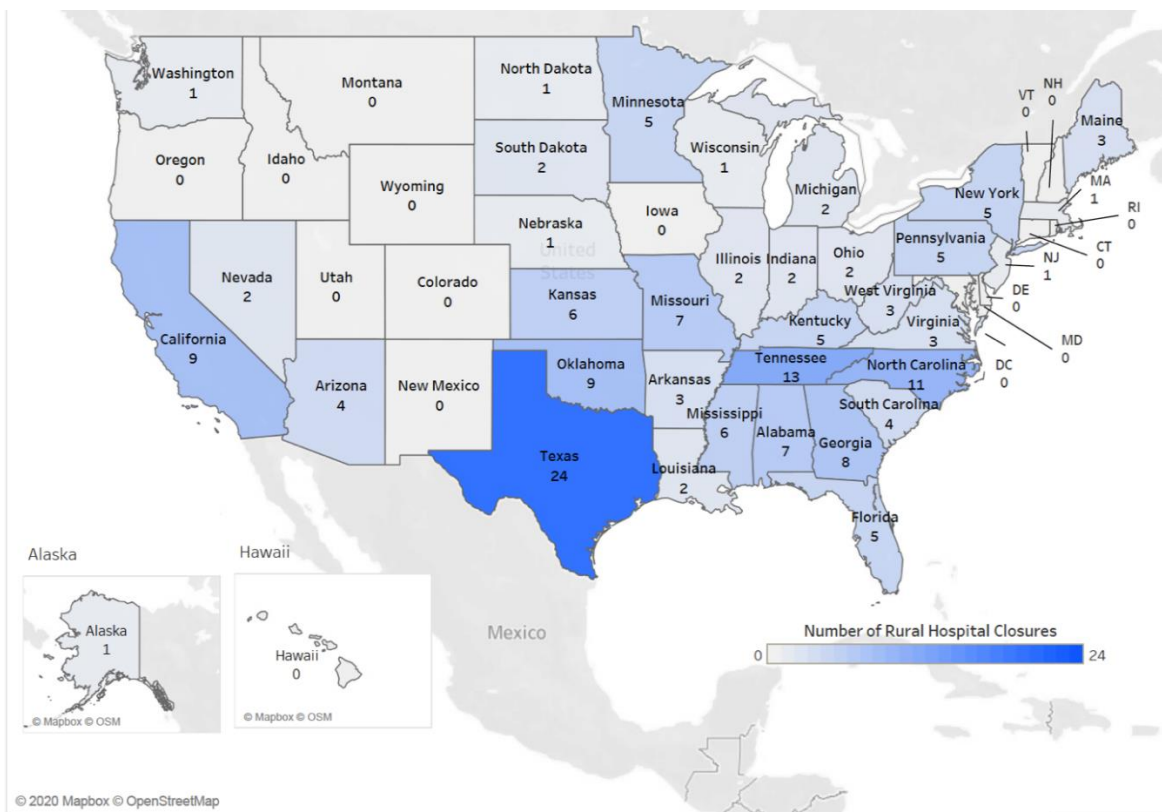
¹²⁸ Health Coverage of Immigrants. *Kaiser Family Foundation*, (2020). Available at: <https://www.kff.org/disparities-policy/fact-sheet/health-coverage-of-immigrants/>

¹²⁹ Paschal, Olivia. COVID-19 exposes the precarious state of rural health care in the south. *Kaiser Family Foundation*, (2020). Available at: <https://www.facingsouth.org/2020/03/covid-19-exposes-precarious-state-rural-health-care-south>

¹³⁰ Weber, L., and Ostrov, B.F. Hospital executive charged in \$1.4B rural hospital billing scheme. *Kaiser Health News*, (2020). Available at: <https://khn.org/news/hospital-executive-charged-in-1-4b-rural-hospital-billing-scheme/>

Closures of rural and urban hospitals providing obstetric services and obstetric wards are particularly concerning, given the poor infant and maternal health outcomes associated with underserved communities, which are worse for racial and ethnic minority residents.^{131, 132} In underserved settings, obstetric closures are often due to low payer mix and a lack of prioritization of policies and resources that meet the needs of the underserved residents in the community where the hospital is located.^{133, 134} Considering the urgent inequities in the maternal mortality crisis as cited above, as well as recent data from the Government Accountability Office (GAO) highlighting concerning maternal mortality trends, obstetric service line reductions and eliminations must be a focal point of future interventions in underserved communities.¹³⁵

Figure 8. Rural Hospital Closures, 2005-2020



Source: University of North Carolina Cecil G. Sheps Center for Health Services Research 2005-2020 Rural Hospital Closure datafile; sourced in February 2020.

Note: Hospital Closures are correlated with the number of hospitals in a given region.

¹³¹ Lorch SA, Martin AE, Ranade R, Srinivas SK, Grande D. Lessons for providers and hospitals from Philadelphia’s obstetric services closures and consolidations, 1997–2012. *Health Affairs*. 2014 Dec 1;33(12):2162-9. Available at: <https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2014.0136>

¹³² No Where to Go: Maternity Care Deserts Across the U.S. *The March of Dimes*, (n.d.). Available at: https://www.marchofdimes.org/materials/Nowhere_to_Go_Final.pdf

¹³³ Itkowitz, Colby. Closure of two D.C. maternity wards hurts low-income women the most. *The Washington Post*, (2017). Available at: https://www.washingtonpost.com/local/closure-of-two-dc-maternity-wards-hurts-low-income-women-most/2017/10/28/753e4dee-ad06-11e7-9e58-e6288544af98_story.html

Medicare provides enhanced payments to certain providers based on various factors to compensate for both low patient volume and limited access to providers. For example, sole community hospitals and Critical Access Hospitals (CAHs) receive enhanced payments based on distance from other similar hospitals, while home health rural payments are based on population density and rates of utilization.^{136, 137} Medicare dependent hospitals (MDH) receive additional payments when 60 percent of the hospital's inpatient days or discharges are attributable to individuals receiving Medicare benefits.¹³⁸ Rural health clinics and critical access hospitals also receive additional payments because of their critical services and limitations described previously, but they are still closing at alarming rates.¹³⁹ Lastly, dialysis units receive additional payments when located more than five miles from other units, and rural dialysis units receive a blanket additional payment as well.¹⁴⁰

Despite programs to address structural payment and cost concerns, in rural settings, patient volume limitations can still lead to lower revenue, and in urban settings, incentives orient expansion of services to wealthier communities. For example, payment may be misaligned for rural and urban emergency room settings in a way that favors payment for urban emergency rooms.¹⁴¹ Systemic challenges for urban communities include industry incentives to tailor and expand care into communities with higher rates of commercial insurance and disincentives to take on patients with higher levels of social complexity.¹⁴²

Workforce

Shortages. One of the largest barriers to health care delivery in underserved rural and urban communities is the widespread shortage of providers. The necessary components of an effective health workforce include: availability, accessibility, acceptability, service utilization, and quality.¹⁴³ When the workforce is inadequate, as is the case in most rural and underserved

¹³⁴ *Id.* at 131.

¹³⁵ Maternal Mortality: Trends in Pregnancy-Related Deaths and Federal Efforts to Reduce Them. *U.S. Government Accountability Office*, (2020). Available at: <https://www.gao.gov/products/GAO-20-248>

¹³⁶ Hospital Acute Inpatient Services Payment System. *Medicare Payment Advisory Commission*, (2019). Available at: http://medpac.gov/docs/default-source/paymentbasics/medpac_payment_basics_19_hospital_final_v2_sec.pdf?sfvrsn=0

¹³⁷ Medicare Payment Policy. *Medicare Payment Advisory Commission*, (2019). Available at: http://www.medpac.gov/docs/default-source/reports/mar19_medpac_entirereport_sec.pdf

¹³⁸ Medicare Dependent Hospital. *Celerian Group Company*, (n.d.). Available at: https://www.cgsmedicare.com/parta/audit/sch_mdh/mdh_regs.html

¹³⁹ Doekson, A. Gerald, St. Clair, F. Cheryl, and Eilrich, C. Fred. Economic Impact of Rural Health Care. *National Center for Rural Health Works*, (2016). Available at: <http://ruralhealthworks.org/wp-content/uploads/2018/04/Summary-Economic-Impact-Rural-Health-FINAL-100716.pdf>

¹⁴⁰ *Id.* at 136.

¹⁴¹ Medicare and the Health Care Delivery System. *Medicare Payment Advisory Commission*, (2018). Available at: http://www.medpac.gov/docs/default-source/reports/jun18_medpacreporttocongress_rev_nov2019_note_sec.pdf?sfvrsn=0

¹⁴² Dayal McCluskey, Priyanka. Partners plan \$400 million expansion in Boston suburbs. *The Boston Globe*, (2019). Available at: <https://www.bostonglobe.com/business/2019/12/19/partners-plans-million-expansion-boston-suburbs/jQXWko8SUoyaIBNT3a4C5K/story.html?event=event12>

¹⁴³ Campbell, James et al., Human resources for health and universal health coverage: fostering equity and effective coverage. *From World Health Organization on National Center for Biotechnology Information*, (2013). Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3853950/>

communities, at least one if not multiple aspects of availability, accessibility, acceptability, service utilization, and quality is sub-optimally achieved. These intersections should be identified and addressed with systems-level solutions.

Over the past several decades, the numbers of advanced practice nurses, physician assistants, and other non-physician providers have grown, in addition to the almost 29,000 new physicians entering the workforce annually.¹⁴⁴ The number of advanced practice registered nurses increased from 1.6 million in 1980 to 3.8 million today.¹⁴⁵ Similarly, the National Commission on Certification of Physician Assistants estimates there are 130,620 physician assistants – a 350 percent increase from 1980.¹⁴⁶ With these additional health workforce resources, the distribution of health care providers remains inequitable; the quantity of health providers is inadequate considering burden of disease and population growth; and provider competency to provide care across diverse settings, populations, and complex conditions needs further attention.¹⁴⁷

By 2032, the Association of American Medical Colleges projects a national physician shortfall of between 21,000 and 55,200 physicians – a fact that is problematic for significant portions of the country that are already facing severe primary care shortages (see Figure 9). Although the number of medical school spots has increased by 27 percent since 1981, today, underrepresented groups – students from Black, Latinx, and American Indian or Alaska Native communities – make up only 13.7 percent of the medical student population, despite the corresponding populations themselves comprising 35 percent of the U.S. population.¹⁴⁸

Shortages of primary care providers are associated with higher mortality rates.¹⁴⁹ HRSA projects a shortage of 23,640 full-time equivalent (FTE) PCPs by 2025 but also indicates the opportunity to mitigate that shortage using nurse practitioners and physician assistants.¹⁵⁰ Some stakeholders have advocated for non-physician advanced practice providers and alternative

¹⁴⁴ The Complexities of Physician Supply and Demand: Projections from 2017 to 2032. *Association of American Medical Colleges*, (2019). Available at: https://www.aamc.org/system/files/c/2/31-2019_update_-_the_complexities_of_physician_supply_and_demand_-_projections_from_2017-2032.pdf

¹⁴⁵ Nursing Fact Sheet. *American Association of Colleges of Nursing*, (n.d.). Available at: <https://www.aacnnursing.org/News-Information/Fact-Sheets/Nursing-Fact-Sheet>

¹⁴⁶ PA Profession Continues to Gain Nationwide Momentum as Workforce Numbers and Salaries Increase. *National Commission on Certification of Physician Assistants*, (n.d.). Available at: <https://www.nccpa.net/news/2018-stat-report-of-certified-PAs-by-state>

¹⁴⁷ Mullan F, Chen C, Steinmetz E. The Geography of Graduate Medical Education: Imbalances Signal Need for New Distribution Policies. *Health Affairs*. 2013;32:1914-21. Available at: <https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2013.0545>

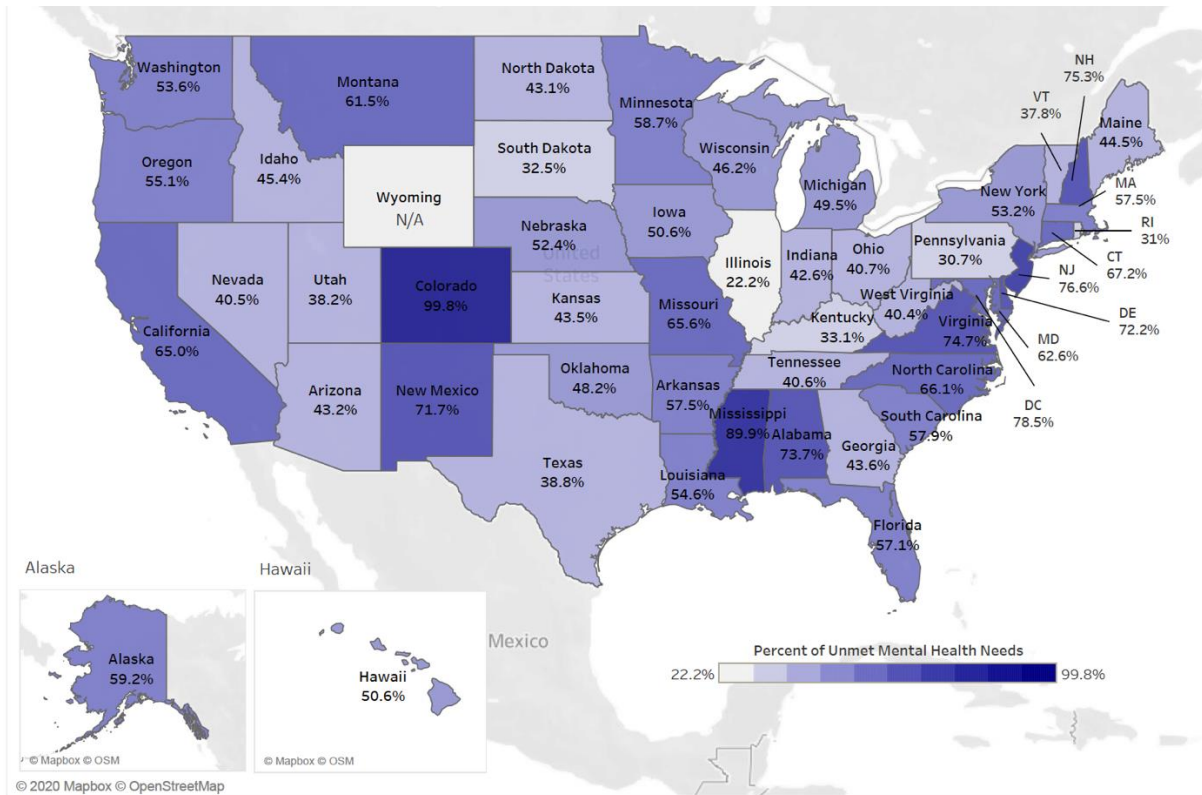
¹⁴⁸ Trends in Racial and Ethnic Minority Applicants and Matriculants to U.S. Medical Schools, 1980–2016. *American Association of Medical Colleges*, (2017). Available at: <https://www.aamc.org/system/files/reports/1/november2017trendsinaracialandethnicminorityapplicantsandmatricu.pdf>

¹⁴⁹ Basy, S, et al. Association of Primary Care Physician Supply With Population Mortality in the United States, 2005-2015. *JAMA Network*, (2019). Available at: <https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/2724393>

¹⁵⁰ National and Regional Projections of Supply and Demand for Primary Care Practitioners: 2013-2025. *Health Resources and Services Administration*, (2016). Available at: <https://bhw.hrsa.gov/sites/default/files/bhw/health-workforce-analysis/research/projections/primary-care-national-projections2013-2025.pdf>

workforce and care delivery models as a means of averting primary care shortages, particularly in rural communities.^{151, 152}

Figure 9. Percent of Primary Care Needs Not Met, 2019



Source: Kaiser Family Foundation Primary Care Health Professional Shortage Areas (HPSAs) 2019 datafile.
 Note: Data for Wyoming were not available.

Similar to primary care, a majority of the country faces behavioral health provider shortfalls. A well-rounded behavioral health workforce would in theory feature streamlined coordination between primary care providers and mental health professionals with teams comprised of a range of providers accessible via in-person and telehealth visits. Such providers could include: licensed clinical providers (e.g., primary care physicians, psychiatrists, psychologists, advanced practice psychiatric nurses, social workers, licensed professional counselors, marriage and family therapists, and licensed addiction counselors) and certified providers (e.g., certified addiction counselors, prevention specialists, peer recovery specialists),

¹⁵¹ The Complexities of Physician Supply and Demand: Projections from 2017 to 2032. *Association of American Medical Colleges*, (2019). Available at: https://aamc-black.global.ssl.fastly.net/production/media/filer_public/31/13/3113ee5c-a038-4c16-89af-294a69826650/2019_update_-_the_complexities_of_physician_supply_and_demand_-_projections_from_2017-2032.pdf

¹⁵² Auerbach DI, et al., *New Approaches for Delivering F Could Reduce Predicted Physician Shortages*, *Research Highlight*, Rand Corporation, Research Briefs RB9752, 2013, http://www.rand.org/pubs/research_briefs/RB9752.html.

as well as non-certified providers, such as psychiatric aides.¹⁵³ The current reality, however, is that the majority of Americans face a convoluted system with a dearth of providers.¹⁵⁴ The existing unmet need in behavioral health providers is extensive (see Figure 10 below), including a shortage in psychiatrists, psychologists, and addiction counselors.^{155,156} Almost 113 million Americans live in mental health HPSAs, 96 percent of counties do not have a psychiatrist who can prescribe medications for individuals with serious mental illnesses, and 60 percent of counties completely lack psychiatrist services.^{157, 158, 159, 160} For treatment of behavioral health conditions, urban populations tend to use psychiatric care while rural populations tend to rely on PCPs due to lack of access to specialists in rural areas – a fact that may have negative implications for patients with complex behavioral health needs.¹⁶¹

¹⁵³ Wik, Amanda, Hollen, Vera and Beck, Angela. Developing Behavioral Health Workforce Equipped to Serve Individuals with Co-Occurring Mental Health and Substance Use Disorders. *National Association of State Mental Health Program Directors*, (2019). Available at:

https://www.nasmhpd.org/sites/default/files/TAC_Paper_3_508C_1.pdf

¹⁵⁴ *Id.*

¹⁵⁵ Heisler, JE. Health Professional Shortage Areas. *Congressional Research Service*, (2019). Available at:

<https://crsreports.congress.gov/product/pdf/IG/IG10015>

¹⁵⁶ Behavioral Health Workforce Projections, 2017-2030. *Health Resources and Services Administration*, (n.d.).

Available at: <https://bhw.hrsa.gov/sites/default/files/bhw/nchwa/projections/bh-workforce-projections-fact-sheet.pdf>

¹⁵⁷ Mental Health Care Health Professional Shortage Areas (HPSAs). *Kaiser Family Foundation*, (2019). Available at: <https://www.kff.org/other/state-indicator/mental-health-care-health-professional-shortage-areas-hpsas/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>

¹⁵⁸ Health Professional Shortage Areas. Kaiser Family Foundation, (n.d.). Available at: <https://www.kff.org/state-category/providers-service-use/health-professional-shortage-areas/>

¹⁵⁹ Interdepartmental Serious Mental Illness Coordinating Committee Releases its First Report to Congress. *United States Department of Health and Human Services*, (2017). Available at:

<https://www.hhs.gov/about/news/2017/12/14/ismicc-releases-its-first-report-to-congress.html>

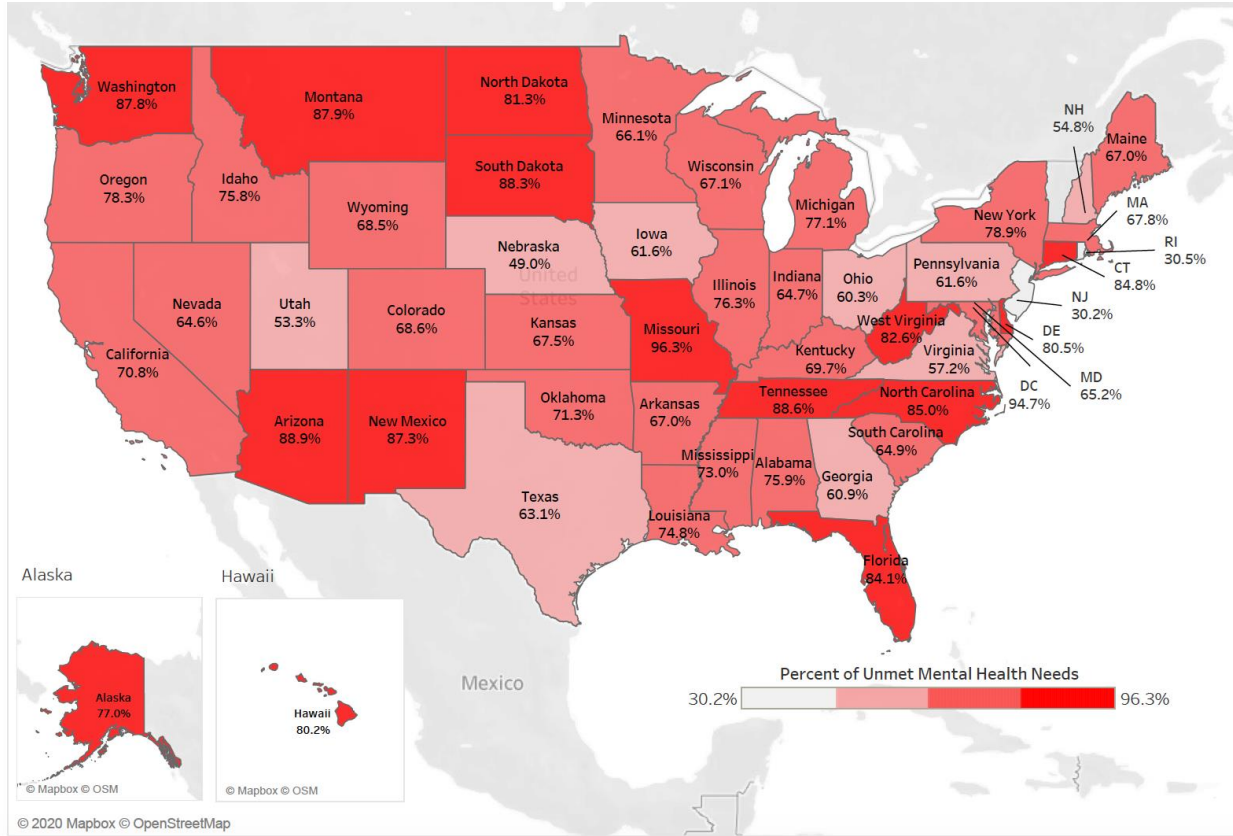
¹⁶⁰ New Study Shows 60 Percent of U.S. Counties Without a Single Psychiatrist. *New American Economy*, (2017).

Available at: <https://www.newamericaneconomy.org/press-release/new-study-shows-60-percent-of-u-s-counties-without-a-single-psychiatrist/>

¹⁶¹ Cherry, D, Albert, M, and McCraig, FL. Mental Health-related Physician Office Visits by Adults Aged 18 and Over: United States, 2012-2014. *Centers for Disease Control and Prevention*, (2018). Available at:

<https://www.cdc.gov/nchs/products/databriefs/db311.htm>

Figure 10. Percent of Mental Health Needs Not Met, 2019



Source: Kaiser Family Foundation Mental Health Care Health Professional Shortage Areas (HPSAs) 2019 datafile. Note: Data for Vermont were not available.

Some have suggested that shortages in health professionals could be in part mitigated through telemedicine. But as detailed previously, the lack of technology infrastructure, particularly broadband internet, to support wide deployment of telemedicine is a significant limitation.

Health Centers. The federal health centers program funds community health centers (CHCs) to provide primary health services for individuals with low income and those who live in medically underserved communities.^{162, 163} CHCs provide care without regard to payment and serve a majority of patients who are racial or ethnic minorities, making them a critical part of the health safety net upon which many rural and underserved communities rely.¹⁶⁴ When a CHC is designated as a Federally Qualified Health Center (FQHC), it can enroll in Medicare and Medicaid and receive cost-based reimbursement. CHCs are likely to accept new patients, serve a

¹⁶² Heisler, JE. Federal Health Centers: An Overview. *Congressional Research Service*, (2017). Available at: <https://www.crs.gov/reports/pdf/R43937>

¹⁶³ Other types of federal health centers include health centers for the homeless, health centers for residents of public housing, and migrant health centers.

¹⁶⁴ *Id.* at 161.

more diverse population than office-based physicians, and can help reduce health disparities among racial and ethnic groups.¹⁶⁵

Health centers generally serve underserved populations, offering these communities access to essential primary and preventive services. Health centers can also augment the supply of clinicians because they are eligible for the National Health Service Corps (NHSC) and can seek to employ foreign medical graduates through J-1 visa waivers.¹⁶⁶

Community mental health centers (CMHCs) provide services through state-administered grant funds from SAMHSA and are eligible for Medicare and Medicaid payments when delivering covered services to enrolled beneficiaries.¹⁶⁷

Training. Graduate Medical Education (GME) programs located within teaching hospitals and teaching health centers are a key part of physician workforce production. Medicare has capped the number of slots in residency training programs since the Balanced Budget Act (BBA) of 1997. Lack of adequate and transparent data about costs for training physicians has led GAO to suggest the need for improved GME data collection to better assess adequacy of GME training and appropriateness of Medicare's \$12 billion investment in GME.¹⁶⁸ Teaching hospitals have full discretion over adding additional GME slots beyond the ones Medicare finances if they are able to fund them through other mechanisms, which many hospitals have done.¹⁶⁹

The location of GME programs is critical because research suggests that there is a strong relationship between where doctors do their residency program and where they choose to practice after residency.¹⁷⁰ The geographic concentration of GME spots in the Northeast region likely contributes to the shortage of physicians in rural and underserved regions in other areas of the country.¹⁷¹ Paradoxically, GME programs depend on a high volume of patients and a diversity of patient illnesses to ensure high-quality training. This paradox poses a unique challenge for rural general surgery training programs, which could otherwise reinforce the viability of rural hospitals while also anchoring primary care physicians.¹⁷² Current law does not allow HHS to target GME investments in specific primary care and other shortages areas. Additional levers, like rural residency training tracks, bring residents from non-rural GME programs to rural hospitals and clinics for rotations for up to 50 percent of their residency time.¹⁷³

¹⁶⁵ *Id.*

¹⁶⁶ *Id.*

¹⁶⁷ *Id.*

¹⁶⁸ HHS Needs Better Information to Comprehensively Evaluate Graduate Medical Education Funding. *United States Government Accountability Office*, (2018). Available at: <https://www.gao.gov/assets/700/690581.pdf>

¹⁶⁹ *Id.* at 157.

¹⁷⁰ Seifer SD, Vranizan K, and Grumbach K. Graduate medical education and physician practice location. Implications for Physician Workforce Policy. *JAMA*, (1995). Available at: <https://jamanetwork.com/journals/jama/fullarticle/vol/274/pg/685>

¹⁷¹ Mullan F, Chen C, and Steinmetz E. The Geography of Graduate Medical Education: Imbalances Signal Need for New Distribution Policies, *Health Affairs*, (2013).

¹⁷² Doescher MP, Lynge DC, and Skillman SM. The Crisis in Rural General Surgery. *Rural Health Research Center*, (2009). Available at: http://depts.washington.edu/uwrhrc/uploads/Rural_Gen_Surg_PB_2009.pdf

¹⁷³ Rural Training Track Programs: A Guide to the Medicare Requirements. *Association of American Medical Colleges*, (n.d.). Available at: https://store.aamc.org/downloadable/download/sample/sample_id/204/

Other programs like the NHSC Loan Repayment Program have had positive outcomes in attracting health professionals to HPSAs. In fact, up to 55 percent of participants in the program remained to work in underserved areas up to 10 years after having completed their program obligation.¹⁷⁴ This and other similar programs are chronically underfunded and have not been scaled to the level needed to eliminate shortages and distribution inequities.¹⁷⁵ For example, only 40 percent of loan repayment applicants and a mere 10 percent of scholarship applicants are granted awards through the NHSC.¹⁷⁶ Overall, medical education, training, and workforce also feed into and exacerbate challenges in delivery and payment reform for rural and underserved communities.

Public Health and Disaster Preparedness

There is perhaps no better bellwether of the strength and resilience of a community's health infrastructure than the status of its public health and disaster preparedness systems. Most recently, this fact has been demonstrated in the spread of COVID-19 and was previously seen through other more localized emergencies, such as Hurricanes Katrina in the Gulf Coast region, Sandy in the Northeast, and Maria and Dorian; earthquakes in the western U.S., Puerto Rico and the Caribbean; fires in California; floods along the Mississippi River; and tornados across the Midwest. Just since January 2017, the federal government has declared federal public health emergencies on 30 separate occasions.¹⁷⁷ HHS created the Assistant Secretary for Preparedness and Response (ASPR) position in the aftermath of Hurricane Katrina to ensure a more coordinated federal response to disasters, and the office continues to function as an agency lead in coordinating disaster response.

Between May and October 2019, the National Academies of Sciences, Engineering, and Medicine (NASEM) held a series of expert meetings and public workshops entitled, "Enhancing Private Sector Preparedness for 21st Century Health Threats." The goal of the meetings was to identify ways to strengthen health care preparedness, incentivize the health care sector, and activate private sector supporters.¹⁷⁸ Experts found that data-sharing and supply chain management were significant barriers to an effective and integrated public health disaster response. Experts concluded: "The U.S. health care system is wholly unprepared for a wide range of 21st-century health threats. It lacks the will, coordinative mechanisms, habits of cooperation, governance agreements, and shared resource investments essential to preparedness." The panel of experts recommended significant changes be made in how hospitals, health systems, and government agencies manage and share information before, during, and after

¹⁷⁴ Almost 113 million Americans live in mental health HPSAs (see Figure 2), and 96 percent of counties do not have a psychiatrist who can prescribe medications for individuals with serious mental illnesses.

¹⁷⁵ Strengthen the National Health Service Corps. *Association of Clinicians for the Underserved*, (n.d.). Available at: <http://clinicians.org/strengthen-the-national-health-service-corps/>

¹⁷⁶ National Health Service Corps Funding. *Association of Clinicians for the Underserved*, (2019). Available at: <http://clinicians.org/wp-content/uploads/2019/08/NHSC-2019-Policy-Paper-August.pdf>

¹⁷⁷ Public Health Emergency Declarations. *U.S. Department of Health and Human Services*, (2020). Available at: <https://www.phe.gov/emergency/news/healthactions/phe/Pages/default.aspx>

¹⁷⁸ Berwick, M. Donald and Shine, Kenneth. Enhancing Private Sector Health System Preparedness for 21st-Century Health Threats. *JAMA Network*, (2020). Available at: <https://jamanetwork.com/journals/jama/fullarticle/2760884>

disasters, and that more public and private investments are needed.¹⁷⁹ Often, rural communities lack the resources and capacity to respond adequately to emergencies, leaving those communities particularly vulnerable to disasters.¹⁸⁰

A Trust for America's Health report entitled, *Ready or Not: Protecting the Public's Health from Diseases, Disasters and Bioterrorism*, annually measures states' level of preparedness to protect the public's health during an emergency.¹⁸¹ It categorizes the level of preparedness based on funding and 10 metrics reported into high, middle, and low levels of preparedness. Half of all states were in low or middle tiers, and many of the 13 states in the low tier are predominantly rural states. Though there was some progress among the majority of states in preparedness level over the last year in areas like coalition building and hospital safety, other key health security measures, including ensuring a safe water supply and access to paid time off, stalled or lost ground. Specifically, in 2019, only 55 percent of employed people had access to paid time off, the absence of which has been shown to exacerbate some infectious disease outbreaks and prevent people from getting preventive care. Relevant high-level recommendations from the report are included in the Figure 11 below.

Figure 11. Select recommendations from *Ready or Not: Protecting the Public's Health from Diseases, Disasters and Bioterrorism*

- Provide stable and sufficient funding for domestic and global public health security.
- Prevent outbreaks and pandemics.
- Build resilient communities and promote health equity in preparedness.
- Support the public health workforce and ensure effective leadership and coordination.
- Accelerate development and distribution, including last-mile distribution, of medical countermeasures.

COVID-19 emergency response. Rural and underserved communities are often the least prepared for public health and other disasters – and the current COVID-19 pandemic has laid bare many of these vulnerabilities. Public health experts estimate the combination of home quarantine, school/university closure, and social distancing will reduce peak critical care demands by two-thirds and halve the number of deaths, but the peak may still result in an eight-fold higher demand on critical care beds over and above available surge capacity in the U.S.¹⁸² Beyond the litany of health system inequities that exist in rural and underserved communities relative to others (as discussed above), more than half of counties in the U.S. do not have any hospital intensive care unit (ICU) beds, and many of these counties are located in rural

¹⁷⁹ *Id.*

¹⁸⁰ Rural Emergency Preparedness and Response, *RHI Hub* (n.d.). Available at: <https://www.ruralhealthinfo.org/topics/emergency-preparedness-and-response>

¹⁸¹ Ready or Not 2020: Protecting the Public's Health from Diseases, Disasters and Bioterrorism. *Trusts for America's Health*, (2020). Available at: <https://www.tfah.org/report-details/readyornot2020/>

¹⁸² Report 9: Impact of non-pharmaceutical interventions (NPIs) to reduce COVID-19 mortality and healthcare demand. *Imperial College*, (2020). Available at: <https://www.imperial.ac.uk/media/imperial-college/medicine/sph/ide/gida-fellowships/Imperial-College-COVID19-NPI-modelling-16-03-2020.pdf>

America.¹⁸³ Experts worry that rural communities will be hardest hit by COVID-19 due to the combination of demographics (having a higher proportion of elderly and disabled populations) and resources (fewer hospitals, ongoing hospital closures), among other factors.¹⁸⁴ In addition, a recent study found that patients from rural and urban counties were equally likely to be discharged to formal post-acute care (PAC) settings, but that the type and course of post-acute care differed according to rurality, with rural residents being more likely to go to skilled nursing facilities (SNFs) than inpatient rehab facilities (IRFs) and being less likely to get home health care, resulting in longer PAC stays.¹⁸⁵ Some policy analysts have suggested that the low occupancy rates in rural hospitals could be used to meet surge demands for COVID-19 patients, but this idea has yet to be tested.¹⁸⁶

Early data from the COVID-19 pandemic suggest ongoing patterns of health inequities for patients in rural and underserved communities. States in the South, which are also more rural, invest on average about \$25 per capita in public health (compared to \$84 per capita in New York) and are now being hit hard by COVID-19.¹⁸⁷ Patterns in China showed that the mortality rate for COVID-19 was four times higher in economically deprived areas, and we can expect that pattern to be replicated among U.S. patients as well.¹⁸⁸

Racial inequities were clearly apparent in the earliest days of the pandemic. Black Americans made up almost half of Milwaukee County's 945 cases and 81 percent of its deaths in a county whose population is only 26 percent Black.¹⁸⁹ In Chicago, a disproportionate share of COVID-19-related deaths have come in the Black community, representing 70 percent of deaths while only 29 percent of the city's population is Black.¹⁹⁰ In April 2020, Louisiana had the highest rate of deaths from COVID-19 in the nation, and, according to Governor John Bel Edwards, more than 70 percent of the people who had died at that point were Black, though Black people make up just 32 percent of the state's population.¹⁹¹ Similarly, according to the

¹⁸³ Schulte F, et al. Millions of Older Americans Live In Counties With No ICU Beds As Pandemic Intensifies. *Kaiser Health News*, (2020). Available at: <https://khn.org/news/as-coronavirus-spreads-widely-millions-of-older-americans-live-in-counties-with-no-icu-beds/>

¹⁸⁴ Curley, Christopher. Rural America Could be the Region Hardest Hit by the COVID-19 Outbreak. *Healthline*, (2020). Available at: <https://www.healthline.com/health-news/rural-america-hardest-hit-by-covid-19-outbreak#Is-telemedicine-the-answer?>

¹⁸⁵ Kosar, CM, et al. Assessment of Rural-Urban Differences in Postacute Care Utilization and Outcomes Among Older Adults. *JAMA Network*, (2020). Available at:

<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2758408>

¹⁸⁶ Occupancy Rates in Rural and Urban Hospitals: Value and Limitations in Use as a Measure of Surge Capacity. *University of North Carolina*, (n.d.). Available at: <https://www.shepscenter.unc.edu/product/occupancy-rates-in-rural-and-urban-hospitals-value-and-limitations-in-use-as-a-measure-of-surge-capacity/>

¹⁸⁷ *Id.* at 177.

¹⁸⁸ Deng X, et al. Case fatality risk of novel coronavirus diseases 2019 in China. *Medrxiv*, (2020). Available at: <https://www.medrxiv.org/content/10.1101/2020.03.04.20031005v1>

¹⁸⁹ Johnson A and Buford T. Early Data Shows African Americans Have Contracted and Died of Coronavirus at an Alarming Rate. *ProPublica*, (2020). Available at: <https://www.propublica.org/article/early-data-shows-african-americans-have-contracted-and-died-of-coronavirus-at-an-alarming-rate>

¹⁹⁰ Ramos E and Zamudio MI. In Chicago, 70% of COVID-19 Deaths Are Black. *WBEZ*, (2020). Available at: <https://www.wbez.org/stories/in-chicago-70-of-covid-19-deaths-are-black/dd3f295f-445e-4e38-b37f-a1503782b507>

¹⁹¹ Wendland, Tegan. Black Communities Are Hit Hardest By COVID-19 In Louisiana And Elsewhere. *WWNO New Orleans Public Radio*, (2020). Available at: <https://www.wwno.org/post/black-communities-are-hit-hardest-covid-19-louisiana-and-elsewhere>

New York City Department of Public Health, the age-adjusted fatality rate from COVID-19 for Latinx and Black people was double that of Whites.¹⁹² The Navajo Nation developed the highest rate of COVID-19 infections in the U.S., further showing the disparate impact the disease is having on minority ethnic groups.¹⁹³ In June 2020, researchers estimated that COVID-19 was responsible for the loss of 138,000 years of life for Americans under the age of 65, with Black Americans accounting for 45,777 years; Hispanics and Latinos adding another 48,204 years; and losses of 1,745 and 8,905 years of life for American Indians and Alaska Natives and Asian and Pacific Islanders, respectively.¹⁹⁴ This is in comparison to 33,446 years of life lost for White Americans under age 65.¹⁹⁵

There are several factors contributing to these alarming trends, such as the increased rate of comorbidities among Black Americans, increased exposures to infection (e.g., as a result of occupational factors, such as being deemed to have an “essential” position), insufficient resources for enrolled tribes, decreased health care coverage due to job losses, higher rates of poverty, higher exposure to poor air quality, and others.^{196, 197} In concert, these factors result in minorities experiencing differential access to health care goods and services, as well as opportunities associated with having optimal health care in society. By definition, this experience reflects “structural racism” within the U.S. health care system, and COVID-19 has revealed the egregiousness of these institutionalized inequities, as well as the social and economic impacts of racism.¹⁹⁸

Our country's history of geographic inequity, structural racism, and economic inequity will continue to influence COVID-19 disease patterns, as well as social patterns of future public health emergencies if we do not create more equitable preparedness policies and investments.

In addition to health system inadequacies that put these communities at greater risk for COVID-19 spread, rural and underserved workers have increased exposure to social and structural vulnerabilities in a viral pandemic like COVID-19. Rural America has a higher proportion of workers without access to paid sick leave or broadband for telemedicine appointments.¹⁹⁹ In the U.S. workforce, just 16.2 percent of Hispanic workers and 19.7 percent

¹⁹² Age adjusted rate of fatal lab confirmed COVID-19 case per 100,000 by race/ethnicity group. *NYC Health*, (2020). Available at: https://twitter.com/Laurie_Garrett/status/1248303874915602433/photo/1

¹⁹³ Silverman, Hollie; *et al.* Navajo Nation surpasses New York state for the highest Covid-19 infection rate in the US. *CNN*, (2020). Available at: <https://www.cnn.com/2020/05/18/us/navajo-nation-infection-rate-trnd/index.html>

¹⁹⁴ Resnick, Brian. The US badly needs a wake-up call on the coronavirus pandemic. *Vox*, (2020). Available at: <https://www.vox.com/science-and-health/2020/6/23/21299109/covid-19-pandemic-years-potential-life-lost>

¹⁹⁵ *Id.*

¹⁹⁶ Wu, Xiao et al., COVID-19 PM2.5: A national study on long-term exposure to air pollution and COVID-19 mortality in the United States. *Harvard University*, (2020). Available at: <https://projects.iq.harvard.edu/covid-pm>

¹⁹⁷ Broken Promises: Continuing Federal Funding Shortfall for Native Americans. *U.S. Commission on Civil Rights*, (2018). Available at: <https://www.usccr.gov/pubs/2018/12-20-Broken-Promises.pdf>

¹⁹⁸ Jones, C P. Levels of racism: a theoretic framework and a gardener's tale. *From American Public Health Association on the National Center for Biotechnology Information*, (2000). Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1446334/>

¹⁹⁹ Ajilore, Olugbenga and Willingham, Zoe. Rural Americans Are Vulnerable to the Coronavirus. *Center for American Progress*, (2020). Available at:

of Black Americans are able to work from home, while about 30 percent of Whites and 37 percent of Asian-Americans can work from home.²⁰⁰ These gaps will cause racialized and geographic differences in exposure and infection. Our country's history of geographic inequity, structural racism, and economic inequity will continue to influence COVID-19 disease patterns, as well as social patterns of future public health emergencies if we do not create more equitable preparedness policies and investments.

“An infectious disease represents far more than a physical ailment that is caused by pathogens and the organisms on which they travel – ‘disease vectors,’ in medical argot. Infectious diseases also pose a threat to entire populations. Their spread, prevalence, and treatment is closely linked to social factors, including crowding, poverty, inequitable access to medications, incarceration rates, women’s rights, and a host of other political and social stressors.”

Harriet A. Washington
Medical Apartheid

<https://www.americanprogress.org/issues/economy/news/2020/03/05/481340/rural-communities-vulnerable-coronavirus/>

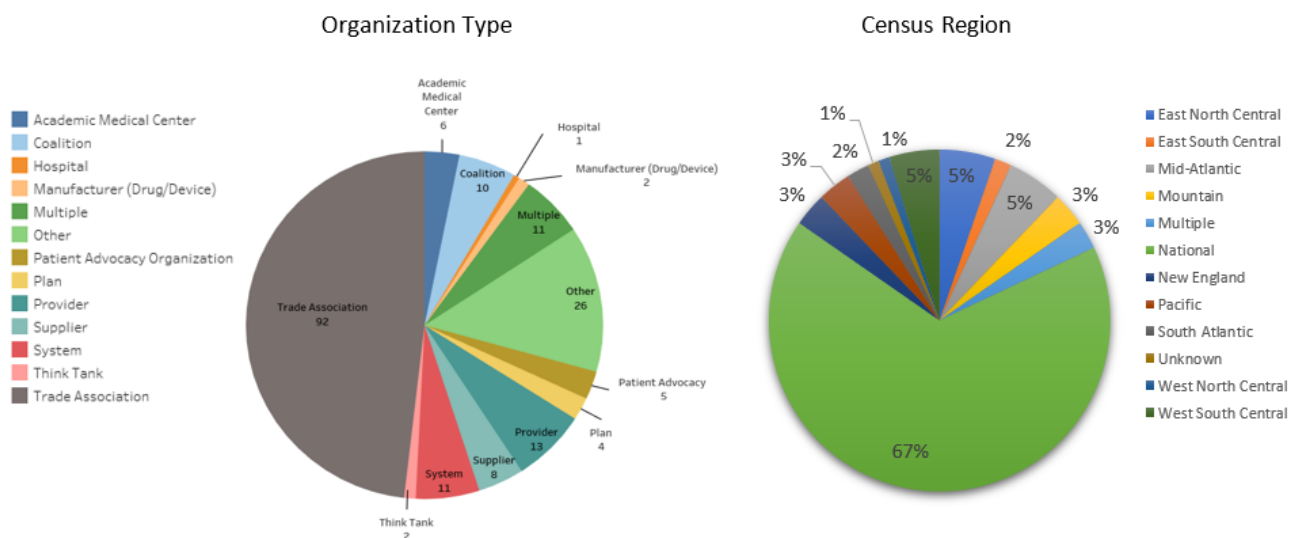
²⁰⁰ Moody, Chris. Most Brown and Black Americans Are Exposing Themselves to Coronavirus for A Paycheck. *VICE News*, (2020). Available at: https://www.vice.com/en_us/article/xgqpyq/most-brown-and-black-americans-are-exposing-themselves-to-coronavirus-for-a-paycheck

RESULTS OF REQUEST FOR INFORMATION (RFI) SUBMISSION

The Task Force’s November 2019 RFI solicitation (see Appendix B) generated 194 submissions from a range of stakeholders representing national, regional, and local health care perspectives.²⁰¹ Nearly half (92) represented trade associations – other respondents ranged in perspective, from individual providers groups (13), health systems (11), academic medical centers (6), medical equipment suppliers (8), patient advocacy organizations (5), and health plans (4) (see Figure 12).

Almost two-thirds (126) of respondents had a national presence. Others represented regional or local areas – the East North Central Census Division (10), Mid-Atlantic (10), and West South Central (9) accounted for the majority of the remaining responses. A majority of respondents (111) represented both rural and urban interests, while 45 came from a solely rural catchment area. Only seven respondents spoke from experiences working in an entirely urban area.²⁰²

Figure 12. Task Force Respondents, by Organization Type and Census Region



The Ways and Means Committee staff analysis (see Appendix A for a description of the methodology and limitations of this analysis) yielded several key themes that fit into three larger buckets: health care factors, non-health care factors, and promising models. Given the small sample size of the data, we present findings below across these themes in broad terms, rather than providing responses to each of the RFI questions. In many cases, themes crossed questions – and many answers did not directly respond to the questions at hand. Thus, to provide robust results, we aggregated responses and present them by major theme below. Because very few respondents specifically highlighted differences in underserved urban and rural areas, we do not

²⁰¹ A few respondents submitted comments as individuals; to the extent these individuals identified with a particular organization, we incorporated that organization in the analysis.

²⁰² For some respondents, it was difficult to categorize urban vs. rural catchment areas; we categorized these as “unknown.”

distinguish these geographic areas below. Individual response letters, by organization, are provided on the Ways and Means Committee website:

<https://waysandmeans.house.gov/responses-ways-and-means-rural-and-underserved-communities-health-task-force-request-information>.

Health Care Factors

Across responses, organizations described a number of common and interrelated health care factors that affect the health of underserved communities and impact health system characteristics.

Population-based factors. Organizations characterized the populations of both rural and urban underserved areas as having a disproportionate burden of disease relative to other areas of the country. Such diseases include: diabetes, obesity, cardiovascular disease, mental illness, and substance use disorders, among many others. In many instances, these individuals do not have the health care coverage to financially afford to access health care services that would help them manage these conditions – and frequently, even if individuals possess coverage, they often do not have access to the providers they need, respondents explained. “Dwindling populations and an uptick in the number of small rural hospital closures often result in fewer local providers, which can significantly reduce availability of both primary care and certain critical services in rural communities, such as maternal care,” the Bipartisan Policy Center said. In such instances, the lack of access to care inhibits prevention and exacerbates preexisting health conditions, creating a cycle of chronic conditions from one generation to the next, respondents said.

“For patients, having access to care in their communities is critical... Preventative care and screenings play an essential role in addressing chronic diseases.”

– University of Illinois at Chicago

Health system factors. In many instances, the configuration of health resources in underserved rural and urban areas is intertwined with the health status of the population. Respondents frequently described the low patient volumes in underserved areas – particularly rural – which often results in either hospital service line reductions or closures. Low demand, stemming from small population sizes and low rates of health care coverage (i.e., affordability of health care) result in a lack of workforce supply, which, in turn, creates further disparities in population health. While few commenters offered solutions to service line elimination and hospital closures, many noted the need for additional research into alternative sites of care and non-traditional delivery models, given the challenges of keeping hospitals afloat in many rural and underserved areas. Many emphasized that the low patient volume in isolated communities makes it nearly impossible for providers to operate in a traditional fee-for-service environment – where payments are dependent on volume – and suggested that alternative payment models also be considered. Still, some cautioned that limited resources frequently pose issues with data collection to support these alternative value-based models of care – and even in cases where resources allow for the robust collection of data, small sample size can be an issue (see *Non-health care factors* section below).

Respondents specifically discussed the challenges of primary care and mental health care provider shortages. Others discussed “obstetric deserts” and the impact these workforce

SPOTLIGHT:

Alaska’s Perinatal Regionalization Model

The state of Alaska had the highest infant mortality rate in the 1980s. To increase access to obstetric and perinatal services and encourage integrated care, the state joined forces with the Indian Health Service to institute an all-payer perinatal regionalization model.

Providers from a regional medical hub train local caregivers and travel to rural areas regularly during the prenatal period. Women are then transported and housed near a medical hub one month before their expected delivery. Ultimately, Alaska became the state with the lowest post-neonatal mortality rate.

<http://www.astho.org/Programs/Maternal-and-Child-Health/Documents/Fromthe-Bottom-to-the-Top--How-Alaska-Became-a-Leader-in-Perinatal-Regionalization/>

shortages have had on maternal mortality rates in certain communities. While many commenters noted significant workforce shortages in the areas of oral and behavioral health, few responses offered many concrete ideas to address gaps in care delivery. Some highlighted the promise of non-physician mid-level providers (including dental therapists), funding for mobile clinics, and expanding screening for behavioral conditions into and across primary care settings to mitigate shortages in rural and underserved areas to the extent primary care is available. “Home care services led by nurse practitioners (NPs) in states that allow prescription authority is a promising model that can enhance access

for homebound residents in rural areas” the Fitzhugh Mullan Institute for Health Workforce Equity said. Others touted the use of telehealth, particularly in the mental health space, as an option for filling gaps in provider availability but as discussed earlier, infrastructure issues – particularly access to broadband – must be addressed for this to be widely successful.

Similarly, in the PAC/long-term services and supports (LTSS) space, most commenters noted the myriad issues related to PAC and LTSS shortages but provided few demonstrated solutions. Some topics respondents put forward for the Task Force’s consideration included: funding for community-based collaboratives and social support services, increasing the use of remote monitoring, developing a geriatrics workforce enhancement program, and maximizing Medicaid home- and community-based waiver services. Ultimately, though, the majority of responses either ignored the RFI’s question on PAC/LTSS or provided few details.

Given the RFI’s prompt to discuss “successful” models, nearly all commenters mentioned the need to expand all GME programs, including rural training tracks and loan forgiveness programs, such as HRSA-funded programs like the NHSC. Loan forgiveness was noted as crucial to efforts to address provider shortages, and some respondents suggested that initial training and continuing education should incorporate cultural competencies to help mitigate implicit bias. Some respondents mentioned the role of medical schools and Fitzhugh Mullan Institute for Health Workforce Equity cited research on the topic: “Medical school rural programs have been shown to be effective in increasing the rural physician workforce... [Researchers] estimated that if 125 medical schools had just 10 students per class in rural

“Firefighting and law enforcement represent a common good and are funded as such. Rural/underserved emergency services should be considered similarly.”

– Rural Policy Research Institute

training programs, it would more than double the number of rural doctors produced over the next decade.”²⁰³ Others discussed the importance of models that include early recruitment from rural and underserved areas and the elimination of restrictions on physician and non-physician scopes of practice in these underserved areas.

Non-Health Care Factors

Across responses, submissions described a number of non-medical health care factors that disproportionately plague many underserved rural and urban areas – compounding issues with accessing health services and maintaining health. Figure 13 lists many of the factors respondents highlighted.

Figure 13. Examples of Non-Medical Factors Presenting Health Challenges in Underserved Rural and Urban Communities	
Transportation	Poverty/Unemployment
Food deserts	Structural Racism and Xenophobia
Education/Literacy	Social isolation
Air quality	Physical violence
Geography/Topography	Infrastructure (e.g., Broadband)
Housing	Classism
Language preference	Homophobia

Though respondents recognized how difficult it is to address non-medical factors, they emphasized the importance of programs that seek to address these larger forces as they intersect with health. Respondents repeatedly identified larger social forces as the true root cause of inequitable access to care and differential outcomes. Specifically, respondents referenced health fairs and community-based screenings as approaches seeking to address a historical lack of response in the face of need in marginalized communities. Franklin Regional Council of Governments also noted, “rural areas have some of the lowest rates of childhood immunization, leaving communities vulnerable to outbreaks, while at the same time often having less robust local public health departments due to fewer tax dollars, because most federal and state programs use population as a primary factor in distribution formulas.”

The lack of broadband access is important to note, a few respondents said, given the focus on the potential for telehealth to alleviate provider shortages in underserved regions. In many areas, the absence of reliable broadband service makes it impossible for residents to rely on telehealth as a viable form of health care, emphasizing the interplay between health system and environmental factors in many of these communities.

²⁰³ Rabinowitz HK, Diamond JJ, Markham FW, Wortman JR. Medical school programs to increase the rural physician supply: A systematic review and projected impact of widespread replication. *Acad Med.* 2008;83(3):235-243. Available at: https://journals.lww.com/academicmedicine/Fulltext/2008/03000/Medical_School_Programs_to_Increase_the_Rural.5.aspx

In addition to environmental and structural factors, respondents also discussed data limitations. On the one hand, they noted the absence of data to measure disparities across communities and appropriate quality measures that quantify the differences in underserved areas, both of which ultimately limit insights policymakers and providers might have in the most beneficial interventions for a particular community. On the other hand, commenters cited deficiencies in resources and sophistication needed to perform quality reporting and participate in value-based design are often out of reach for providers in these communities.

“Increased broadband access is an essential component for improved health care delivery in rural communities... Federal investments to expand broadband access would be a substantial improvement for America’s rural communities and would provide exponential positive downstream effects on health care delivery and outcomes.”

– American College of Emergency Physicians

They also mentioned data siloes across agencies and institutions that preclude integrated responses: “The escalation of public sector service utilization (criminal justice, first responders, human services, mental health and substance use treatment, individualized education plans) often predates the increase in downstream healthcare cost & utilization,” the University of Illinois at Chicago said. “Data about individuals who frequently utilize public sector systems remain locked away in isolated silos. This limits the ability for identification and intervention earlier in a person’s life, when trauma, injury or mental illness first occur.”

Promising Models

Responses ranged in the level of detail provided on existing models of care delivery in underserved rural and urban areas that have exhibited positive outcomes – and many responses did not address promising practices at all. Among those who did, stakeholders emphasized the importance of relying on community-driven models tailored specifically to the individual community and needs of the population receiving the intervention. National or regional models of care were not the focus of responses. For example, the State of Arkansas formed a network to screen and do early referrals of high-risk pregnancies to care centers capable of providing an appropriate level of care. Respondents noted the need for flexibility in provider network standards, including federal support for interstate compacts and other means of allowing health practitioners to engage in cross-border practice.

Examples of programs that directly targeted social determinants of health focused on such areas as: access to food, peer-to-peer and community health worker (CHW) services, transportation, and unemployment training. “CHWs have a proven record in better understanding multicultural populations, gaining trust in the community, and providing the next level of care delivery to assist patients with chronic or disabling conditions,” the American Health Care Quality Association said. “The CHW program demonstrates how to effectively impact these areas and improve social isolation.” The Rural Policy Research Institute further noted,

SPOTLIGHT:

Better Health Through Housing (BHH)

“BHH is a partnership with the Center for Housing and Health... the Flexible Housing Pool, a collaborative alliance of 28 supportive housing agencies across Chicago and Cook County focused on addressing the gaps between the housing and health care sectors. It includes other hospitals, state and local entities, and public and private funders... Through its partnerships, the network helps provide permanent supportive housing across Chicago and offers support and wrap-around health services to its clients... It has reduced costs for UI Health by 21% and reduced hospital utilization by 67% per patient.”

– University of Illinois at Chicago

“ProMedica [located in Toledo, Ohio], including its rural facilities, went beyond investing in community organizations by creating a nonprofit of its own, the ProMedica Ebeid Institute for Population Health, which has a food market with affordable and fresh options, a classroom kitchen, and employment opportunities for local residents.”

Examples of models focused more on addressing chronic health needs appeared to rely on care coordination, CHWs, community health centers, and housing-based interventions, among others. The Association of State and

Territorial Health Officials cited a “review of 13 randomized controlled trials involving CHW interventions [, which] showed a modest reduction in levels of hemoglobin A1c (a common indicator of diabetes) compared to usual care.”²⁰⁴

²⁰⁴ Palmas, W et al., Community Health Worker Interventions to Improve Glycemic Control in People with Diabetes: A Systematic Review and Meta-Analysis. *National Center for Biotechnology Information*, (2015). Available at: <https://www.ncbi.nlm.nih.gov/pubmed/25735938>

DISCUSSION

Overall, RFI respondents presented a bleak picture of underserved communities that grapple with similar challenges ranging from population health and coverage barriers, to massive health system deficiencies, to structural environmental factors that adversely impact health. Respondents also emphasized the challenges in collecting data that appropriately quantifies and highlights these differences in a meaningful way for researchers and policymakers to better understand – and ultimately propose interventions to address – these inequities. While the responses the RFI generated came from a narrow subset of organizations primarily representing national trade groups, they uniformly echoed the trends evident in the extant literature – namely, that a multiplicity of factors impact the health and delivery of care in our nation’s underserved communities. While these factors may manifest differently in each community, urban and rural underserved areas alike contend with a range of both health care and non-health care factors that drive the configuration of a given area’s health resources and, ultimately, the health characteristics of its population.

Although the RFI specifically requested submissions focus on examples of “best practices” and “lessons learned,” the submissions provided to the committee offered few concrete data-driven solutions, and even those that were put forth appeared limited by questions of their scalability. Perhaps this gap in data across submissions is a reflection of the truth that “silver bullet” policies do not exist when attempting to address phenomena that are varied, intertwined, and have historic roots dating back hundreds of years. The plight of rural and urban underserved communities is complex and implicates many principles seen to reflect the nation’s conscience. In these circumstances, where structural changes inform social advancements, it is extremely difficult to develop one-size-fits-all solutions to satisfy every stakeholder. In many instances, community-tailored interventions, like some of those highlighted in the Results section of this report, have proven and may continue to be the most promising approaches to tackling our underserved communities’ challenges – even if they do not represent the most efficient solutions from a scalability perspective.

The plight of rural and urban underserved communities is complex and implicates many principles seen to reflect the nation’s conscience. In these circumstances, where structural changes inform social advancements, it is extremely difficult to develop one-size-fits-all solutions to satisfy every stakeholder.

Respondents described a nation rife with disparities – economic, health care, environmental – that have been exacerbated by the current COVID-19 crisis, a crisis so large in scale that it has threatened to bring some of our nation’s greatest health systems to their knees. Although organizations drafted RFI responses months before cities began social distancing practices, their observations ring especially true in 2020: provider supply, rampant chronic conditions, inadequate support services for the aging population, environmental barriers, differences in outcomes along racial and ethnic lines, and a paucity of sufficient data all seem to have come into microscopic focus in light of this current crisis. Mental health challenges, although deeply engrained, have also emerged as a focal point, as Americans have been asked to stay home and isolate themselves in the face of uncertainty. Technology’s potential to fill the

space of our socially distant interactions has emerged as a bright spot for some – but only for those with access to a computer, smartphone, or broadband. Such experiences are a clarion sign of the differences that exist between and among us, illustrating how even exciting innovations always have the potential to leave communities behind.

As these experiences and the fruits of past efforts remind us (see Appendix C, Figure 14, for a timeline of federal health disparities initiatives), advancements in our health care system – and even more broadly – have limited overall impact if they do not serve us *all* and address the clear disparities that exist between some communities and those that have been typically underserved. As the Committee continues to explore ways to address the complex and interwoven factors that create underserved communities – be they rural, urban, or somewhere in between – it will focus on sustainable solutions that address the problem at its root, rather than mere symptoms. For example, while hospital closures have dramatic effects on communities, their occurrence is not a function of Medicare payment rates alone. There are many other factors, including population size, lack of population health coverage, absence of public transportation that enables physical access to health facilities, decisions not to expand Medicaid under the ACA, among others, that contribute to an individual hospital closure. The same can be said for workforce shortages, where telehealth may be beneficial in some circumstances, but in others, may not address the underlying issues related to recruiting providers with longstanding ties to certain communities or the limitations of our access to broadband. Without considering these other drivers, such a policy is merely a band aid on a gaping wound.

The Ways and Means Committee recognizes that no federal policy alone will solve the challenges our most underserved communities face. To address health inequities, the health system must identify and distill which populations to target for interventions, incorporate input from targeted populations, and tailor interventions to communities to address the specific factors driving health inequities. Further, solutions must be multidisciplinary and support coordination across all levels of government, industries, and sectors. As the RFI responses underscored, a multi-level approach to interventions is crucial to addressing the many challenges summarized in this report. It is clear then, that long-term commitment from Congress and also state, local, and private-sector interests is not only important but crucial to the development of *sustainable* and creative solutions to the challenges many underserved communities have been battling for decades.

CONCLUSION

In August 1985, HHS issued the *Report of the Secretary's Task Force on Black & Minority Health*. Known as the *Heckler Report*, after then-Secretary Margaret Heckler, the groundbreaking document highlighted root causes behind the growing disparity in health status among minority groups, including Americans of African, Hispanic, Asian/Pacific Islander, and Native descent, when compared to their White counterparts. The report confirmed that these groups were not enjoying the benefit of American innovation in science, medicine, or health care delivery and financing, and it outlined recommendations that addressed the gaps in six categories: health information and education, delivering and financing health services, health professions' development, cooperative efforts with the non-Federal sector, data development, and research agenda.

As this report clearly shows, the same six categories identified more than 30 years ago remain prevalent among the most-cited approaches to mitigate the disparities we now see in rural

As a nation, we cannot rise to meet the health challenges of today without conceding the role that social and structural non-medical factors play in the health disparities we see. This truth includes acknowledging the insidious nature of racism within society and that because health and medicine do not exist in a vacuum, these systems are not immune to its influence.

and underserved communities, including the increased severity of those disparities among people of color. As a nation, we cannot rise to meet the health challenges of today without conceding the role that social and structural non-medical factors play in the health disparities we see. This truth includes acknowledging the insidious nature of racism within society and that because health and medicine do not exist in a vacuum, these systems are not immune to its influence. The disinvestment in underserved communities reflects this truth, and the distinctions in health status and outcomes for rural and urban dwellers exemplify

how such conditions can be toxic for everyone, regardless of race. Americans deserve our commitment to developing solutions, policies, and legislation focused on achieving equity within the U.S. health system for all, regardless of what they look like and where they live.

Health equity occurs when policies support conditions for optimal health for *all* people. Achieving this goal requires a society that values all individuals and populations equally without disadvantaging them because of geography, race, or ethnicity. It also demands a more expansive understanding of the factors that constitute health. Meeting this challenge in the U.S. will require each of us to recognize and commit to rectifying historical injustices, providing resources according to need, and innovating our approach to the nation's health. Health disparities will be eliminated when we achieve health equity.²⁰⁵

²⁰⁵ Jones, CP. Systems of Power, Axes of Inequity: Parallels, Intersections, Braiding the Strands. *Medical Care*, (2014).

APPENDIX A: METHODOLOGY AND LIMITATIONS

Below, we describe the methodology used to construct our analytic file and conduct the analyses for this study; we also present limitations.

RFI solicitation tool development. Ways and Means staff created a broad series of questions to guide respondents, focusing on the range of issues raised both in the Task Force's July 2019 kick-off meeting and extant literature. Similar to the kick-off meeting, the RFI sought to solicit opinions from stakeholders representing a broad range of perspectives (e.g., industry groups, patient groups, experts, etc.) across the continuum of care. Staff vetted the questions with independent outside experts to ensure questions were framed in an objective and relevant fashion, the inquiry did not have significant subject-matter gaps, and the tool was flexible enough not to limit relevant ideas.

Analysis. Staff downloaded all relevant responses into a database and created an Excel-based analysis matrix for summarizing and analyzing results. This database sought to capture both quantitative elements of respondents (e.g., type of organization, location) and qualitative responses (i.e., narrative responses to the RFI questions). The analytic tool mapped to the questions in the RFI to facilitate cross-respondent analyses. One staff member culled and summarized each RFI response, inputting the summaries into the Excel database to create an analytic file. Once the file was fully populated, three Ways and Means staff members representing a range of expertise – clinical, legal, and research – independently reviewed the results to identify emergent themes. These three independent reviews were aggregated and reconciled to develop the results presented in this report.

Limitations. This study included several key limitations that ought to be noted. First, the sample of respondents is inherently limited to the organizations that heard about and had the resources to respond to the RFI in a timely manner. The Committee did not solicit responses from particular groups; thus, there are likely a number of organizations with experience relevant to the RFI that did not ultimately submit responses to the Task Force. Second, the Task Force opted to limit the length of responses as well as the questions it asked of stakeholders. The purpose of this directed approach was to facilitate cross-stakeholder analysis; yet, it had the potential to limit the types of information presented to the Task Force. Finally, given the breadth of information provided to the committee, the analysis required individual staff members to make a series of judgement calls when summarizing materials. While staff sought to employ an objective and standardized approach to its review of all submissions, there were likely some inevitable inconsistencies in approach.

APPENDIX B: RFI SOLICITATION

RURAL AND UNDERSERVED COMMUNITIES HEALTH TASK FORCE *Request for Information*

The Committee on Ways & Means Chairman Richard E. Neal and Ranking Member Kevin Brady are committed to advancing commonsense legislation to improve health care outcomes within underserved communities.

The *Rural and Underserved Communities Health Task Force* (Task Force) is the Committee’s forum to convene Members and experts to discuss the delivery and financing of health care and related social determinants in urban and rural underserved areas and identify strategies to address the challenges that contribute to health inequities. Reps. Danny Davis (D-IL), Terri Sewell (D-AL), Brad Wenstrup (R-OH), and Jodey Arrington (R-TX) serve as the Task Force co-chairs, and are working to identify bipartisan policy options that can improve care delivery and health outcomes within these communities.

This *Request for Information* (RFI) solicits input on priority topics that affect health status and outcomes for consideration and discussion in future Member sessions of the Task Force. Terms such as “initiative,” “approach,” “model,” or “demonstration” generally refer to any activity that addresses issues impacting optimal health in these communities.

SUBMISSIONS: Individuals or groups wishing to respond to this RFI should email comments **by close of business Friday, November 29th**, as attachments in **.docx or .pdf format**, to:
Rural_Urban@mail.house.gov.

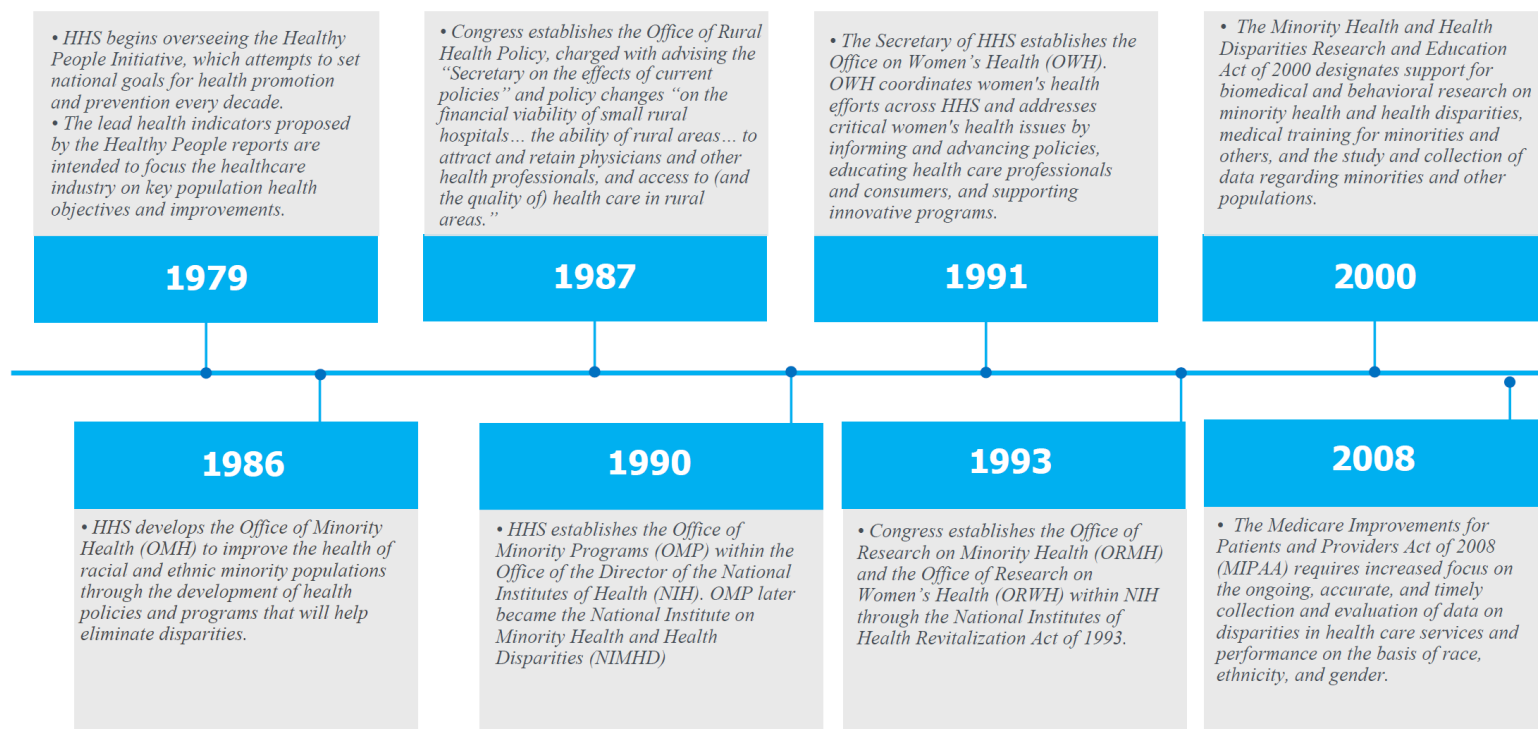
INFORMATION REQUESTS (Limit each response to 250 words - Each total submission should not exceed 10 pages, 12 pt font):

1. What are the main health care-related factors that influence patient outcomes in rural and/or urban underserved areas? Are there additional, systems or factors outside of the health care industry that influence health outcomes within these communities?
2. What successful models show a demonstrable, positive impact on health outcomes within rural or underserved communities? For example initiatives that address: a) social determinants of health (particularly transportation, housing instability, food insecurity); b) multiple chronic conditions; c) broadband access; or d) the use of telehealth/telemedicine/telemonitoring?
3. What should the Committee consider with respect to patient volume adequacy in rural areas?
4. What lessons can we glean from service line reduction or elimination in hospitals that serve underserved communities where—

- a. patients have the option to transition to alternative care sites, including community health centers and federally qualified health centers?
 - b. there is broader investment in primary care or public health?
 - c. the cause is related to a lack of flexibility in health care delivery or payment?
5. If states or health systems have formed regional networks of care, leveraging, for example, systems of transport or the use of telehealth/telemedicine, what states or entities are these, what approaches did they use to form these networks, what challenges did they overcome, and what challenges persist?
6. What successful models show a demonstrable, positive impact on addressing workforce shortages in rural and underserved areas? What makes these models successful?
7. Access to providers that address oral, behavioral, and substance use needs in rural and underserved communities can be particularly limited. What approaches have communities or states taken to address such gaps in care delivery?
8. The availability of post-acute care and long-term services and supports is limited across the nation but can be particularly challenging in rural and underserved areas facing disproportionately large burdens of chronic and disabling conditions. What approaches have communities taken to address these gaps in care delivery and the associated challenges of social isolation?
9. There are known, longstanding issues with the availability and integrity of data related to rural and urban community health. What data definitions or data elements are needed to help researchers better identify the causes of health disparities in rural and underserved areas but are unavailable or lack uniformity?
10. Are there two or three institutional, policy, or programmatic efforts needed to further strengthen patient safety and care quality in health systems that provide care to rural and underserved populations?

APPENDIX C: TIMELINE

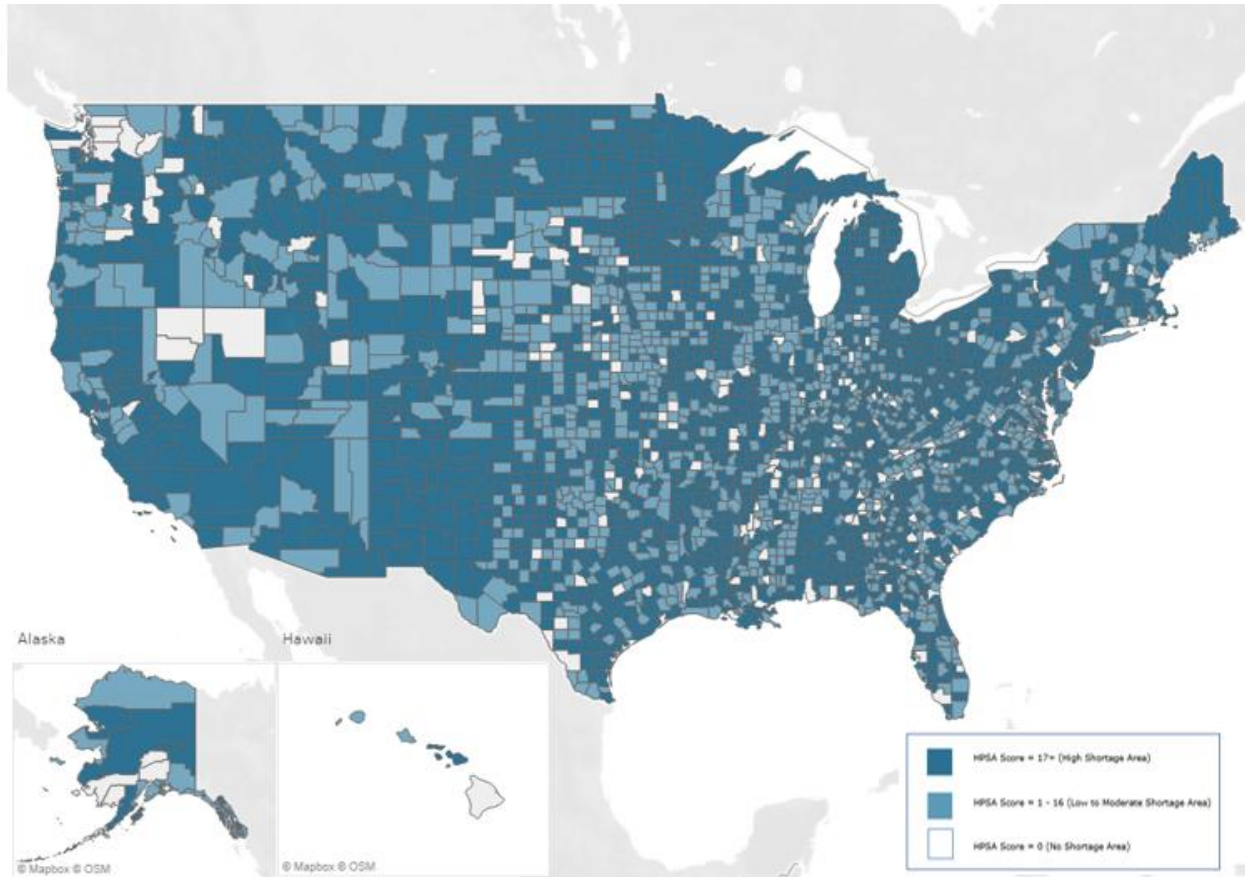
Figure 14. Timeline of Federal Initiatives to Address Disparities in Rural and Underserved Communities



Sources: <http://minorityhealth.hhs.gov>, <https://www.fda.gov/about-fda/office-commissioner/office-minority-health-and-health-equity>, <https://www.womenshealth.gov/about-us/who-we-are/vision-mission-goals-and-history>

APPENDIX D: SUPPLEMENTAL TABLES AND FIGURES

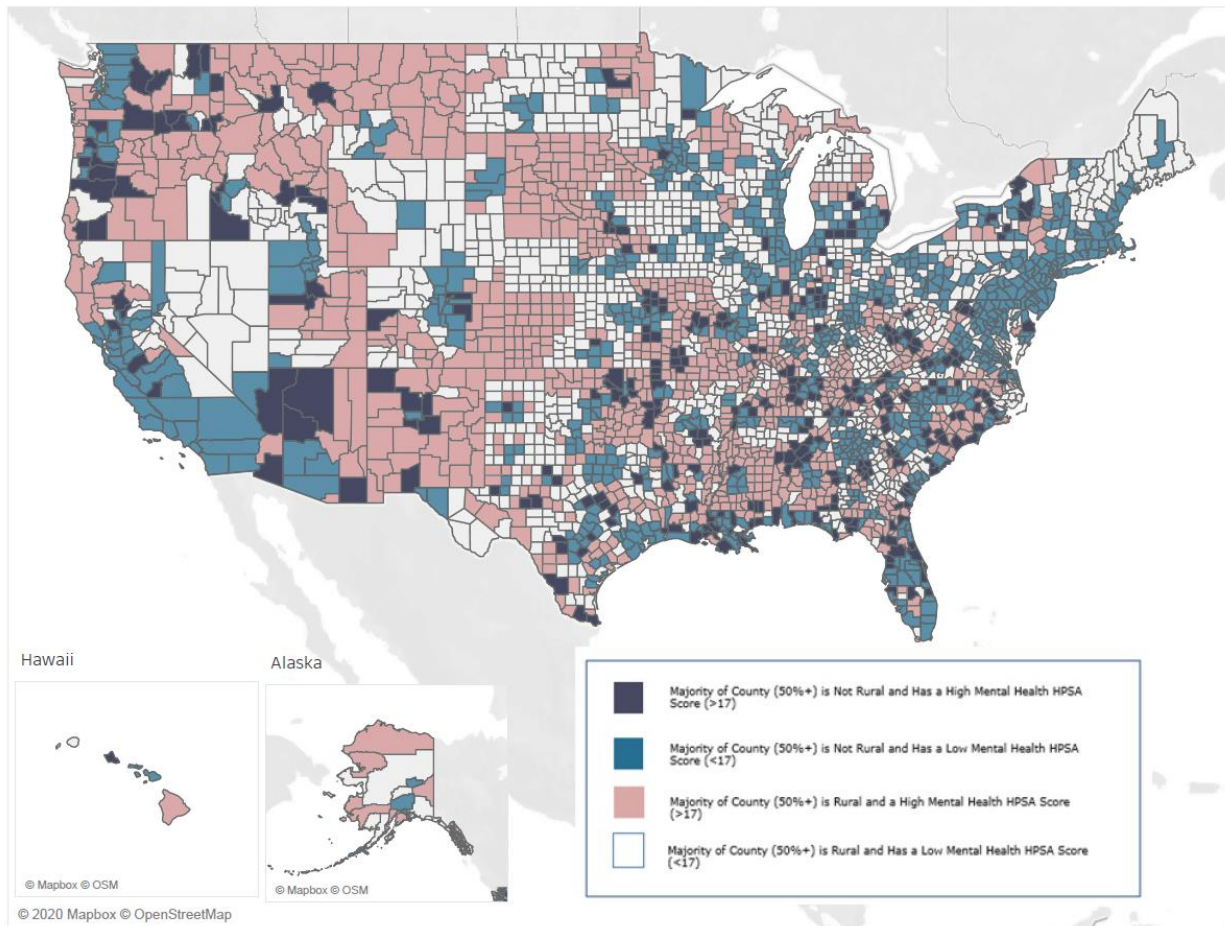
Figure 15. Mental Health Professional Shortage Areas (HPSA Scores), 2019



Source: Health Resources & Service Administration HPSA Mental Health Datafile.

Notes: HPSA Scores are developed for use by the National Health Service Corps to determine priorities for the assignment of clinicians. Scores range from 0 to 25 for primary care and mental health. Larger scores correspond to higher priority areas.

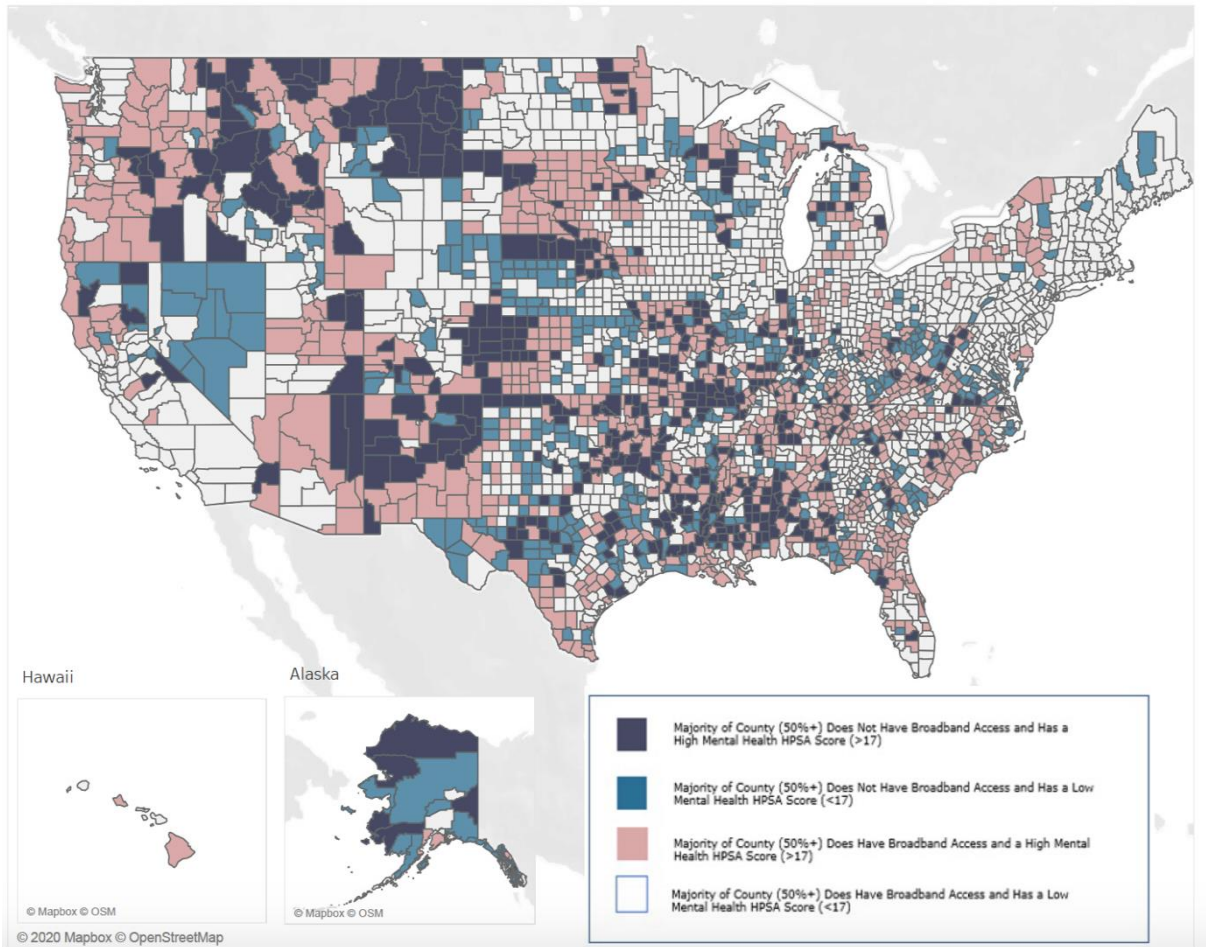
Figure 16. Rurality and Mental Health Professional Shortage Areas, 2019



Source: Mental Health HPSA Score data were provided by Health Resources & Service Administration HPSA Mental Health Datafile; data on county-level rurality were provided by the Federal Communications Commission 2019 Fixed Broadband Deployment datafile.

Notes: HPSA Scores are developed for use by the National Health Service Corps to determine priorities for the assignment of clinicians. Scores range from 1 to 25 for primary care and mental health. Larger scores correspond to higher priority areas.

Figure 17. Broadband Access and Mental Health Professional Shortage, 2019



Source: Mental Health HPSA Score data were provided by Health Resources & Service Administration HPSA Mental Health Datafile; data on county-level broadband access were provided by the Federal Communications Commission 2019 Fixed Broadband Deployment datafile.

Notes: HPSA Scores are developed for use by the National Health Service Corps to determine priorities for the assignment of clinicians. Scores range from 1 to 25 for primary care and mental health. Larger scores correspond to higher priority areas.

Table 1. Broadband Access by Geography for Select States

State	All Areas			Urban Areas			Rural Areas		
	Population Without Access	Percent of Total Population	Rank	Population Without Access	Percent of Total Population	Rank	Population Without Access	Percent of Total Population	Rank
United States	33,981,660	10%	-	10,551,623	4%	-	23,430,037	39%	-
Iowa	451,148	15%	32	76,830	4%	26	324,318	37%	21
Minnesota	641,787	12%	25	59,140	1%	3	582,647	43%	29
Montana	317,581	31%	49	54,888	9%	46	262,693	61%	42
Nebraska	304,018	16%	34	94,947	6%	40	209,171	51%	36
North Dakota	97,315	14%	31	11,294	2%	8	86,021	37%	21
South Dakota	92,406	11%	22	9,962	2%	8	82,444	26%	15
Wyoming	137,922	23%	44	10,802	3%	18	127,120	63%	46

Source: Table 1 is a replicated from Table 3. Broadband Internet Access in Seven Upper Midwest States and the United States, 2016 from the Bipartisan Policy Center's 2018 report Reinventing Rural Health Care.

Notes: Broadband internet access is defined by the Federal Communications Commission as having access to internet download speeds of at least 25 megabits per second (Mbps) and upload speeds of 3 Mbps (25 Mbps/3 Mbps) for fixed internet services.