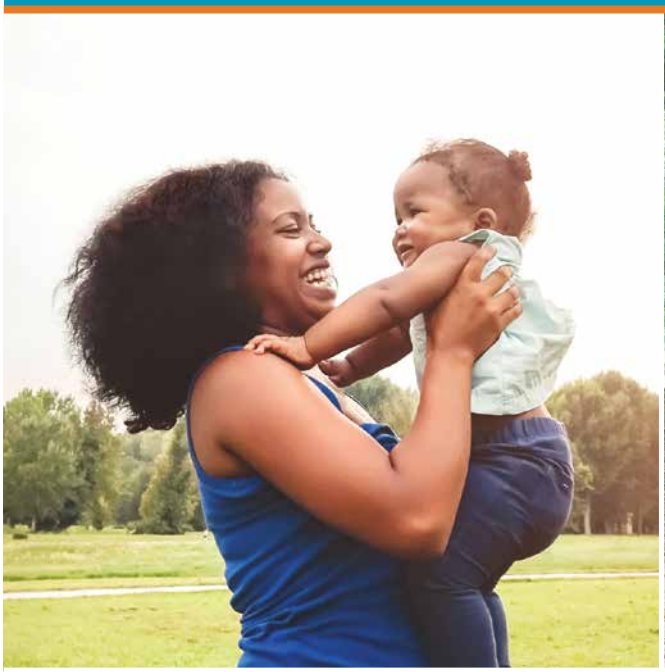

2022

MAPP2Health

ALBEMARLE • CHARLOTTESVILLE
FLUVANNA • GREENE • LOUISA • NELSON

This joint MAPP2Health report was completed in collaboration with Blue Ridge Health District, UVA Health, Sentara Martha Jefferson Hospital, and Sentara Martha Jefferson Outpatient Surgery Center, which have the identical service areas of the City of Charlottesville and Albemarle, Fluvanna, Greene, Louisa, and Nelson counties.

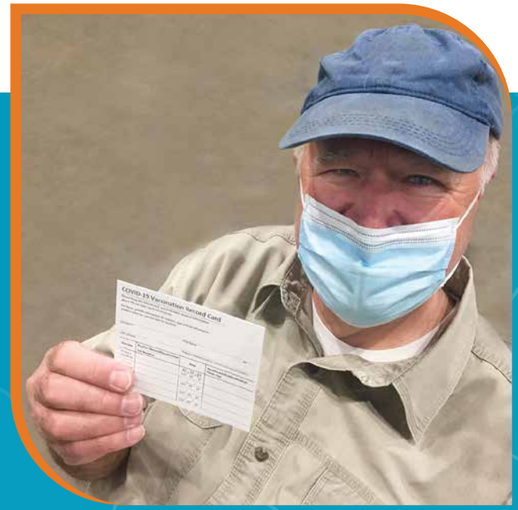

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PHOTO CREDITS

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Inside cover: Testing photo courtesy of Jason Elliott.
Back cover: All photos by Photovoice Project.

EXECUTIVE SUMMARY

Health and wellness are achieved not solely by the absence of disease or infirmity, but by a balance of physical, mental, and social well-being.[1]

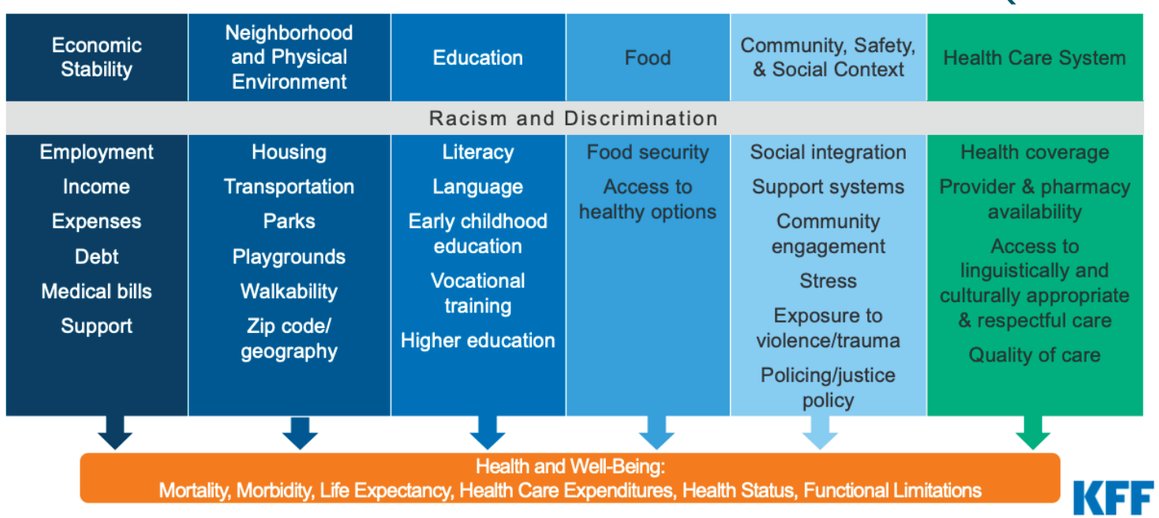
Thus, it's not surprising that the social determinants of health – the conditions where people are born, live, learn, work, play, worship, and age – impact that balance, shaping the path toward healthy outcomes and a rich quality of life.[2] When social, economic, and environmental needs are met, then there are more opportunities to be healthy. But when there are obstacles to meeting those needs, like lack of access to good jobs with fair pay, quality education and housing, safe environments, and healthcare then healthy living can be out of reach and beyond an individual's control.[3] Ultimately any disadvantage in these areas can limit the opportunity to be healthy, and this gives rise to unfair and avoidable differences in health outcomes between groups of people.[4] In other words, systems and institutional practices define opportunities to advance comprehensive well-being, and can thus give rise to health inequities and health disparities.

Healthy People 2030 defines a health disparity as "a particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage. Health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group; religion; socioeconomic status; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion."[5]

As such, a focus on social determinants of health is key to identifying and reducing health disparities. Our identification of the leading determinants of health impacting our service region were drawn from two main sources: health data and locally generated reports on both barriers to health and the supports that improve it. As a collaborative, all the potential determinants of health cannot reasonably be addressed. However Table 1 on the previous page, from Kaiser Family Foundation, helped narrow our focus to the built environment and healthcare system – both influenced by race and socioeconomic status.[6,7] Selection of these determinants was also influenced by the diverse group of participating organizations committed to the 2022 MAPP2Health process.

Table 1

HEALTH DISPARITIES ARE DRIVEN BY SOCIAL AND ECONOMIC INEQUITIES



(Adapted from Ndugga and Artiga, 2021)

> "No organization or collaboration can resolve the labyrinth of interactions that create health inequities. However, that is not a reason to abandon this complex work. As a committed community collaborative, we can harness the power within our organizations and advocate to decision-makers and policy actors for communities by embracing the power created with our organizations' collective efforts. The path forward is together."
>
> —JW Richardson

Health disparities driven or maintained by racism and discrimination have always been present in our communities.[8] The onset of the COVID-19 pandemic highlighted this reality, creating new complexities in health provision and access, particularly for people of color, rural, and low-income communities. Not only did COVID-19 infections hospitalize hundreds of thousands, killing one million Americans by May 2022, but it created a nationwide economic decline that created job losses not seen since the Great Depression.[9]

The 2022 MAPP2Health report focuses on advancing health equity through targeted policies and practices that influence the built environment and healthcare systems. Health equity is defined as when "everyone has a fair and just opportunity to attain their highest level of health."[10] Informed by the prevailing social and economic barriers to health in our service region, community organizations engaged in rigorous and systematic exploration of health inequities. They evaluated disparities across the social determinants of health and discussed how inequities in any population impact the health of the whole community. The result is actionable recommendations that take historical social and economic data, community priorities, and community challenges into consideration. Ultimately, these recommendations can guide regional policy and practice planning.

The systemic racism that has contributed to health inequities will not be eliminated overnight or solved with this report. It will require policy changes, policy implementation, local and federal commitments, a shift in leadership priorities, and a redistribution of resources. These changes are critical to emerging from the COVID-19 pandemic together as stronger, more vibrant, healthier, communities.

We hope this report will act as a tool for organizations, government agencies, and community members to validate and incentivize policy changes and program implementations that reduce inequities and close the gap on disparities in health.[11]

> “We have to think not only about how we stop overt discrimination and racism, but also how we weed it out with policies and change the power dynamics, such that those people who have not traditionally had a voice in this country are able to have that voice.”[12]
>
> —Alyce Adams, Ph.D
> professor of epidemiology and
> public health at Stanford University

2022MAPP2Health

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Special Thanks to Chip Barnett of Blue Ridge Health District and Aaron Pannone and the Master of Public Health Students of UVA Health.

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MAPP2HEALTH OVERVIEW

THE MAPP FRAMEWORK

The National Association of County and City Health Officials (NACCHO) has implemented a community-driven strategic planning process for improving community health, called Mobilizing for Action through Planning and Partnerships (MAPP). This framework, known locally as MAPP2Health, includes engaging community partners in the collection and review of qualitative and quantitative data from trusted local and national sources. In doing so, participating partners can clearly define the conditions that support, or obstruct, wellness and identify resources to address obstacles.[1]

Public policies and community-based programs that are culturally-competent and directly address the needs of residents have the power to achieve health equity.[2] The Urban Institute's 2021 study: *Leveraging Community Expertise to Advance Health Equity Principles and Strategies for Effective Community Engagement*, notes that health equity initiatives that include authentic and sustainable community engagement are needed to more fully understand complex drivers of inequities and to develop solutions that lead to inclusive and sustainable progress.[3] In other words, community action plays a vital role in effecting long-term, equitable improvements in a community's health.

MAPP2HEALTH

History

The MAPP process was first initiated in 2007 in the City of Charlottesville and Albemarle County. A steering committee of leaders from a wide array of organizations was established to plan and implement MAPP. The group published a Community Health Status Assessment Technical Report in 2008. In July 2011, MAPP2Health launched and expanded the MAPP process to all localities in the district. The resulting 2012 MAPP2Health Report included community health assessment data for all localities and a collaborative community health improvement plan. In 2016 the group focused on implementation strategies specific to each locality. The 2019 MAPP process launched in the fall of 2018 and built on the work and vision of the 2016 MAPP2Health Report. It centered on health equity across each of the four district-wide priorities, with an overall vision that

"together we will achieve equitable access to resources for a healthy, safe community."[4]

Photovoice Project | Greene County

Process

This year's MAPP began in November 2021 at the close of the first year of COVID vaccination efforts throughout the district. The MAPP Core Group – representatives from Blue Ridge Health District (BRHD), Sentara Martha Jefferson Hospital, Sentara Martha Jefferson Outpatient Surgery Center, and University of Virginia Health (UVA Health) – convened weekly on Zoom to plan and coordinate the process.

In order to accommodate COVID-19 safety protocols, the Core Group invited community partners, members, organizations, and government agencies to participate in once-a-month workgroups on Zoom. The workgroups were divided into the Leadership Council and the Locality Council. The Leadership Council included 80 representatives from agencies and organizations that served two or more localities and who had authority or influence over policy creation or development. The Locality Council was made up of community members and organizations that primarily lived or worked in one locality and/or provided direct care or services. Over 180 invitations went out for the Locality Council and, on average 56 participants attended each meeting. The Core Group facilitated the meetings with the help of students from the UVA Master of Public Health and Master of Urban Environmental Planning programs.

At the Locality Council Zoom meetings, participants gathered in breakout rooms by locality to identify areas of focus, and topics from those meetings informed policy and practice review and discussion at the Leadership Council meetings. The Leadership Council then divided into breakout rooms by policy target. They worked in these small groups to identify practices their organizations could promote to improve health equity.

The Core Group also hosted a "Deep Dive into the Data" meeting for all Council members and the public. The meeting was advertised online, by email, and with posted flyers throughout the district. The "Deep Dive" meeting presented a more granular picture of health data for the district and participants discussed those findings and their limitations.

Additionally, graduate students from the Master of Urban and Environmental Planning cohort conducted focus groups during the second Locality Council meeting in order to produce an Equity Profile for their class project. The draft of their Central Virginia Equity Profile can be found at https://libraopen.lib.virginia.edu/public_view/pg15bf03p.

Meeting minutes and support documents were posted for all Council members at vdh.virginia.gov/blue-ridge/mapp2health-councils/.

PRIORITIES AND POLICY TARGETS

The district's four priorities for healthy communities were identified during the 2016 and 2019 MAPP2Health processes:

- Healthy eating and active living
- Mental health including substance use concerns
- Health equity and access to care
- Healthy and connected communities for all ages

The 2022 MAPP2Health process went deeper into these priorities, addressing health equity through research, policies, and practices focused on the built environment and the healthcare system. The Leadership Council developed policy targets of transportation, digital access and literacy, and healthcare access, each of which were identified in Locality Council discussions as essential to healthy connected communities and healthcare delivery systems. Additionally, the Locality Council discussions identified that the populations most impacted by lack of access were persons of color, elders, low-wealth individuals, and children. Once these policy targets were firmly established, participants used subsequent meetings to analyze the obstacles to equitable distribution of services, and deliberate recommendations to improve existing services and access points.

Examples of considerations within "transportation" included not only access to transport, but cost and convenience of use. The digital area highlighted concerns about broadband access, software and hardware costs, and ease of use. Healthcare access addressed the availability of specialists, particularly mental health providers, in more rural communities – as well as the patient experience: interpretation services, microaggressive interactions with providers, and lack of culturally competent providers.

Following the final Leadership Council meeting in May 2022, both Councils convened in June 2022 to conclude the 2022 MAPP2Health and review potential policy and practice commitments from the Leadership team and discuss next steps for implementation at the locality level.

ENDNOTES

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GLOSSARY OF TERMS

The District –The locality service area, also referenced as BRHD, includes Albemarle County, the City of Charlottesville, and Fluvanna, Greene, Louisa, and Nelson counties.

Core Group – One representative from each of the district's two hospital systems, one representative from the Master of Public Health program at UVA Health, and two from Blue Ridge Health District. The Core Group was tasked with facilitating the 2022 MAPP2Health project and producing the final report.

Focus Areas – The two main focus areas for the 2022 MAPP2Health were the built environment and healthcare system. Both emerged from the four priorities and a determination to address social determinants as the upstream influencers of health.

Healthcare and Health Care – Throughout the report, "healthcare" denotes the system, industry, or institution where patients get medical care. "Health care" indicates the actions included in taking care of one's health.

Leadership Council – Participants were invited to join the Leadership Council if they held an elected position, worked for a local government agency, lead an organization that served two or more localities in the district, or held a high ranking position in public safety. Leadership Council members had influence on both policy and practice within their organization or their locality at large.

Locality Council – Participants were invited to join the Locality Council if they were community members, worked with or for any organization or agency that served at least one community in one locality, or provided direct services to at least one community in one locality. Locality Council members were the voice of their communities and informed the Leadership Council on focus areas and policy targets.

Policy Targets – The policy targets for 2022 were transportation, digital access and literacy, healthcare and mental healthcare access – including Medicaid, health insurance and payment, and referral and communication networks. These were specific, actionable areas to which policy and practice changes could potentially remove obstacles to health. All policy targets were associated with their respective focus area of either the built environment or healthcare system.

LOCALITY DEMOGRAPHICS

ALBEMARLE

Albemarle County was established in 1744. The county seat was originally located in the town of Scottsville and is currently in Charlottesville. Albemarle is currently governed by a six-member elected Board of Supervisors and managed by the board-hired County Executive. In Virginia, towns are a smaller administrative division and are generally part of the surrounding county. For example, the town of Scottsville is located within the counties of Albemarle and Fluvanna and has an elected town council and a town manager staff position.

As of the 2020 U.S. Census, the county population was 112,395 (making it the largest locality within the district), a 14% increase from 2010 (see Figure 1). Of that total, 19.3% are 65 years or older. In terms of race and ethnicity, 78.9% are non-Hispanic White, 9.7% Black, 5.8% Hispanic, and 5.5% Asian. Of people at least five years old, 11.7% speak a language other than English at home. The median household income is $79,708, the highest of the six localities in BRHD. Albemarle County surrounds the City of Charlottesville, and becomes increasingly rural the farther from the city. Overall, Albemarle County's population density is 156 people per square mile, the highest of the five BRHD counties.

CHARLOTTESVILLE

Established as a town in 1762 by the Virginia General Assembly, the City of Charlottesville was incorporated as an independent city in 1888. Charlottesville is administratively autonomous from surrounding Albemarle County and is governed by an elected five-person City Council, including a Mayor and Vice Mayor. City Council appoints the City Manager who oversees Charlottesville's departments and agencies and implements the policies and directions of City Council.

As of the 2020 U.S. Census, Charlottesville's population was 46,553, a 7% increase from 2010. Of that total, 11.3% are 65 years or older, the lowest percentage in the district. In terms of race and ethnicity, 65.7% are non-Hispanic White, 18.8% Black (highest in the district), 7.1% Asian (highest in the district), and 5.5% Hispanic (see Figure 2). Of people at least five years old, 15.7% speak a language other than English at home, highest in the district. The median household income is $70,501. Its population density is 4,564 people per square mile, by far the highest in the district, reflecting Charlottesville's more urban nature.

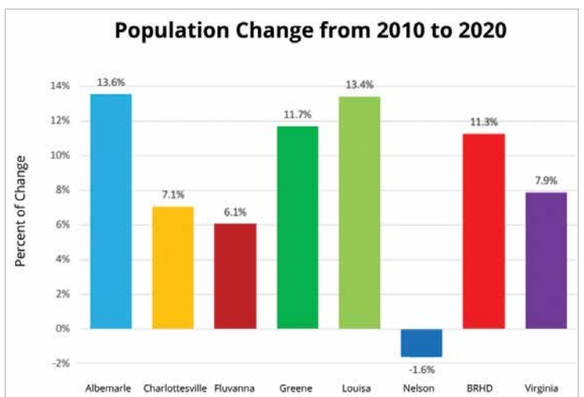

Figure 1 Percentage of Population Change in BRHD localities, BRHD as a whole, and Virginia, 2010-2020. Source: 2020 U.S. Census Bureau, Population Division.

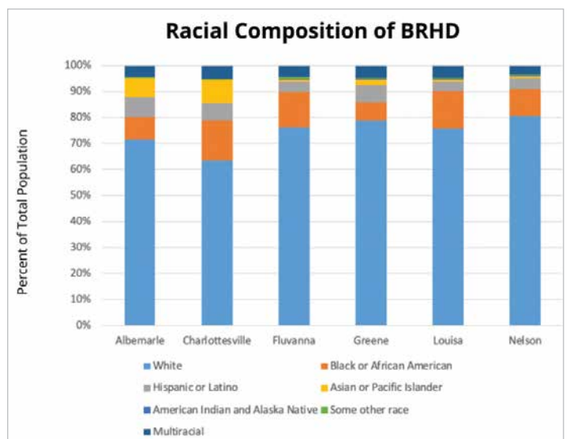

Figure 2 Racial Composition of BRHD. Source: 2020 U.S. Census Bureau, Population Division.

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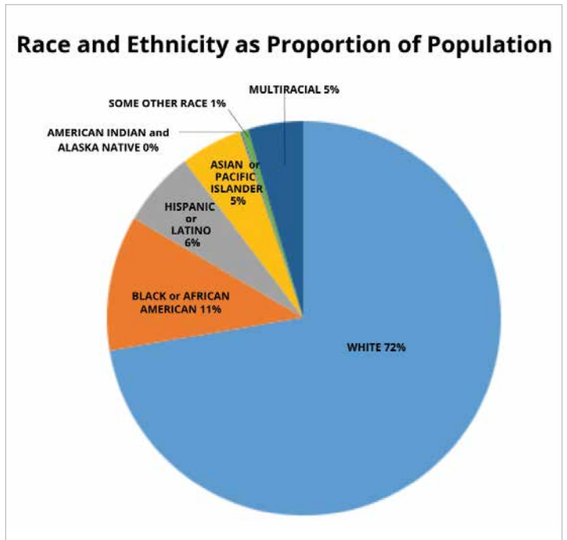

Figure 3 Race and Ethnicity as a Proportion of the Entire BRHD Population. Source: 2020 U.S. Census Bureau, Small Area Income and Poverty Estimates, SAIPE Interactive Data Tool.

FLUVANNA

The area that now comprises Fluvanna County was once part of various other Virginia counties including Henrico, Goochland, and Albemarle. Established in 1777, Fluvanna is named after the Fluvanna River (a former name for part of the James River). Fluvanna is governed by a five-person elected Board of Supervisors and managed by a County Administrator. Its county seat is Palmyra, and its largest community is Lake Monticello, which was developed in the 1960s around the man-made lake of the same name.

As of the 2020 U.S. Census, the county population was 27,249, a 6% increase from 2010. Of that total, 20.5% are 65 years or older. In terms of race and ethnicity, 77.6% are non-Hispanic White, 15.3% Black, 3.8% Hispanic, and 0.9% Asian. Of people at least five years old, 4.8% speak a language other than English at home. The median household income is $79,598. Fluvanna is predominantly rural, with a population density of 95 people per square mile.

GREENE

Established in 1838 from part of Orange County, Greene County is named after Nathanael Greene of the Revolutionary War. The Greene County Board of Supervisors includes five elected members with one member per magisterial district and one at-large member. A County Administrator manages county affairs and is appointed by the Board. Greene County includes the town of Stanardsville, its county seat.

As of the 2020 U.S. Census, the county population was 20,552, a 12% increase from 2010. Of that total, 17.8% are 65 years or older. In terms of race and ethnicity, 82.2% are non-Hispanic White (highest in the district), 7.3% Black (lowest in the district), 6.0% Hispanic (highest in the district), and 2.0% Asian. Of people at least five years old, 7.6% speak a language other than English at home. The median household income is $70,046. Greene County is primarily rural, with a population density of 132 people per square mile, reflecting its proximity to Charlottesville.

LOUISA

In 1742, Louisa County—named after Princess Louisa, daughter of England's King George II—was established from part of Hanover County. Louisa County is governed by a seven-person elected Board of Supervisors and managed by a County Administrator. The county includes the towns of Mineral and Louisa (its county seat).

As of the 2020 U.S. Census, the county population was 37,596, a 13% increase from 2010. Of that total, 20.3% are 65 years or older. In terms of race and ethnicity, 78.1% are non-Hispanic White, 15.6% Black, 3.3% Hispanic (lowest in the district), and 0.6% Asian. Of people at least five years old, 4.8% speak a language other than English at home. The median household income is $69,907. Louisa County is mainly rural, with a population density of 76 people per square mile.

Photovoice Project | Greene County

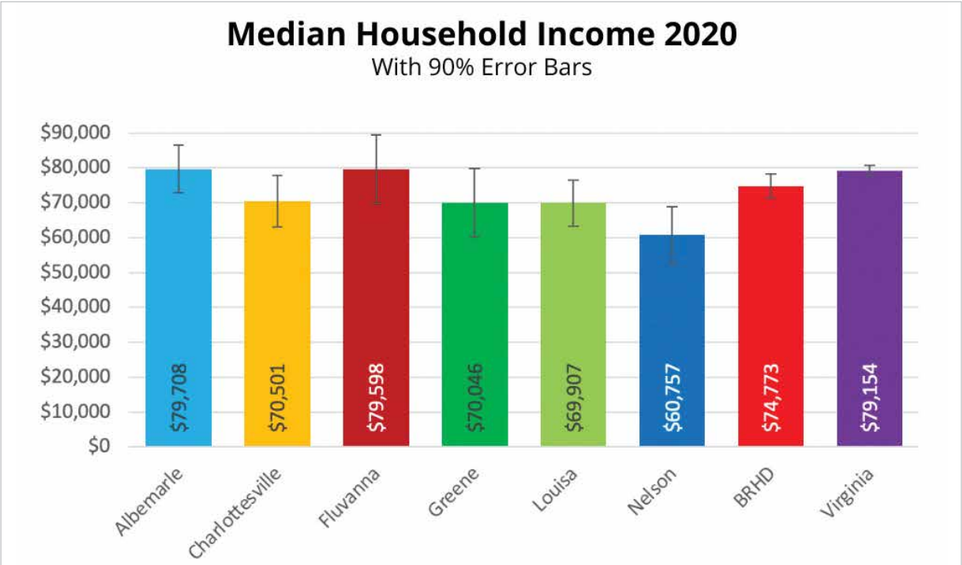

Figure 4 Median Household Income, BRHD Localities, BRHD as a whole, and Virginia. The median household income values here come from the Census Small Area Income and Poverty Estimates (SAIPE) program, based on sampling populations; generally, the more samples, the more accurate the estimate. The error bars here show how accurate each estimate is; roughly speaking, if the error bars for two localities overlap a lot, then it would be invalid to conclude that the true median incomes are different. Source: 2020 U.S. Census Bureau, Small Area Income and Poverty Estimates, SAIPE Interactive Data Tool. https://www.census.gov/data-tools/demo/saipe/#/?map_geoSelector=mhi_c&s_state=51&s_year=2020,2019,2016,2018,2017&s_measures=mhi_snc&s_county=51003,51540,51065,51079,51109,51125&map_yearSelector=2017.

NELSON

Nelson County was established in 1808 from neighboring Amherst County. It is named after Thomas Nelson, Jr., the third Governor of Virginia. Nelson is governed by a five-person elected Board of Supervisors and managed by a County Administrator. There are no cities or incorporated towns in Nelson; its county seat is Lovingston.

As of the 2020 U.S. Census, the county population was 14,775 (making it the smallest locality in the district), a 2% decrease from 2010 (the only locality to lose population). Of that total, 28.2% are 65 years or older, by far the largest percentage in the district. In terms of race and ethnicity, 81.6% are non-Hispanic White, 11.4% Black, 4.3% Hispanic, and 0.8% Asian. Of people at least five years old, 4.3% speak a language other than English at home, the lowest in the district. The median household income is $60,757, also the lowest in the district. Nelson County is largely rural, with a population density of 31 people per square mile, by far the lowest in the district.

ENDNOTES:

[1] United States Census Bureau. Population. census.gov. Updated June 30, 2022. Accessed June 13, 2022. https://www.census.gov/topics/population.html.

2022 INFLUENCES

The priority areas for the district are healthy eating and active living, mental health including substance use concerns, health equity and access to care, and healthy and connected communities for all ages. The data compiled and analyzed for this year's MAPP2Health, along with input from Council meetings, workgroups, and focus groups identified two main focus areas within these priorities: the built environment and healthcare system. These focus areas were identified, in part, due to the social, political, and economic influences of the past three years – predominantly COVID-19, the recognition of racism as a public health crisis, and the correlation between economic status and health.

COVID-19

It is hard to tell the story of health in the district without including COVID-19 – and not just its impact on residents and visitors, but the spotlight it has shone on existing health inequities. For instance, within the district, since the beginning of the pandemic (through May 31, 2022), Blacks have been 2.8 times as likely as Whites to be hospitalized with COVID-19, Latinos 1.7 times as likely as Whites. Even within just the past 12 months – with disparities in access well known and publicly addressed and vaccine widely available, Blacks have been over twice as likely as Whites to be hospitalized with COVID-19 (see Figure 1).

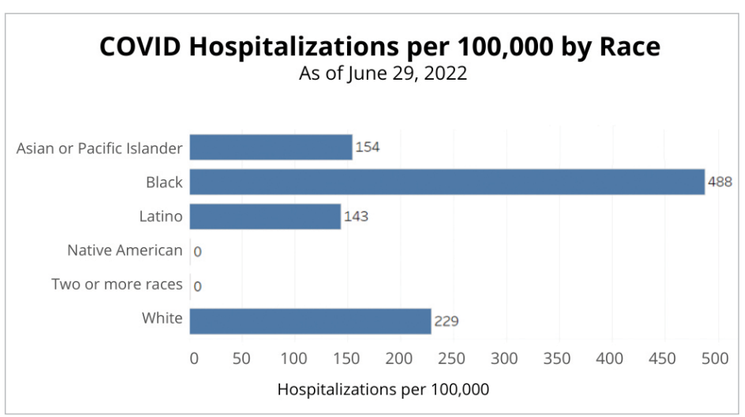

Figure 1 COVID Hospitalizations in BRHD per 100,000 Population by Race as of June 29, 2022. Source: Virginia Department of Health data, BRHD analysis

Effective vaccines against COVID-19 were produced in record time and rolled out throughout the district, but the distribution was not equitable. In the first six months of vaccine administration, 53% of all Whites got a first dose, but only 42% of Blacks and 46% of Latinos. The picture has improved since then, with 67% of Whites having received a first dose, compared with 61% of Blacks and a surging 79% of Latinos (see Figure 2). Two points stand out: 1) Blacks still lag behind Whites in vaccination rates (which explains in part the higher hospitalization rate) and 2) when vaccine doses were scarce, obtaining appointments required tech savviness, trust in the system, and real-time information – which White residents were more likely to have.

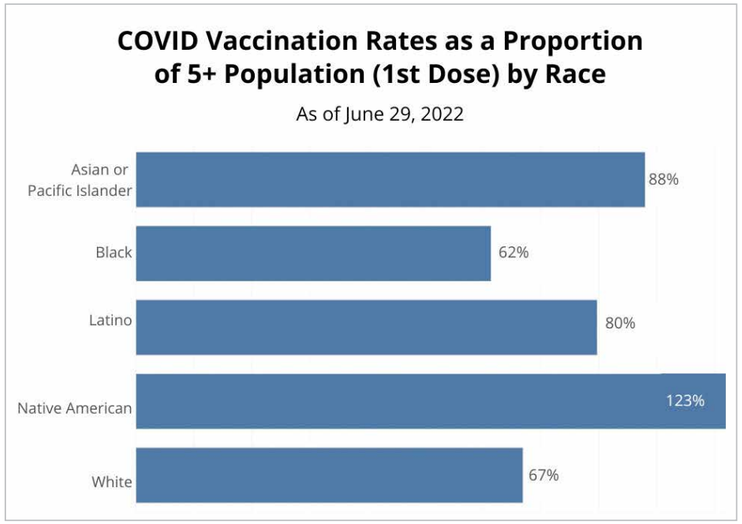

Figure 2 COVID Vaccination Rates in BRHD as a Proportion of 5+ Population (1st Dose) by Race. Source: Virginia Department of Health data, BRHD analysis

COVID-19 also revealed geographic disparities. Through May 31 2022, only 63% of Louisa residents had gotten the first dose of a COVID-19 vaccine, as compared with 86% of Albemarle residents (see Figure 3). When vaccinations were first available in December 2020 and January 2021, the availability was limited to Charlottesville. BRHD quickly set up vaccination centers in the outlying counties, but they were not offered as frequently due to the large geographical area, staffing constraints, and population size area. Over time, more vaccination clinics were established, thanks to support from UVA Health, and eventually private pharmacies began providing vaccines. But at first launch, vaccinations were geographically limited and relied entirely on the capacity of Blue Ridge Health District and the requirements set at federal and state levels, exacerbating disparities in both transportation and healthcare access.

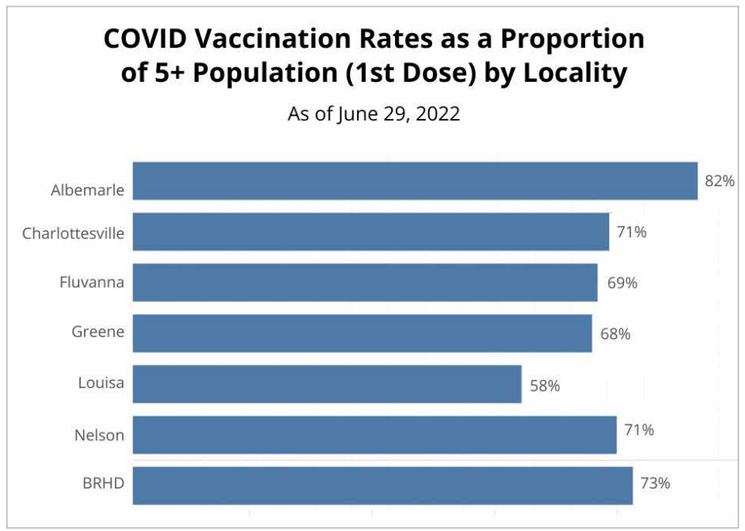

Figure 3 COVID Vaccination Rates in BRHD as a Proportion of 5+ Population (1st Dose) by Locality. Source: Virginia Department of Health data, BRHD analysis

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RACISM AS A PUBLIC HEALTH CRISIS

The American Public Health Association (APHA) issued a new policy on October 24, 2020 entitled "Structural Racism is a Public Health Crisis: Impact on the Black Community", which stated:

"Structural racism is a public health crisis that requires immediate, sustained, and comprehensive action. Structural racism is defined as 'the totality of ways in which societies foster [racial] discrimination, via mutually reinforcing [inequitable] systems...(e.g., in housing, education, employment, earnings, benefits, credit, media, healthcare, criminal justice, etc.) that in turn reinforce discriminatory beliefs, values, and distribution of resources, reflected in history, culture, and interconnected institutions.' "

It continues to note: "Racism, particularly at the institutional/structural level, is a fundamental social determinant of long-standing, widespread racial disparities in population health." Moreover, while socioeconomic status is highly related to health status, socioeconomic status "is a major pathway by which racism operates to structure opportunity and pattern health along racial lines."[1]

This MAPP2Health report is not a primer on racism or racial health disparities, but rather encourages readers to consider the effects of racism on community health, particularly when examining possible interventions to address health problems. In January 2021, the Virginia General Assembly passed a resolution "recognizing that racism is a public health crisis in Virginia", observing that "more than 100 studies have linked racism to negative health outcomes, including research supporting that the cumulative experience of racism throughout one's life can induce chronic stress and chronic health conditions that may lead to otherwise preventable deaths."[2]

A specific example of pernicious racial disparities is maternal health outcomes. While maternal deaths are relatively rare (hundreds per year in the U.S.), they occur at much higher rates among Blacks than Whites: Black women in the U.S. are three

(continued on page 20)

UNDERSTANDING THE IMPACT OF **SOCIAL DETERMINANTS OF HEALTH**

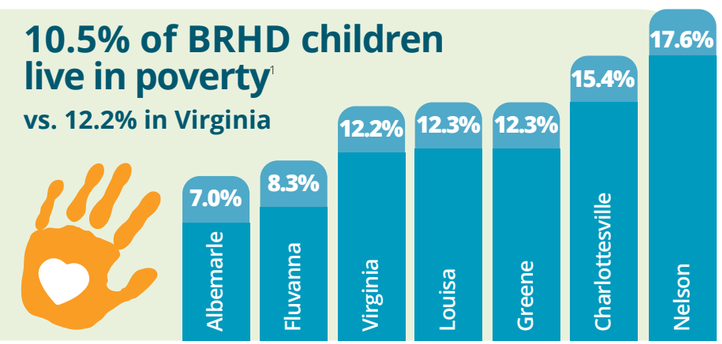
When social, economic, and environmental needs are met, there are more opportunities to be healthy. But when there are obstacles to meeting those needs, such as poverty and lack of jobs or education, then healthy living can be out of reach and beyond an individual's control.

Median household income

varies widely across BRHD (as of 2020), from **$60,757** in Nelson County to **$79,708** in Albemarle County[3]

10.5% of BRHD children live in poverty[1]

vs. 12.2% in Virginia



Racial disparities in household income

Overall in BRHD, Black median household income is **$26,721** less than for White households, with a difference as large as **$33,405** in Charlottesville and as small as **$16,385** in Nelson County.[3]

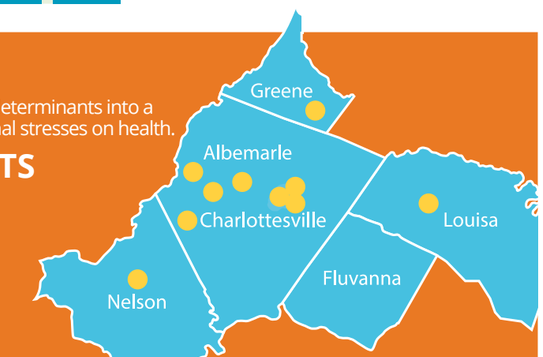
Social vulnerability index

The CDC's Social Vulnerability Index combines a number of social determinants into a single measure to determine how vulnerable a location is to external stresses on health.

10 OUT OF 50 BRHD CENSUS TRACTS ARE HIGHLY VULNERABLE[4]

On Average:

- 4 tracts in Albemarle
- 3 in Charlottesville
- 1 each in Greene, Louisa, and Nelson



UNEMPLOYMENT in BRHD (as of 2020) is also marginally better than in Virginia as a whole (5.5% vs 6.2%), but hides Charlottesville's 6.4%.[1]

VOTER TURNOUT Turnout in the 2020 presidential election was 71% (voters per population aged 18+) in BRHD (66% in Virginia), but only 61% in Charlottesville.[2]

Of adults aged 25-44, only 48% in Nelson County have some **COLLEGE EDUCATION**, versus 80% and 81% in Charlottesville and Albemarle County, respectively[1]

[1] County Health Rankings & Roadmaps. Rankings Data & Documentation. Accessed June 13, 2022. https://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation
[2] Brown CL, Raza D, Pinto AD. Voting, health and interventions in healthcare settings: a scoping review. *Public health reviews*, 2020. 41(1), 1-21
[3] US Census Bureau. 2015-2019 ACS 5-year Estimates. Accessed June 13, 2022. https://www.census.gov/programs-surveys/acs/technical-documentation/table-and-geography-changes/2019/5-year.html
[4] The Social Vulnerabilty Index (SVI): Interactive Map, CDC. cdc.gov. Published 2016. Accessed August 22, 2022. https://svi.cdc.gov/map.html

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to four times more likely than White women to die during pregnancy or childbirth, and the gap is increasing over time. (see Figure 4).[3] More common than mortality is morbidity, where women suffer life-threatening pregnancy complications known as severe maternal morbidity (SMM). SMM rates show similar racial disparities: Black women are twice as likely to suffer from SMM than White women.[4]

ECONOMIC STATUS AND HEALTH

Economic status – income and assets – is one of the major factors leading to health inequities. Where people choose to live often reflects where they can afford to live – or where they were historically allowed to live, due to redlining and other racist policies. Doctors and specialists tend to congregate in the same geographic areas (Charlottesville for this district), which tend to be the more expensive places to live, unaffordable for many. Lack of income can limit opportunity to own cars or access other transportation options, even though it is often the people who cannot afford to live close to medical centers who need transportation the most.[5]

Furthermore, it is the lack of sustainable, liveable income that can determine who has the computers, smartphones, and broadband Internet access necessary to make appointments, for instance, or for telehealth consultations. And it is often those without sufficient finances who need health insurance but lack it.

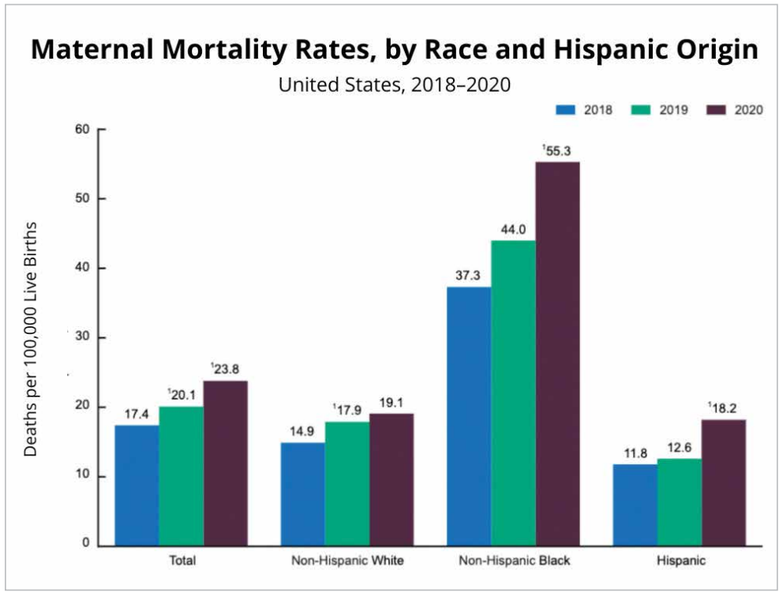

Figure 4 Maternal Mortality Rates, by Race and Hispanic Origin: United States, 2018–2020. Source: National Center for Health Statistics, National Vital Statistics System, Mortality. https://www.cdc.gov/nchs/nvss/deaths.htm.

CONCLUSION

While these three influences are only some of those informing the 2022 MAPP2Health focus areas, they are part of the larger upstream, non-medical determinants that directly and continually impact health and wellness. Social determinants of health emerged as a focus in public health literature more than ten years ago. In 2017, the National Academy of Medicine published a discussion paper, presenting five ways social determinants of health related to healthcare, concluding that, "With the failure of our current healthcare system to deliver better health and well-being at an affordable cost, exploring opportunities in the other determinants of health seems wise, if not imperative."[6] Multiple papers have been published on the need for both healthcare and public health to expand to a population health model, utilizing data and community partnerships to address the root causes of health inequities. As a famous ad by Mt. Sinai Health System reads, "If our beds are full, it means we've failed." While it may now seem obvious that where we live, work, play, and pray impacts our health, this is the first MAPP2Health process where participants highlighted how these determinants impacted the health of their communities – and were able to brainstorm effective solutions.

ENDNOTES

1. American Public Health Association (APHA). Structural racism is a public health crisis: impact on the black community. apha.org. October 24, 2020. Accessed June 10, 2022. https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2021/01/13/structural-racism-is-a-public-health-crisis
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2022 FOCUS AREAS

2022 FOCUS AREAS

Built Environment

The built environment includes the physical aspects of where we live and work, such as neighborhoods, streets, sidewalks, and transportation. As the CDC says, "The built environment can influence overall community health and individual behaviors such as physical activity and healthy eating."[1]

PRIORITIES

- Healthy eating and active living
- Healthy and connected communities for all ages

POLICY TARGETS

- Transportation
- Digital Access and Literacy

These days, "physical" needs to be expanded to include "virtual," since whether people have computers, smartphones, or broadband internet access has a strong influence on their opportunities to compete for jobs, income, and healthcare. The MAPP2Health process, including the workgroups, focus groups, and Photovoice projects called attention to two components of the built environment that are especially problematic to the district's residents: transportation and digital access.

Transportation

Physically getting to doctor's offices, health clinics, or hospitals limits access to healthcare for people who either do not have a car or are physically unable to drive (e.g., elders and those with disabilities). Car ownership varies widely in the health district overall (94.6% of households have a vehicle available): from 98.1% in Fluvanna County down to only 88.9% in Charlottesville (see Figure 1). But there are large differences by race: In Virginia as a whole, 93.9% of households have a vehicle available, but that drops to only 87.6% for Blacks, as compared with 95.6% for Whites.[2]

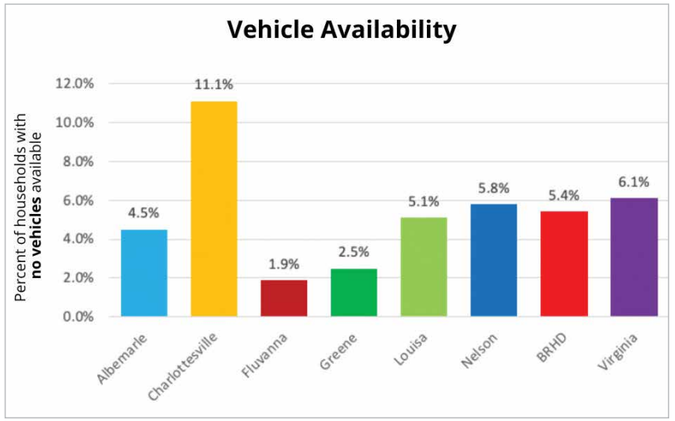

Figure 1 Vehicle Availability in BRHD Localities, BRHD as a whole, and Virginia. Source: 2020 U.S. Census. https://www.census.gov/acs/www/about/why-we-ask-each-question/vehicles/.

While bus service is available (Charlottesville Area Transit in Charlottesville, and Jaunt in the localities), it is not ideal. Reportedly, bus service is often inconvenient, with inconsistent schedules, lack of shelter at bus stops, and long wait times. Jaunt offers door-to-door service but focus groups and

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community partners reported limitations to its efficiency. During a focus group session, one participant said, "But there are only so many Jaunt (buses) in the area. ...The other problem with that is the length of time. I might be able to catch the Jaunt bus at 7:30 in the morning to get to my 10:30 medical appointment in Charlottesville, but then I'm not gonna get back home until 4:30."[3]

Digital Access and Literacy

While overall in the district (and Virginia), 88% of residents have broadband access, the same is true for only 71% of Nelson County residents (see Figure 2).[4] Digital access and literacy in general are increasingly important, but people with limited income or living at or below the poverty line are increasingly left behind.

Many people are able to bypass transportation limitations by getting online for telehealth visits or even to schedule appointments, but that is not a solution for those who do not have a computer or a fast Internet connection. And it is especially frustrating or unavailable for those inexperienced with digital technology. A focus group participant from Nelson County said about broadband, "It doesn't matter what the localities are asking for if the private companies, like Verizon and AT&T, they're not building out the rural network in counties...they're focused somewhere else, the board of supervisors are never gonna have the money to build the towers."[3] A stakeholder interviewed in Louisa County said, "And access to technology became such an essential resource when things were virtual [during COVID]."[3] Even when all the other pieces are in place, language can be a barrier for some people – especially for new immigrants. Often, online forms and telehealth software are only offered in English or sometimes in Spanish.

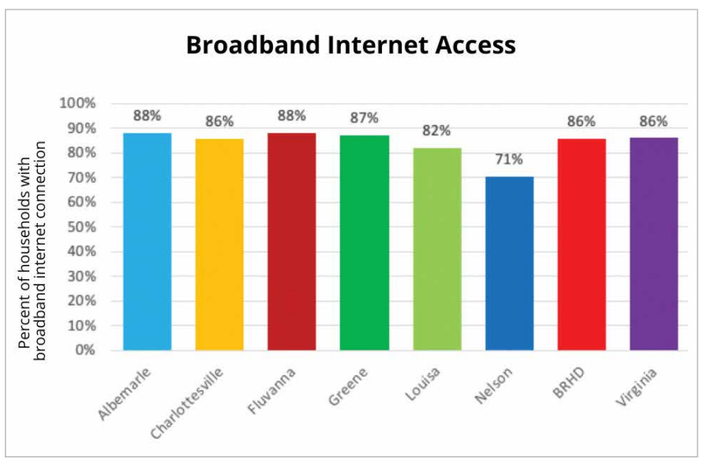

Figure 2 Broadband Internet Access in BRHD Localities, BRHD as a whole, and Virginia. Source: 2022 County Health Rankings. https://www.countyhealthrankings.org/reports/2022-county-health-rankings-national-findings-report

Healthcare System

Charlottesville and Albemarle, with UVA Health, Sentara Martha Jefferson Hospital, Sentara Martha Jefferson Outpatient Surgery Center and their associated physician networks, is rich with medical resources. The obstacle is thus not the number of providers in urban areas, but access to those resources, which often depends on money, knowledge, time, language, physical proximity, and skin color.

Most medical providers are based in and around Charlottesville: It is nine times easier to find a primary care doctor in Charlottesville and Albemarle County (292 doctors per 100,000 residents) than in the other four counties (33 doctors per 100,000. See Figure 3).[5]

Specialists are even harder to find outside Charlottesville: It is 18 times easier to find a pediatrician in Charlottesville and Albemarle County (74 per 100,000 residents) than in the other four counties (4 per 100,000).[5] Mental healthcare is particularly challenging to access. It is six times easier to find a mental health provider in Charlottesville and Albemarle County (424 per 100,000 residents) than in the other four counties (74 per 100,000. See Figure 4).[5]

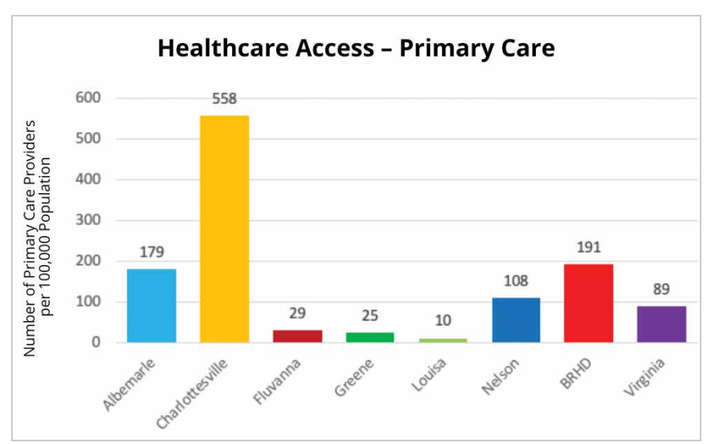

Figure 3 Number of Primary Care Providers per 100,000 Population in BRHD Localities, BRHD as a whole, and Virginia. Source: https://data.hrsa.gov/topics/health-workforce/ahrft

Those working multiple jobs, long hours, or who cannot afford daycare for children, are the most challenged to find time for or resources to pay for medical help: 8.8% of Charlottesville-Albemarle residents are uninsured, a proportion that rises to 11.1% in Fluvanna, Greene, Louisa, and Nelson counties.[4] Applying for Medicaid, even for those who are eligible, can be daunting and difficult. Moreover, there are limited providers accepting Medicaid outside of the district's two

PRIORITIES

- Mental health including substance use concerns
- Health equity and access to care

POLICY TARGETS

- Healthcare and Mental Healthcare Access including
  - Workforce
  - Medicaid, Health Insurance, and Payment
  - Referral and Communication Networks

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hospital systems, and Medicaid recipients are often unaware of resources available and how to activate them.

Trust is another issue, particularly for non-English speakers or people of color. One result is that many people end up in urgent care centers, emergency rooms, and admitted to hospitals with conditions that could have been treated at the primary care level. For example, Blacks in the district are 45% more likely than Whites to be hospitalized for problems that might have addressed at the primary care level.[6]

The policy targets identified – transportation, digital access and healthcare access – reflect the diverse geography, demographics, and experiences of communities in the district.

Unsurprisingly, they also reflect the barriers communities faced during the COVID-19 pandemic which both shaped and overwhelmed the public health landscape in the last two years.

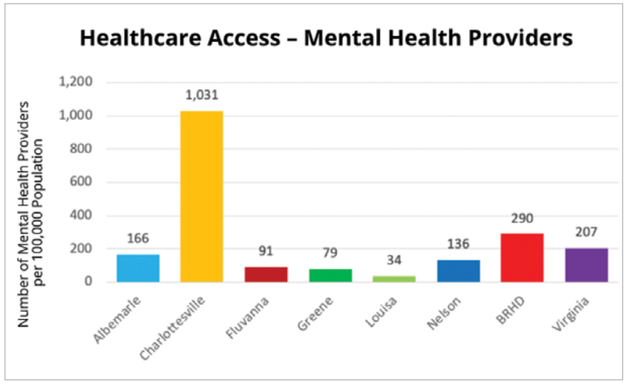

Figure 4 Number of Mental Health Providers per 100,000 Population in BRHD Localities, BRHD as a whole, and Virginia. Source: Centers for Medicare & Medicaid Services, National Provider Identifier Standard (NPI) 2021. https://www.cms.gov/Regulations-and-Guidance/Administrative-Simplification/NationalProvIdentStand

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BUILT ENVIRONMENT

BUILT ENVIRONMENT: SUMMARY

The built environment emerged for participants as a focus area in an effort to explore the effect of the social determinants of health on health inequities, as well as to reveal opportunities to improve inequities through targeted policies and practices.

During the initial Leadership Council meeting, members identified transportation, housing, and open spaces as domains of the built environment which they directly or indirectly influenced. Once presented to the Locality Councils, additional themes such as digital access and literacy, access to healthy food, and indoor community wellness spaces emerged, but transportation and digital access gained momentum and consensus as target areas.

Members of the Locality Councils reported that lack of reliable public transportation had the biggest impact on elders, young children, people of color, and those in low-income neighborhoods (see Figure 1 for distribution of locality populations in poverty). The barriers to transportation existed in the availability of consistent schedules and connected routes, as well as in transportation facilities themselves. For example, Locality Council members from Charlottesville discussed the lack of shelters, lighting, or benches at many bus stops throughout the city. Additionally, for Fluvanna, Nelson, and Greene, the lack of walk-able areas – sidewalks or routes that can accommodate residents with disabilities – limited the ability to reach public transportation or connect to grocery stores that accept SNAP benefits or have healthy food (see Figures 2 and 3). Finally, the sheer size of Louisa County and its rural areas, dispersed between large developed neighborhoods (such as Lake Anna), inhibits effective transportation routes as they must pass through multiple jurisdictions.

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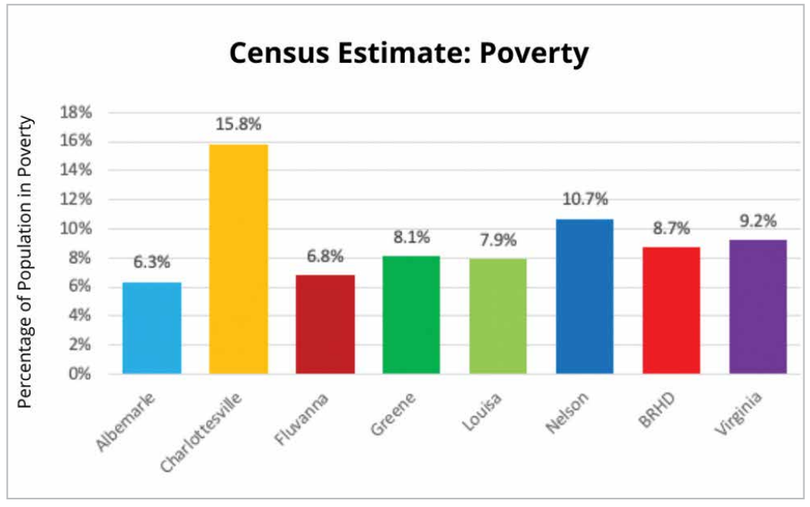

Figure 1 Percentage of BRHD Population in Poverty. Source: U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE) Program Release date: December 2021. https://www.countyhealthrankings.org/reports/2022-county-health-rankings-national-findings-report.

WHY THE BUILT ENVIRONMENT MATTERS

The built environment includes the physical aspects of where we live and work, such as streets and sidewalks, and transportation. As the CDC says, **"The built environment can influence overall community health and individual behaviors such as physical activity and healthy eating."**[2]

While overall in BRHD (and Virginia), **88%** of residents have broadband access, the same is true for only **71%** of Nelson County residents.[1]

The proportion of Greene County residents who are **low income and live far from the nearest grocery store** (6.5%) is twice that for BRHD as a whole (3.3%) and 50% higher than for Virginia (4.4%).[1]

Car ownership varies widely

94.6% of households have a vehicle available, from 98.1% in Fluvanna County down to only 88.9% in Charlottesville, but there are large differences by race: In Virginia as a whole, 93.9% of households have a vehicle available, but that drops to only 87.6% for people who identify as Black, as compared with 95.6% for people who identify as White. [3]

CAT provides public transportation within Charlottesville, supplemented by Jaunt and Connect, with free door-to-door service available for qualifying Medicaid recipients and people with disabilities.

In Charlottesville, only **17%** of residents who walk or bike are non-White. That's less than half the proportion of non-White Charlottesville residents (36%)"[4]

17%

[1] County Health Rankings & Roadmaps. Rankings Data & Documentation. Accessed June 13, 2022. https://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation

[2] Centers for Disease Control and Prevention (CDC), Division of Community Health (DCH). The built environment assessment tool manual. Accessed June 13, 2022. https://www.cdc.gov/nccdphp/dnpao/state-local-programs/built-environment-assessment/index.htm

[3] National Equity Atlas. "Car Access: Everyone Needs Reliable Transportation Access and in Most American Communities That Means a Car." 2019. Accessed on June 13, 2022. https://nationalequityatlas.org/indicators/Car_access#/?breakdown=1&geo=0200000000051000

[4] City of Charlottesville. 2015 bicycle and pedestrian master plan update. Available at https://www.charlottesville.gov/DocumentCenter/View/480/2015-Bicycle-and-Pedestrian-Master-Plan-PDF?bidId=. Accessed August 22, 2022.

Norm Shafer | Radical Roots Farm

Transportation overlapped with the priority area of healthcare system as getting a ride to doctor's appointments – due to the unavailability of local providers in rural areas – was another area of concern. Though Medicaid Travel Services and Jaunt can transport to doctor's appointments, the Locality Council reported that accessing those services is underutilized because they can be cumbersome and unpredictable.

In the realm of digital access, representatives from the Nelson County workgroup acutely felt the barriers to bandwidth as pockets of the county are entirely without cell phone or internet access. Locality members from all counties identified additional barriers to digital literacy such as the lack of online navigators and translated online content. This particularly affects the Charlottesville area, with its recent influx of refugees and non-English speaking residents (see Figure 3). Without navigators or translated content, telemedicine services, social services, and medical assistance are out of reach for many of the localities' most vulnerable community members.

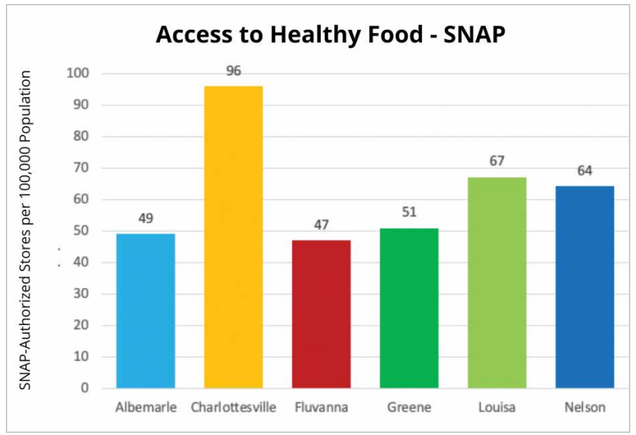

Figure 2 Number of SNAP-Authorized Stores in BRHD Localities per 100,000 population. Source: 2020 U.S.D.A. Economic Research Service. https://www.ers.usda.gov/data-products/food-environment-atlas/go-to-the-atlas/

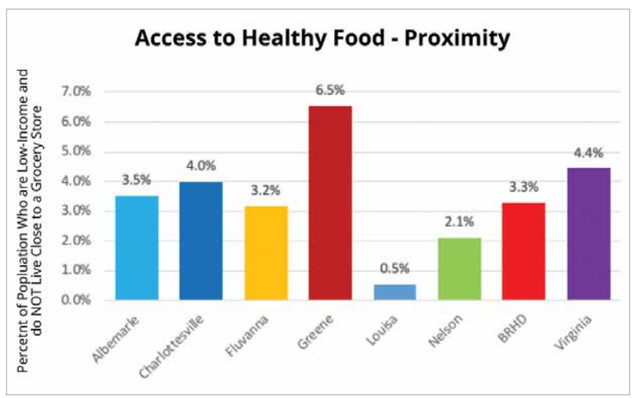

Figure 3 Percentage of Population Who are Low-Income and Do Not Live Close to a Grocery Store. Source: 2020 U.S.D.A. Economic Research Service. https://www.ers.usda.gov/data-products/food-environment-atlas/go-to-the-atlas/

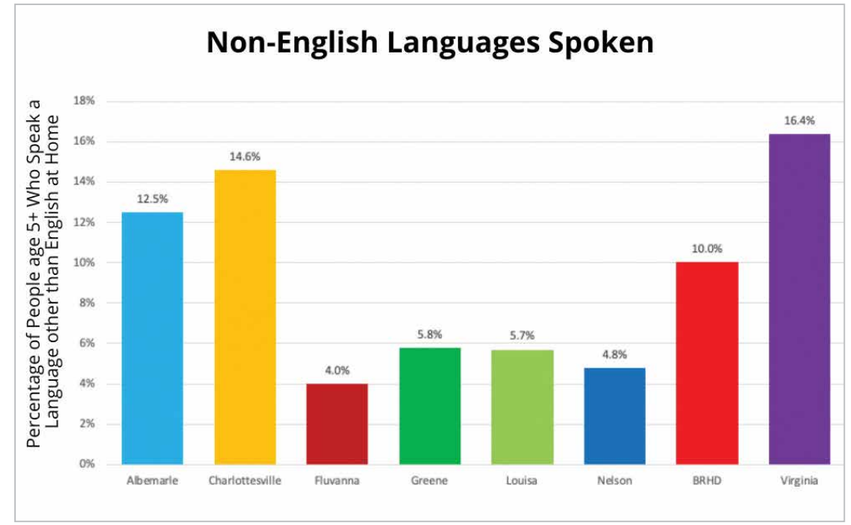

Figure 4 Language Other Than English Spoken at Home, Percent of Persons Age 5 years+ for BRHD Localities, BRHD as a whole, and Virginia, 2016-2020. Source: U.S. Census. https://www.census.gov/quickfacts/fact/table/nelsoncountyvirginia,louisacountyvirginia,greenecountyvirginia,fluvannacountyvirginia,charlottesvillecityvirginia,albemarlecountyvirginia/PST045221.

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BUILT ENVIRONMENT: RECOMMENDATIONS

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POLICY TARGET TRANSPORTATION

Recommendations to address issues in transportation emerged during both the Locality and Leadership Council meetings. Some Leadership Council members from Albemarle County and Charlottesville were currently engaged in transit and planning initiatives to improve services. For example, Charlottesville's Community Climate Collaborative produced a report, "Transit Equity and Climate: Moving to a Cleaner Future," which addressed the need to improve frequency, quality, and quantity of bus stops, as well as more connected routes.[1] These recommendations aligned with those from both Councils' meetings.

Additional transportation recommendations focused on procuring vouchers for rideshare companies – such as Lyft and Uber – and expanding accessibility and routes from more rural areas and localities to providers and services.

Strategy	Recommendations	Potential Partners
Improve bus stop infrastructure; Improve route range, reliability, and frequency of public transportation system and Jaunt	• Connect to local donors and foundations to fund bus stop improvements • Work with healthcare systems (UVA Health, Sentara Martha Jefferson Hospital, Sentara Martha Jefferson Outpatient Surgery Center) to improve nearby bus stops and increase route frequency to health system hospitals and providers; have providers and scheduling departments within the hospital communications departments promote the new routes (particularly for those providers outside of Charlottesville) • Assess and evaluate current ridership and examine costs for expanding Jaunt routes in localities, as well as improving scheduling reliability through increased staffing • Develop GPS apps to track bus routes • Support advocacy for local government investment in bus, bike, and pedestrian infrastructure • Work with community partners to assess, evaluate, and report out changes in transportation data to officials	• Community Climate Collaborative • Albemarle County Transportation Services Department • Charlottesville Area Transit (CAT) • Jaunt • Thomas Jefferson Planning District Commission • Piedmont Mobility Alliance • VisitAble • Move2Health Equity Coalition • Charlottesville Area Alliance
Develop a robust rideshare network and voucher system for patients and clients	• Seek funding for vouchers for Uber, Lyft, and local cab companies as well as adding those companies to current Carpool and Park-and-Ride programs • Encourage employers to sponsor vouchers for rideshares • Work with donors to expand Medicaid transportation contracts to nonprofits and organizations with patient rosters under 50 clients	• Rideshare (Thomas Jefferson Planning District Program) • Jaunt • CAT • Local donors and foundations • Charlottesville Area Community Foundation

BUILT ENVIRONMENT: RECOMMENDATIONS

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POLICY TARGET DIGITAL ACCESS AND LITERACY

Digital access recommendations focused on improving broadband infrastructure as well as improving digital literacy, access, and advocacy. Digital literacy is defined as "the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills."[2] The recommendations listed on the following page as proposed by the Councils identify the inherent pitfall of technology: access to technology, hardware (e.g., smartphones), and broadband internet are only as helpful as the user's level of literacy. Hence, the digital access recommendations include ongoing assessment, investment, and engagement to make an impact and sustain effectiveness.

ENDNOTES

[1] Community Climate Collaborative. Transit equity and climate: moving to a clearer future. theclimatecollaborative.org. September 2021. Accessed June 24, 2022. https://theclimatecollaborative.org/transit-equity-and-climate.

[2] American Library Association (ALA). Digital literacy. Accessed June 24, 2022. https://literacy.ala.org/digital-literacy/.

Strategy	Recommendations	Potential Partners
BROADBAND INFRASTRUCTURE: Expand broadband service access	• Communicate updates on the Regional Internet Service Expansion (RISE) to community members through Community Health Workers (CHW) and other service providers • Work with local governments, coalitions, and other partners to ensure households in need of internet are aware of the process to get connected	• Central Virginia Electric Cooperative (CVEC)/Firefly • Representatives from local and state government • Nelson County Broadband Authority • Thomas Jefferson Planning District Commission
DIGITAL LITERACY: Create literacy improvement and bridging services for users in multiple languages	• Assess current digital literacy and training programs (for end-users) and evaluate the most effective programs to scale-up in multiple languages • Ensure funding for hybrid solutions (for example, phone support with interpretation, printed translations) and alternatives to direct internet access	• Forge (and other UVA student-based technology organizations) • Computers4Kids (C4K) • Linklab at UVA • Home to Hope Program (City of Charlottesville) • Jefferson Madison Regional Libraries (JMRL) • Faith-based organizations
DIGITAL ACCESS + LITERACY: Integrate Digital Navigators into the healthcare landscape	• Partner with agencies to develop assessment instruments and determine the real need for Navigators • Ensure funding to support sustainable training curriculum for Digital Navigators to reach, teach, and assist communities • Identify CHWs who can be trained as Navigators, particularly for assistance with telehealth services and Medicaid enrollment	• Sentara Martha Jefferson Hospital, Sentara Martha Jefferson Outpatient Surgery Center • UVA Health • Virginia Health Care Foundation • Virginia Hospital and Health Care Association • The Charlottesville Free Clinic • Central Virginia Health Services - Charlottesville and Louisa • Blue Ridge Medical Center • Greene Care Clinic • Blue Ridge Health District
DIGITAL ACCESS: Provide affordable access to hardware and software to connect to healthcare services	• Identify public/private partnerships to fund hardware (phone, computer) and loaner programs, and support ongoing service costs • Develop and sustain digital access equity centers that provide centralized locations with reliable hardware, broadband, software, and technology support	• Home to Hope Program (City of Charlottesville) • JMRL • Faith-based organizations • Local tech companies • Darden Business School (UVA) • Nelson Heritage Center and other community centers

HEALTHCARE SYSTEM

HEALTHCARE SYSTEM: SUMMARY

The healthcare system emerged as a focus area of concentration that revealed opportunities to improve inequities in access and clinical care through targeted policies and practices.

During the second Leadership Council meeting, members identified Medicaid access, economic development (and its influence on enticing providers to rural areas), outreach, and upstream interventions as domains of the healthcare system that they directly or indirectly influenced. Once presented to the Locality Councils, additional themes such as access to specialty providers (including dentists and mental health professionals), interpretation and translation services, health navigators, culturally competent providers, and multi-language telemedicine needs were discussed and integrated into recommendations for healthcare system improvements.

The three most common obstacles in the healthcare system as reported by the Locality Councils were the provider and workforce shortages, lack of access to insurance and payment plans, and fragmented referral and communication networks (see Figure 1 for uninsured population rates). The populations most affected by healthcare system inequities mirrored those of the built environment: youth, elders, low-income communities, and people of color.

Provider unavailability was the most prominent theme, and Locality Council focus groups concentrated on the quantity and quality of primary and specialty care providers, the lack of diversity

(continued on page 39)

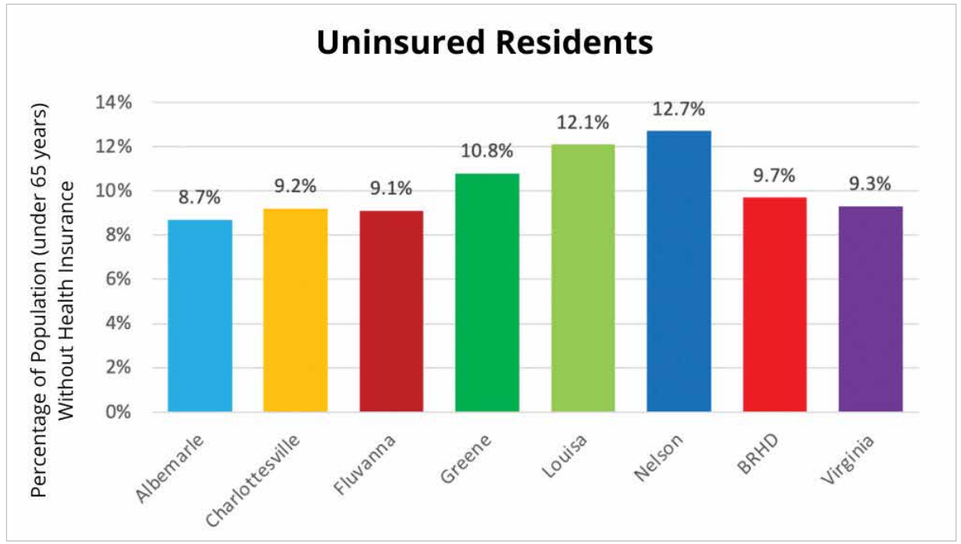

Figure 1 Percentage of Population (under 65 years) Without Health Insurance for BRHD Localities, BRHD as a whole, and Virginia. Source: U.S. Census Bureau, Quickfacts. https://www.census.gov/quickfacts

HEALTHCARE ACCESS AND ITS IMPORTANCE

How easy is it to get health care when you need it?

Health care is considered accessible if it is affordably offered nearby, on time, and by culturally competent, high-quality providers.[4]

NEARLY ONE IN TEN...

9.3% of Virginians under 65 are uninsured

COMPARED WITH...

8.8% of Charlottesville-Albemarle residents, and

11.1% of people in Fluvanna, Green, Louisa, and Nelson counties[1]

Blacks in BRHD are **45%** more likely than Whites to be hospitalized for problems that might have been addressed at the primary care level.[3]

IT IS...

9 times easier

to find a primary care doctor in Charlottesville & Albemarle County than in the other four counties[2]

Charlottesville & Albemarle County **292 DOCTORS**

33 DOCTORS Other 4 Counties

89 DOCTORS State of Virginia

PER 100,000 RESIDENTS

18 times easier

to find a pediatrician in Charlottesville & Albemarle County[2]

There are **74 PEDATRICIANS per 100,000 residents** in Charlottesville and Albemarle County vs. **4 PER 100,000** in the other 4 counties.

6 times easier

to find a mental health provider in Charlottesville & Albemarle County[2]

There are **424 MENTAL HEALTH PROVIDERS per 100,000 residents** in Charlottesville and Albemarle County vs. **74 PER 100,000** in the other 4 counties.

[1] County Health Rankings & Roadmaps. Rankings Data & Documentation. Accessed June 13, 2022. https://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation
[2] Health Resources & Services Administration. Area Health Resources File. Accessed June 13, 2022. https://data.hrsa.gov/topics/health-workforce/ahrf
[3] Centers for Medicaid and Medicare Services. Mapping Medicare Disparities by Population. Accessed June 13, 2022. https://data.cms.gov/tools/mapping-medicare-disparities-by-population
[4] Healthy People 2020. Access to Health Services. Washington, DC: U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. http://www.healthypeople.gov/2020/topics-objectives/topic/Access-to-Health-Services. Accessed August 21, 2022.

Eichner Studios | VisitAble's Founder and his father. VisitAble provides disability inclusion, training, and accessibility consulting services

among providers, and the sense of distrust patients have – particularly non-White patients – in providers and the system as whole. The focus groups also discussed how workforce shortages acutely affected the healthcare system, in particular mental health providers, leaving the remaining staff overworked, burned out, and with few resources to appropriately serve patients. Telemedicine services, meant to accommodate the understaffing issues, helped to connect rural patients to providers, and offer COVID-safe alternatives to care. However, participants reported that telemedicine was actually a barrier for populations with low digital literacy and limited or no English fluency. Thus, telemedicine did not improve access for the most affected populations as low digital literacy and language barriers hindered success.

Discussions on health insurance from both Councils concentrated on the difficulties in enrolling for Medicaid and complicated Medicaid reimbursement policies – the latter of which was so complex it discouraged providers from accepting Medicaid patients. Additionally they discussed the financial pressure on patients, and lack of healthcare payment options, which caused some patients to avoid care altogether for fear of financial repercussions.

Finally, the need for a connected and robust referral and communication system, one in which providers are integrated and collaborate on the patient's continuum of care, are informed of healthcare options, educate their patients on those options, and can easily guide patients through clinical encounters within a care network was deliberated. Though Emergency Medical Services (EMS) in some localities act as primary care providers and EMS use often indicates trends in care, it is not often coordinated with the healthcare system or leveraged as a network asset. The Leadership Council in particular recognized this missed opportunity and its impact on the already fractured referral system.

2022MAPP2Health

HEALTHCARE SYSTEM: RECOMMENDATIONS

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POLICY TARGET WORKFORCE

Recommendations for initiatives to address issues in the healthcare system workforce emerged in both the Locality and Leadership Council workgroups. Some Locality Council members from Charlottesville, Nelson, and Greene were currently engaged in initiatives to strengthen the workforce. For example, the Blue Ridge Medical Center in Nelson County, Region 10, the Charlottesville Free Clinic, Central Virginia Health Services (CVHS), and the Greene Care Clinic utilize case managers and community health workers as health navigators to reduce the demand on clinical staff and assist patients through their entire care encounter.

Additional workforce recommendations focused on improving access to and affordability of clinical training and education – especially for mental health providers – diversifying the workforce, increasing multi-language translators and interpreters, and focusing on economic development opportunities to entice practitioners to underserved areas.

Strategy	Recommendations	Potential Partners
Providers and staff reflect the diverse patient population	• Advocate for funding for educational scholarships, programs, trainings, and classes that encourage people of color and multi-language speakers to join the workforce • Lobby for academic institutions to offer loan repayment for clinical trainings • Incentivize healthcare systems to broaden clinical training opportunities to the public, particularly outside of 9am-5pm working hours • Improve simulations at medical schools and clinical training environments so patient "actors" are diverse in race, age, gender identity, and socio-economic status • Incorporate multi-lingual CHWs from nearby communities as patient support and Navigators • Collaborate to create a CHW network that can train, outsource, refer, and staff district partners with Health Navigators on request • Incorporate medical interpreters and translators into clinical training curricula • Obtain grant funding and paid opportunities for community members to become Peer Health Navigators	• Piedmont Virginia Community College (PVCC) • Representatives from local and state government • Blue Ridge Health District • UVA Health • Virginia Department of Emergency Services (VDEMS) • Sentara Martha Jefferson Hospital, Sentara Martha Jefferson Outpatient Surgery Center
Incentivize providers to practice in rural or underserved communities	• Work with the business community, developers, and healthcare institutions (employers) to subsidize rents and relocation fees • Reform zoning policies to provide affordable housing for clinicians and sustainable rent for clinics • Provide opportunities for local businesses to contribute resources and funding to bolster provider relocation to their communities • Publicize incentives for relocation and service area opportunities among provider networks	• Representatives from local and state government • Board of Supervisors • City Council • Chambers of Commerce • UVA Health • Sentara Martha Jefferson Hospital, Sentara Martha Jefferson Outpatient Surgery Center

2022MAPP2Health

HEALTHCARE SYSTEM: RECOMMENDATIONS

Photovoice Project | Nelson County

POLICY TARGET MEDICAID, HEALTH INSURANCE, AND PAYMENT

The complexity of Medicaid and financial burdens of a pay-to-play system inspired robust discussion in both Council groups on health insurance enrollment and payment solutions. As with other policy targets, some organizations had already activated programs to address enrollment issues. Some of those programs, such as the Medicaid navigator helpline at Charlottesville's CVHS, offer onsite and remote (phone or online) support to all residents, regardless of whether they are on the patient roster.

There was consensus on the need for additional staffing – not only to address enrollment demands and to act as Medicaid liaisons, but to support practitioners with reimbursement, advocacy, and administrative assistance. Alternative payment plans, such as sliding scale and pay-what-you-may were also discussed.

Strategy	Recommendations	Potential Partners
Enroll all eligible patients in Medicaid	• Assess the proportion of Medicaid-eligible patients in each locality to determine the ideal benchmark for enrollment numbers • Collaborate to create a CHW website or software system that can train, outsource, refer, and staff district partners with Medicaid enrollment liaisons • Offer Medicaid enrollment trainings for first responders, local government employees, and other public sector, client-facing employees in order to identify eligible residents and bundle services	• Board of Supervisors • City Council • Central Virginia Health Services • Blue Ridge Health District • Blue Ridge Medical Center • Department of Social Services (all Localities)
Increase the number of providers who accept Medicaid	• Advocate at the government level to engage policymakers and lawmakers in the dialogue around reimbursement rate increases and policy change • Promote the standardization and increase of reimbursement rates for Medicaid-trained advocates and peer specialists who support providers and clinical services	• General Assembly • Representatives from local and state government • Blue Ridge Health District
Improve access to alternative payment and insurance plans	• Work with donors and grant specialists to create training programs and a grant "hub" so providers and healthcare systems can support sliding scale or pay-what-you-may programs • Obtain funding to support Payment Navigators that can direct patients to the most appropriate healthcare payment options – including Marketplace enrollment	• Blue Ridge Health District • United Way of Greater Charlottesville • Charlottesville Area Community Foundation

2022MAPP2Health

HEALTHCARE SYSTEM: RECOMMENDATIONS

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POLICY TARGET REFERRAL AND COMMUNICATION NETWORKS

Participants in both Councils sought more opportunities to collaborate, integrate, and connect their services, to more easily refer patients, and diminish the barriers to care caused by provider shortages or access. Referral and communication networks were discussed as powerful tools to eliminate gaps in knowledge, improve patient education and outreach, and distribute information between disparate clinical disciplines. Specifically proposed was EMS integration into the traditional referral and patient care network. For example, Wintergreen Fire & Rescue in Nelson County is currently bolstering its Community Paramedicine/Mobile Integrated Health (CP/MIH) services, which provide ongoing, non-emergency, at-home care for patients who would otherwise utilize 911 for primary care. If EMS could report and connect to a centralized network, it could potentially serve two purposes: allow providers and healthcare systems to get an early notification of health trends in the community; and streamline their CP/MIH patients into ongoing primary or specialty care with nearby providers.

Strategy	Recommendations	Potential Partners
Easily connect and refer patients to providers regardless of the healthcare setting	• Assess the current system for information sharing and referrals to determine gaps and opportunities for connection • Secure funding for a provider network website that could, for example, accept and route HIPAA protected-messages, post documents and event calendars to members (providers) • Assess current Community Paramedicine/ Mobile Integrated Health (CP/MIH) programs and evaluate how to connect/expand services to collaborate with EMS providers and healthcare systems • Collaborate to create a CHW training center that can train, outsource, refer, and staff district partners with Healthcare Navigators who can promote services, educate and connect patients to those services, and support the referral network	• Blue Ridge Health District • UVA Health • Sentara Martha Jefferson Hospital, Sentara Martha Jefferson Outpatient Surgery Center • EMS providers in all Localities • Private sector web developers and technology companies • Blue Ridge Health District • Blue Ridge Medical Center • Greene Care Clinic • The Charlottesville Free Clinic • Central Virginia Health Services- Charlottesville and Louisa

HEALTHCARE SYSTEM: MENTAL HEALTH

This summary of the state of mental health is derived from a full report by the Community Mental Health and Wellness Coalition. Access the full report at www.cmhwcoalition.org/planning/.

Mental health problems are among the most common health conditions in the U.S., with one in five adults experiencing mental illness each year.[1] Data from the Behavioral Risk Factor Surveillance Survey (BRFSS) shows that in 2019, the rate of people reporting 14 or more poor mental health days was slightly higher in our region than across the state.[2]

With the onset of COVID-19, the already strained mental health system was hit by a perfect storm of personal fear and anxiety, societal and political upheaval, forced isolation, loss of life, and an economic downturn, coupled with unprecedented challenges for the behavioral health workforce. Black, Latino, and multi-racial adults in Virginia reported higher rates of depression throughout the pandemic than White and Asian Virginians.[3] Yet, data from the Virginia Pulse Survey during the pandemic showed that Whites took prescription medication for mental health concerns more than 40% more often than Blacks, and raised questions about how to better support access to racially and culturally informed outpatient treatment for people of color.[4]

Data from Pulse also show that the percentage of Virginians living with a disability who reported symptoms of depression and anxiety was approximately twice that of those without a disability. By contrast, the percentage of those with a disability who needed counseling for anxiety or depression but did not get it was more than twice that of those without a disability.[5]

Many young adults experienced significant disruptions in their lives, such as university closures, job or income loss, or transitioning to remote work – all of which may contribute to poor mental health. Young adults in Virginia, aged 18-29, consistently reported the highest rates of anxiety and depression of any age group throughout the course of the pandemic.[6] Young adults were more likely to report needing counseling for depression and anxiety symptoms, but not receiving it than older adults.[7]

From 2011 to 2019, the rate of high school students in Virginia who felt sad or hopeless increased 27%, and in 2019 one in three students felt this way every day for more than two weeks.[8] Data from the 2019 Virginia Youth Survey shows that female students consistently reported higher rates of feeling sad or hopeless than males (see Figure 2), and students who identified as lesbian, gay, or bisexual reported rates nearly twice as high as students who identified as heterosexual.[9] Students identifying as Latino and multi-racial also reported higher rates of feeling sad

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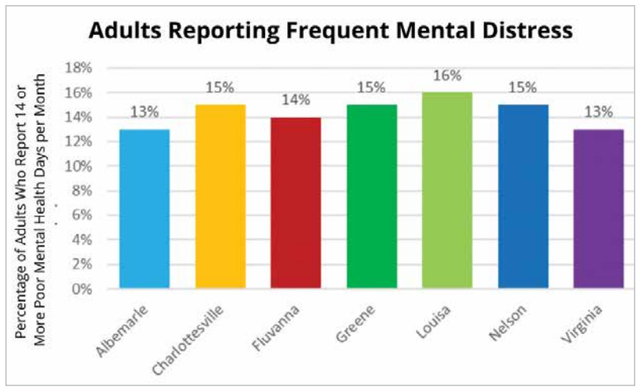
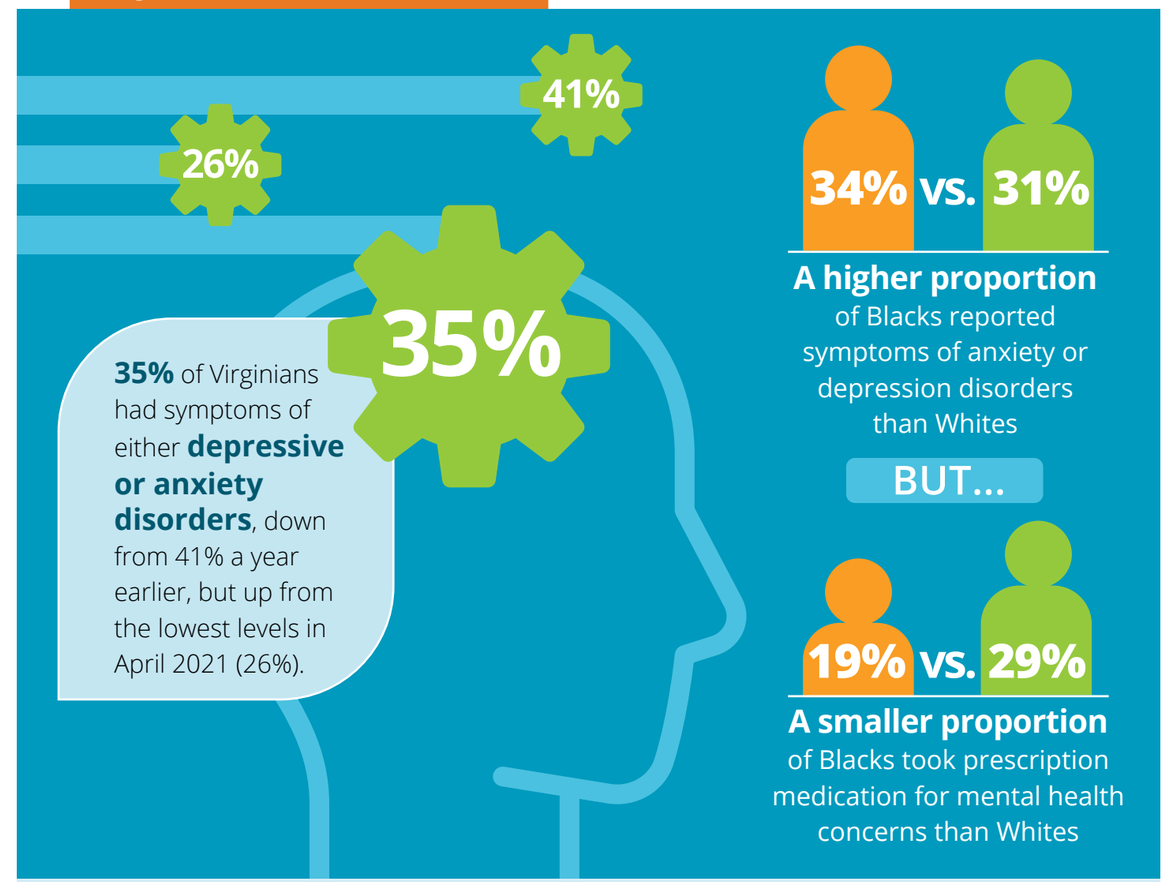


Figure 1 Percentage of BRHD Adults Reporting Frequent Mental Distress, 2019. Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance Survey. https://www.cdc.gov/brfss/annual_data/annual_2019.html

PRIORITIZING MENTAL HEALTH

The COVID-19 pandemic heaped enormous stress on all Americans, **but especially the most vulnerable**.

By the end of 2021[1]...



People with disabilities were strongly affected...

60% of people with disabilities experienced symptoms of depressive or anxiety disorders, as compared with only **27% of people without disabilities**

[1] Centers for Disease Control and Prevention. Indicators of anxiety or depression based on reported frequency of symptoms during last 7 days. data.CDC.gov. Updated June 22, 2022. Accessed June 13, 2022. https://data.cdc.gov/NCHS/Indicators-of-Anxiety-or-Depression-Based-on-Repor/8pt5-q6wp.

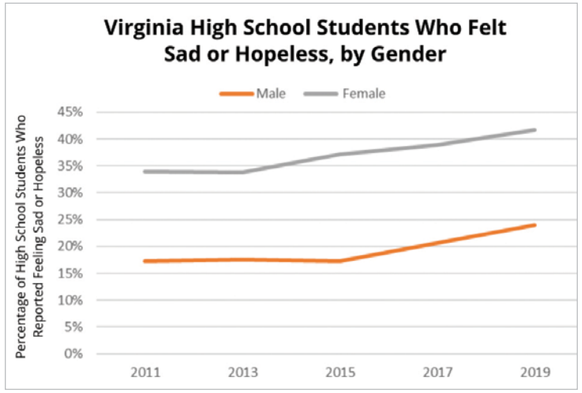


Figure 2 Percentage of Virginia High School Students Reporting Feeling Sad or Hopeless, 2019. Source: Virginia Youth Survey. https://www.vdh.virginia.gov/virginia-youth-survey/data-tables/

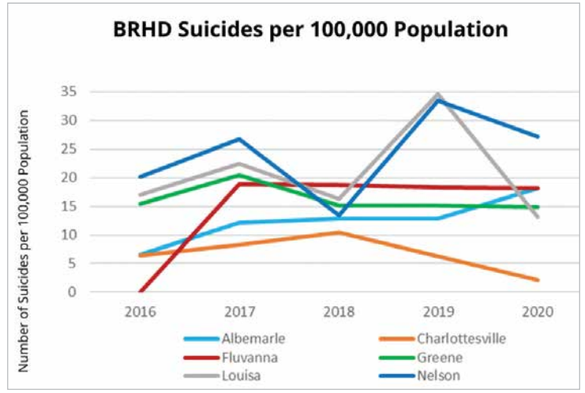


Figure 3 Suicides in BRHD per 100,000 Population, 2019. Source: Virginia Department of Health, Office of the Chief Medical Examiner. https://www.vdh.virginia.gov/content/uploads/sites/18/2022/04/Quarterly-Drug-Death-Report-FINAL-Q4-2021.pdf.

and hopeless than did students of other races and ethnicity in 2019.

National suicide rates decreased between 2018 and 2020 after an 18 year increase (2000-2018).[10] The widely publicized notion of deaths of despair (deaths by suicide, alcohol, and opioid overdose) have been largely attributed to White Americans. However, since 2019, deaths by suicide have increased among Black and Latino Americans, while decreasing among White and Asian Americans. Over these same years, deaths by suicide have increased among youth and young adults, and decreased in middle aged and older adults, mirroring the trends in depression and anxiety symptoms during COVID-19.[10] Figure 3 shows the trends over time for BRHD localities.[11]

Aside from tobacco, alcohol is the most commonly misused substance, with over 16 million adults having an alcohol use disorder in the United States. Within BRHD, it is important to recognize how our social norms are likely shaped by the presence of a large university, surrounded by breweries and wineries that normalize and promote alcohol consumption. In 2019, binge drinking rates throughout the district were higher than the state

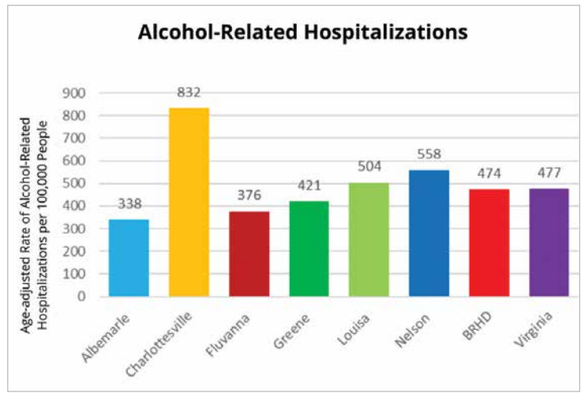


Figure 4 Age-Adjusted Rate of Alcohol-Related BRHD Hospitalizations per 100,000 Population, 2020. Source: Council of State and Territorial Epidemiologists, Alcohol Subcommittee. https://cste.sharefile.com/share/view/s1ee0f8d039d54031bd7ee90462416bc0.

average, and Albemarle County had the highest rate of binge drinking in the state. Moreover, alcohol-related harm is also a concern for the district. Charlottesville, Louisa, and Nelson counties have a rate of alcohol-related hospitalizations that is higher than the state rate (see Figure 4).[12]

Since the start of the COVID-19 pandemic, drug overdose rates have grown across the nation. The stress and isolation of the pandemic have

created enormous challenges for people living with substance use disorders. Overdose deaths likely also increased due to the presence of synthetic opioids, like fentanyl, in many illicit drugs, as well as simultaneous use of opioids and methamphetamine.[13] Virginia saw an increase of overdose deaths from 2019 to 2020 of 42%, with an average of four Virginians dying of an opioid overdose daily. Preliminary data from the Virginia Department of Health (VDH) shows that fatal drug overdoses for all substances in Virginia in 2021 increased by 15% from 2020, and were the highest number ever on record. According to VDH's Office of the Chief Medical Examiner, fentanyl was responsible for over 76% of all overdose deaths statewide. In BRHD, Charlottesville saw the largest number of opioid fatalities in 2021 followed by Louisa. Albemarle fatalities spiked in 2020, and were slightly lower in 2021, but still showed an increase over previous years (see Figure 5).[14]

In 2017, due to the significant need for addiction treatment and recovery services statewide, Virginia legislators took the unprecedented step of passing the Addiction Recovery and Treatment Services (ARTS) plan to increase Medicaid reimbursements rates for substance use disorder services with

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bipartisan support. The ARTS initiative helped Region Ten, other community service boards, and private providers expand the number and variety of substance use treatment services provided throughout the state. In 2019, Virginia began to provide new health insurance for adults through

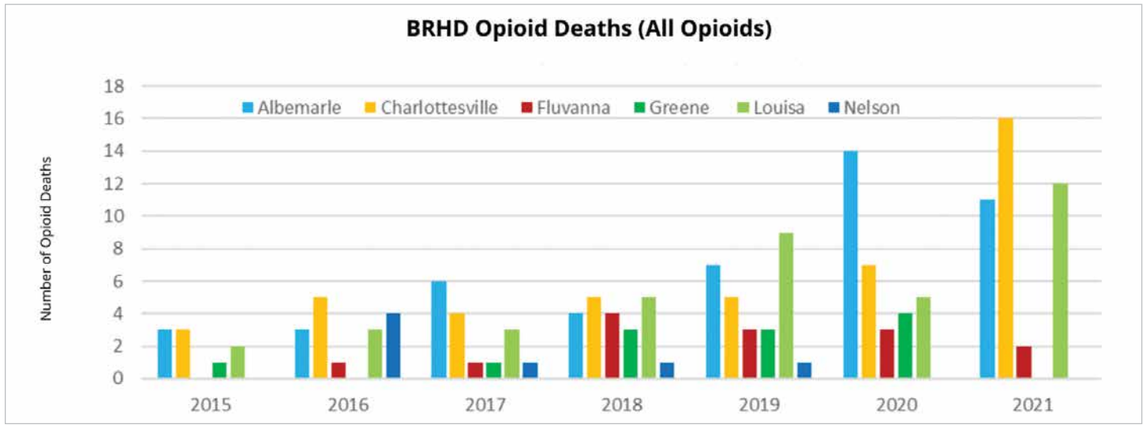

Figure 5 Number of BRHD Opioid Deaths, 2015-2021. Source: Virginia Department of Health, Office of the Chief Medical Examiner. https://www.vdh.virginia.gov/content/uploads/sites/18/2022/04/Quarterly-Drug-Death-Report-FINAL-Q4-2021.pdf.

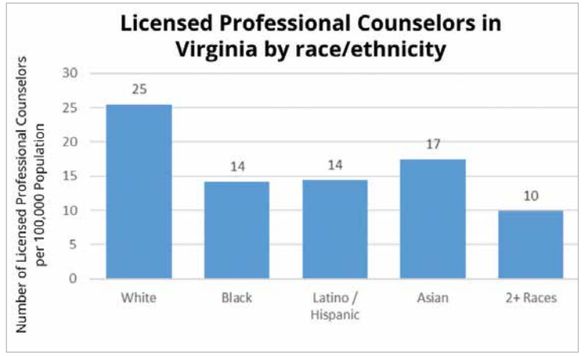

Figure 6 Licensed Professional Counselors in Virginia per 100,000 Population by Race/Ethnicity, 2022. Source: Virginia Health Care Foundation. https://www.vdh.virginia.gov/content/uploads/sites/18/2022/04/Quarterly-Drug-Death-Report-FINAL-Q4-2021.pdf.

Medicaid expansion, which increased access to care for over 469,000 Virginians. The combination of these policy changes led to an increase in intensive outpatient services, office-based opioid treatment programs, as well as new residential treatment services, resulting in a nearly five-fold increase in the number of substance use service units that Region Ten provided to Medicaid recipients between 2017 and 2021.

According to the Substance Use Mental Health Services Administration in 2015, 26% of facilities providing substance use treatment indicated using telemedicine/ telehealth, and by 2020, the percentage increased to 59%. For mental health treatment facilities, provision of telemedicine services increased from 22.2% in 2015 to 69% in 2020.[15] Expansion of telehealth services was a bright spot for increasing access to behavioral health services during the pandemic, particularly for individuals who lack transportation, live in rural regions, or have caregiving duties that make travel to in-patient services more difficult.

Virginia has been impacted by a long-standing behavioral health workforce shortage. While Charlottesville and Albemarle have a greater number of behavioral health providers than do the rural counties surrounding them, many providers outside of the two hospital systems do not accept Medicare, Medicaid, or other private insurance. The future of the mental health workforce is also a further concern, as a disproportionate number of Virginia's licensed behavioral health professionals are at or nearing retirement age, and current graduate programs are not producing sufficient graduates who may become licensed professionals to fill this gap.[16] Virginia's behavioral health workforce also does not reflect the racial and ethnic diversity of the Commonwealth's population, as shown in Figure 6. Substantial research indicates that effective therapy requires a clinician to understand the experiences of their client, which is especially true when a person's stressors are related to racial and ethnicity-related issues.[17]

Despite increasing mental healthcare needs, Virginia is facing a critical shortage of psychiatric beds, aggravated by COVID-19. In the summer of 2021, the Commissioner of the Department of Behavioral Health and Developmental Services temporarily closed five out of nine state hospitals to new admissions, leaving community service board staff, police officers, and emergency departments in uncharted territory for how to help people in psychiatric crisis obtain in-patient care. Today, the most cited estimate of psychiatric bed need in the U.S. is 40 to 60 beds per 100 000 population, based on a panel convened by the Treatment Advocacy Center in 2008.[18] In BRHD, with just over 250,000 people, we have only 25 adult psychiatric beds, and no child and adolescent beds (10 beds per 100,000 people). By comparison, our neighbors in the Rappahannock Area Health District, with a population of 383,962, have two hospitals with a total of 88 adult psychiatric beds and 12 adolescent beds (38 beds per 100,000 people).

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ENDNOTES

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HEALTHCARE SYSTEM: MENTAL HEALTH RECOMMENDATIONS

Strategy	Recommendations	Potential Partners
Expand capacity for racially and culturally responsive behavioral health care	• Implement organizational policies and practices to eliminate racial and cultural inequities in behavioral health • Invest in racially and culturally responsive behavioral health services • Implement comprehensive strategies to address the behavioral health workforce shortage	• BIPOC & LGBTQ-led organizations and teams • Community Mental Health and Wellness Coalition's ARISE Committee • Diversity, Equity and Inclusion (DEI), anti-racism, and cultural humility leads from local organizations
Increase access to care	• Integrate mental health and substance use services in primary care settings • Develop mental health Partial Hospitalization Programs • Improve behavioral health interventions in the emergency department • Create in-patient psychiatric beds for children and youth	• The Charlottesville Free Clinic • Central Virginia Health Services-Charlottesville and Louisa • Blue Ridge Medical Center • Greene Care Clinic • UVA Health • Sentara Martha Jefferson Hospital, Sentara Martha Jefferson Outpatient Surgery Center
Promote policies, systems, and environments that improve behavioral health and wellness	• Expand stigma reduction and mental health literacy training in places where we live, work, learn, and play • Advocate improved financing and insurance coverage for behavioral health needs • Expand access to housing supports, telehealth, and transportation for individuals with behavioral health needs	• Blue Ridge Health District • Region Ten Community Services Board • Faith based organizations • School and peer led organizations • Diversity, Equity and Inclusion leads from businesses district-wide • UVA Health • Sentara Martha Jefferson Hospital, Sentara Martha Jefferson Outpatient Surgery Center • Thomas Jefferson Planning District Commission • Virginia Health Care Foundation • Charlottesville Albemarle Affordable Housing Coalition

PHOTOVOICE PROJECT

2022MAPP2Health

PHOTOVOICE PROJECT

Photovoice is a participatory research method developed by Caroline Wang and Mary Burris in 1996. The photovoice framework involves participants taking pictures to document community issues and realities, both positive and negative. The process includes time for the individual and groups to reflect on the photos as well as opportunities to share their photos and symbolism with policy makers. Ideally, the process includes reflection, collaboration, action, and change.[1]

Participatory approaches can help ensure the voices of those marginalized and oppressed are amplified, facilitating socially transformative action. Photovoice is a vehicle used to empower community members and motivate this socially transformative action, potentially changing policies and practices. It can also facilitate the building of community capacity for challenging inequitable conditions and addressing identified problems.[2]

The Move2Health Equity Coalition (move2healthequity.org), commissioned four Photovoice projects for the 2022 MAPP2Health to gather community insight on the policy targets identified by the Leadership and Locality Councils as most critically necessary in addressing health inequities. Participants were asked to photograph barriers to those policy targets, including digital, transportation, and healthcare access. The project was designed to uplift the experiences of communities who have traditionally been marginalized and to help policy makers to understand the barriers through the eyes of the communities they serve.

METHOD

The four groups included in the 2022 MAPP2Health photovoice project were a group of Spanish speakers, a group of University of Virginia medical school students, and two community groups with members from across the district. All of the 30 participants were from communities of color, marginalized communities, underprivileged groups, or emerging majorities. Five project leaders were selected, with the Spanish speaking group having two project leaders. The majority of the project was completed virtually in three sessions due to COVID-19 protocols. Both participants and leaders received a stipend for their participation at the beginning of the project and at project completion.

Project leaders distributed disposable cameras to their groups and provided any necessary training on how to use them. Groups participated in three virtual sessions including a training session, focus group, and results session. The SHOWed method was used by the focus groups. SHOWed is a semi-structured technique using five questions to gather

Photos this page: Photovoice Project | Greene County, Charlottesville, Albemarle County

2022MAPP2Health

data. Mayfield-Johnson et al. cites Caroline Wang in identifying the five questions as:

1. What do you **S**ee in this picture?
2. What is **H**appening in this photo?
3. How does this problem relate to **O**ur lives?
4. Why do these problems **E**xist?
5. What can we **D**o about it?[3]

The focus groups' data were transcribed, and the researcher identified themes from each of the policy targets.

RESULTS

Photovoice participants were deeply aware of the historical and structural inequities in our communities that have long been barriers to health equity. Group discussions and statements identified system and policy level failures in all three categories that disproportionately impact the health of Black and Brown communities and other marginalized groups. The following themes emerged:

Transportation Barriers

Access – Access to transportation was reported as an issue in some of the rural counties and the City of Charlottesville. Participants said bus routes did not fit people's schedules. One participant said, "Some people don't have access to cars or bikes," a sentiment echoed by several others. Gas prices were also mentioned as a barrier to transportation.

Resource Distribution – Resource distribution came up a lot in all the categories. One participant said, "There's a discrepancy in how funds are allocated to certain areas of community." Many felt funds are not evenly distributed and talked about discrepancies even in who gets approval for handicap stickers and who gets a motorized scooter as opposed to a walker.

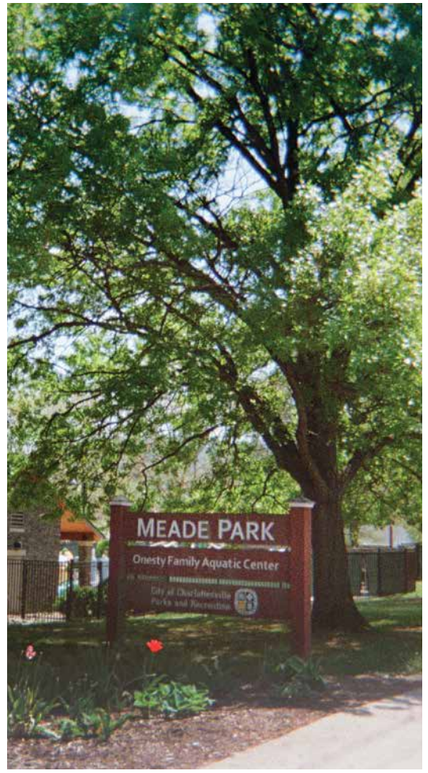
Local Government – Local government was seen as cutting services or not investing necessary funds to improve transportation. Participants also viewed transportation as being very political with no consensus on how to address the issue.

Parking – Parking emerged as a theme especially in the group of University of Virginia medical school students. They noted parking particularly challenging around grounds with higher income staff more able to afford expensive parking options.

Flexibility – Participants reported a lack of collaboration between counties or flexibility in bus schedules, one person commenting, "If a person is reliant on public transportation, then you have to make your schedule fit the bus schedule." Another said, "People who don't have as much income are the ones who feel it the most, everybody else just kind of makes it work."

Digital Access Themes

Access – Participants spoke in general about not having access to broadband and/or being in an area without the necessary infrastructure. There was conversation about technology being expensive. One participant said, "[I] didn't really think about digital barriers until COVID-19 and students didn't have access to internet or broadband or fiber optic wires to get good internet."



Photos this page: Photovoice Project | Charlottesville

2022MAPP2Health

Digital Literacy – Participants talked about technology being available, but people not knowing how to use it. One participant said, "Now you gotta go online and do your own application." Another echoed the frustration of trying to figure out things on your own, saying, "You just wanna cry when you sit there and can't realize why you can't go to the next screen."

Participants suggested having staff available to offer technical support, especially in healthcare settings where iPads are being used for registration and in telemedicine.

Resource Distribution – Many participants said under resourced communities get services last.

"They start with services for the rich then the poor," was one comment received from a participant.

Local Government – Local government was seen by many as not making a big enough investment in improving digital access.

Language – Language was a barrier to those who do not speak English as their first language. One participant said, "You can have access, know how to use a computer, but everything is in English." Another went on to say, "Everyone wants [you] to go to a screen to fill out forms, but you can't read or navigate through because it's not in [your] language."

Healthcare System Barriers

Transportation and digital access were both seen as significant barriers to health care, whether causing people to miss medical appointments because of not having transportation or not having telemedicine available due to connectivity issues.

Mistrust – Focus group analysis revealed many participants understandably held present-day and historical medical mistrust. One participant commented, "[Neither] health system has a great relationship with the community as far as history goes." Another said, "There's always going to be barriers if people don't trust the people giving them care."

Provider Availability – Participants commented on how it seems to have become the norm to wait a few months to get a primary care appointment. One person commented, it is "really upsetting to realize that your choices are to wait for that appointment or to go to urgent care or the emergency room." Others mentioned having to travel long distances for dental and mental health appointments. Concerning mental health care for children, one person said, "A mental health break for a child means going to a hospital or placed in a facility. Children are spending weeks in a facility with our closest facility in Lynchburg."

Treatment – This category is about how people are made to feel accessing services. Many said service providers are not empathetic or compassionate. Participants reported feeling dismissed by healthcare providers. One comment received was, "Someone was trying to explain their pain and they are accused of seeking drugs, ...I think that also reflects who's working within the system." Another person said, "Have some empathy for whoever (is) presented to you. Do not have a preconceived notion or idea or thought black women don't have pain. That's a lie. We've had to tolerate pain and keep pushing."

Racism – Some people reported feeling they are not being looked at as human beings by medical personnel because of their race/ethnicity. People questioned whether organizations require cultural competency training. One participant showed a picture of a clinic and stated, "Wondering are they culturally competent. Do they understand the black community?" Another commented, "The system is stacked against [black people]."

Photos this page: Photovoice Project | Greene County, Charlottesville, Fluvanna County

Language – Participants identified language as a barrier due to how systems and processes are not supportive of people who speak a language other than English.

CONCLUSION

Understanding the barriers people face to being their healthiest, particularly in marginalized groups that historically have poorer health outcomes, is crucial in addressing health inequities. Providing space and opportunities for people to share their real-life experiences is necessary for organizations and policy makers to understand these barriers and address them through policy and practice changes. These critical changes can lead to better engagement, understanding and trust in services, and can promote patient and community empowerment.[4]

The barriers identified in this Photovoice project can help local and state governments as well as community organizations understand where and how to focus their efforts. While recognizing inequity is important, an intentional power shift to marginalized members of the community is a necessary step in influencing sustainable and equitable access to good health. Community members must never be blamed for the highly complicated, inequitable systems established by government and healthcare policy and practices. Community members' voices are needed in order to inform the work necessary to make real change. Photovoice is one method to capture those voices.

ENDNOTES

[1,4] Augsberger A, Toraif N, Young A, et al. COVID-19 shines a light on health inequities in communities of color: A youth-driven photovoice inquiry. *J Community Psychol.* April 20, 2022;1-16.

[2,3] Mayfield-Johnson S, Butler JI. Moving from pictures to social action: An introduction to photovoice as a participatory action tool. *New Directions for Adult and Continuing Education* 2017;154: 49-59.

2022MAPP2Health

Photos these pages: Photovoice Project | Charlottesville, Fluvanna County, Greene County, Ablemarle County

CONCLUSION

CONCLUSION

In summary, the 2022 MAPP2Health process built upon its predecessor – the 2019 MAPP2Health report – asking participants to delve further into the four priorities previously identified:

In particular, members of the Leadership and Locality Councils including government officials, healthcare system leaders, non-profit and for-profit organizations, advocacy agencies, community members, and community organizers – concentrated their efforts on two focus areas with the most acute barriers to health:

Built Environment & Healthcare System

Drilling even further into the focus areas, the Council members identified policy targets and practices that could most influence and advance health equity:

- Transportation and Digital Access and Literacy
- Healthcare access, including workforce, health insurance, and referral and communication networks

These focus areas and their policy targets emerged, in part, from the predominant social and economic influences of the past three years: COVID-19, the recognition of racism as a public health crisis, and the correlation between economic status and health.

Informed by the prevailing social and economic barriers to health in our service region, Council members engaged in rigorous and systematic exploration of health inequities. They evaluated disparities across the social determinants of health and discussed how inequities in any population impact the health of the whole community.

The result is actionable recommendations that take historical social and economic data, community priorities, and community challenges into consideration. These recommendations can guide regional policy and practice planning.

Transportation

Some Leadership Council members from Albemarle County and Charlottesville were currently engaged in transit and planning initiatives to improve services, including the need to improve frequency, quality, and quantity of bus stops, as well as more connected routes. These recommendations aligned with feedback from both Councils' meetings. Additional transportation recommendations focused on procuring vouchers for rideshare companies and expanding accessibility and routes from more rural areas and localities to providers and services.

Digital Access and Literacy

Digital access recommendations focused on improving broadband infrastructure as well as improving digital literacy, access, and advocacy. The recommendations proposed by the Councils identified the inherent pitfall of technology: access to technology, hardware (e.g., smartphones) and

Emily Pelliccia | Carver Rec Center Community Vaccination Site partners, Charlottesville

broadband Internet are only as helpful as the user's level of literacy. Hence, the digital access recommendations include ongoing assessment, investment, and engagement to make an impact and sustain service.

Healthcare System: Workforce

Some Locality Council members from Charlottesville, Nelson, and Greene were currently engaged in initiatives to strengthen the healthcare workforce, such as utilizing case managers and community health workers as health navigators to reduce the demand on clinical staff and assist patients through their entire care encounter. Additional workforce recommendations focused on improving access to and affordability of clinical training and education – especially for mental health providers – diversifying the workforce, increasing multi-language translators and interpreters, and focusing on economic development opportunities to entice practitioners to underserved areas.

Healthcare System: Medicaid, Health Insurance, and Payment

The complexity of Medicaid and financial burden on patients of a pay-to-play system has already inspired programs such as the Medicaid navigator helpline at Charlottesville's Central Virginia Health Services (CVHS), offering onsite and remote (phone or online) support to all residents, regardless of whether they are on the patient roster. There was consensus on the need for additional staffing – not only to address enrollment demands and to act as Medicaid liaisons, but to support practitioners with reimbursement, advocacy, and administrative assistance. Alternative payment plans, such as sliding scale and pay-what-you-may were also discussed.

Healthcare System: Referral and Communication Networks

Participants in both Councils sought more opportunities to collaborate, integrate, and connect their services, to more easily refer patients, and diminish the barriers to care caused by provider shortages or access. A communications hub and a referral network were discussed as powerful tools to eliminate gaps in knowledge, improve patient education and outreach, and distribute information between disparate clinical disciplines. Specifically proposed was EMS integration into the traditional referral and patient care network.

We hope this report supports readers, organizations, and agencies with the tools to create policies and practices that reduce health disparities and offer every resident of the district accesss to a healthy and robust life.

SUPPLEMENTAL DATA AND RESOURCES

SUPPLEMENTAL DATA: SUMMARY

As a supplement to the data presented in the main body of the report, this appendix includes data considered by the MAPP2Health Leadership and Locality Councils as part of their deliberations.

POVERTY

In addition to differences by locality, there are also significant differences in median household income by race, with Blacks having lower income than Whites in all localities, as shown in Figure 1. (The data shown are estimates based on survey results, and – especially for small populations – have broad margins of errors, such as for Blacks in Fluvanna, Greene, Louisa, and Nelson counties).

Another measure of poverty is the proportion of students eligible for subsidized school lunches. As shown in Figure 2, over half the students in Charlottesville and Nelson are eligible.

Life expectancy is also tied to many socioeconomic factors, including poverty. Life expectancy in the district is generally higher than in Virginia as a whole, though in Louisa and Nelson, it falls slightly below the Virginia average, as shown in Figure 3.

In addition to differences by locality, life expectancy varies by race, for both BRHD and Virginia, with Blacks' lifetimes averaging over five years less than Whites', as shown in Figure 4.

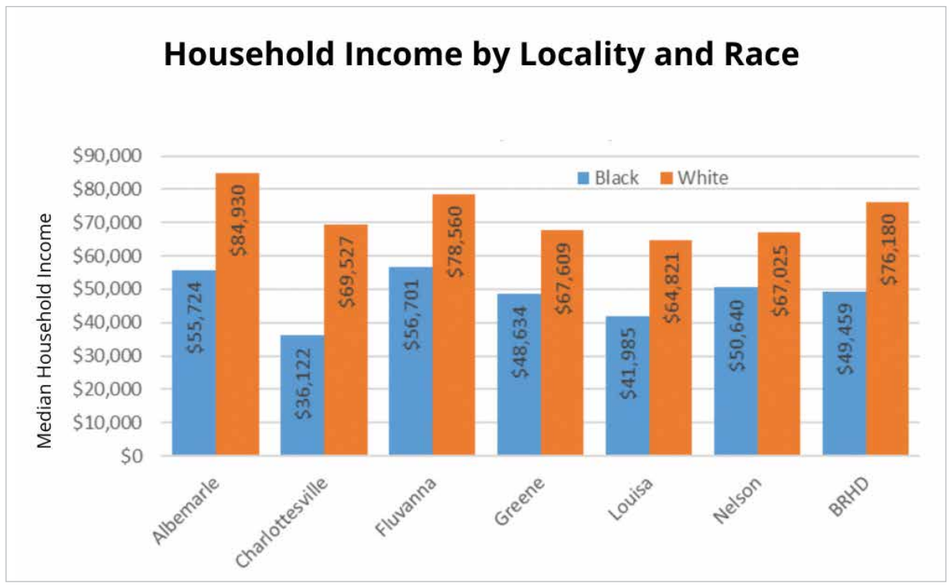


Figure 1 Median Household Income by Locality and Race, 2019. Source: Small Area Income and Poverty Estimates (SAIPE). https://data.census.gov/cedsci/table?t=Income%20%28Households,%20Families,%20Individuals%29%3ARace%20and%20Ethnicity&g=0500000US51003,51065,51079,51109,51125,51540&d=ACS%205-Year%20Estimates%20Detailed%20Tables.

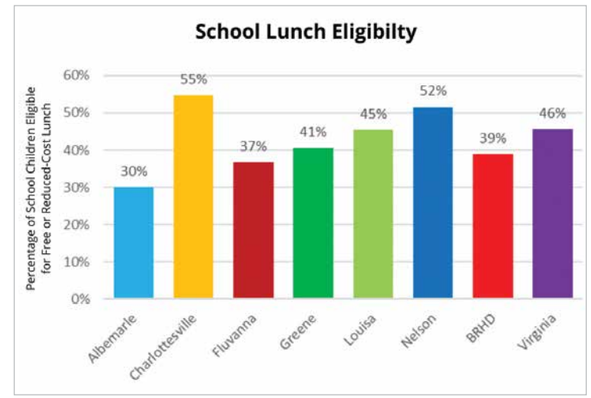


Figure 2 Proportion of School Children Eligible for Free or Reduced-Cost Lunch, by locality, all of BRHD, and Virginia, 2019-2020. Source: Virginia Department of Education - Office of School Nutrition Programs. https://www.doe.virginia.gov/support/nutrition/statistics/index.shtml.

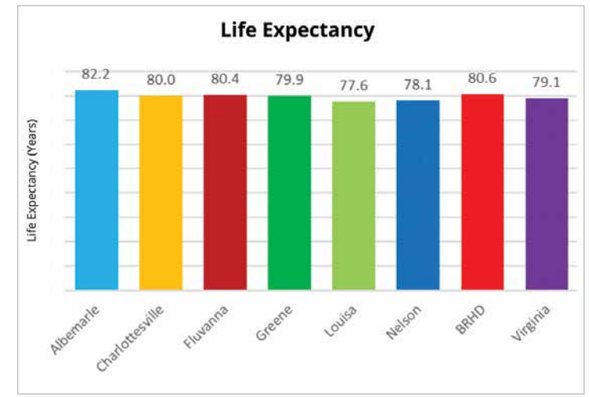


Figure 3 Life Expectancy (in Years) at Birth by Locality, All of BRHD, and Virginia, 2018-2020. Source: County Health Rankings. www.countyhealthrankings.org.

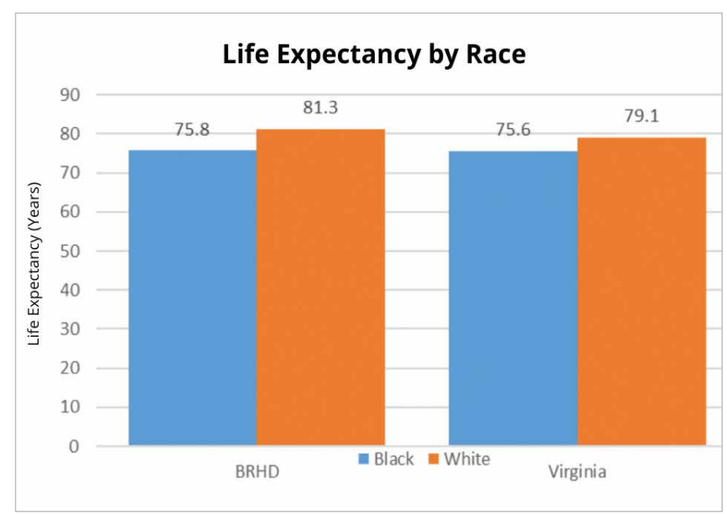


Figure 4 Life Expectancy (in Years) at Birth by Race, 2018-2020.Source: County Health Rankings. www.countyhealthrankings.org.

NEIGHBORHOOD AND PHYSICAL ENVIRONMENT

One factor affecting people's health is the prevalence of crime in the neighborhoods where they live and work. As shown in Figure 5, rates of violent crime are two or three times as high in Charlottesville as in any of the other localities.

Food security is defined by the USDA as meaning "access by all people at all times to enough food for an active, healthy life."[1] People are food insecure if they do not have that access all the time. Figure 6 shows how food insecurity varies greatly across the district's localities.

Another contributor to people's health is physical activity or its lack thereof. As shown in Figure 7, a lot of adults are physically inactive, especially in Fluvanna, Louisa, and Nelson.

One more measure related to the physical environment is access to affordable housing. Figure 8 shows that Charlottesville residents have a much higher burden than those in any other locality.

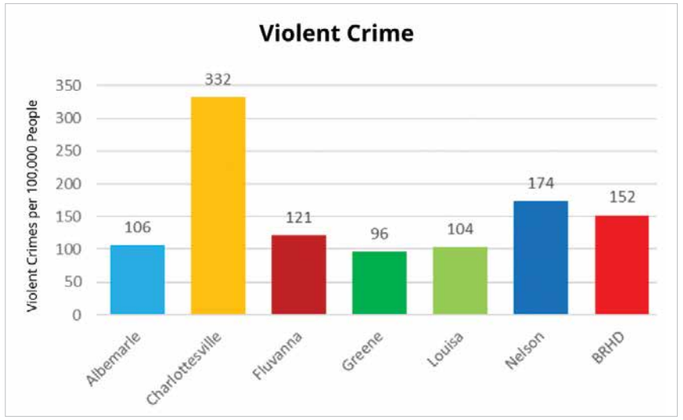


Figure 5 Violent Crimes per 100,000 Inhabitants, 2019. Source: FBI Crimes in the U.S., 2019. https://ucr.fbi.gov/crime-in-the-u.s/2019/crime-in-the-u.s.-2019/tables/table-10/table-10-state-cuts/virginia.xls.

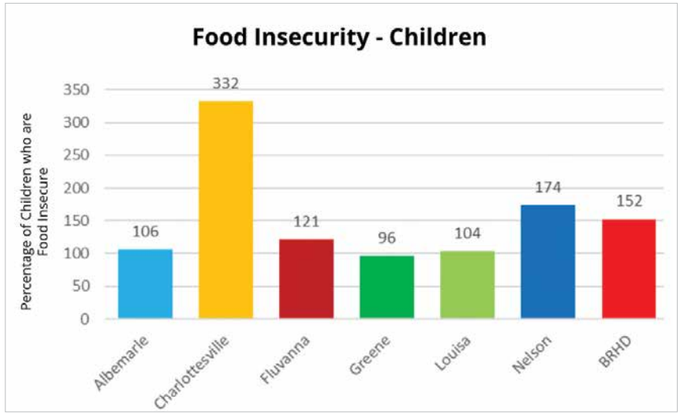


Figure 6 Proportion of Children Who are Food Insecure by Locality, 2019. Source: Feeding America, Map the Meal Gap. https://map.feedingamerica.org/county/2019/overall/virginia.

ENDNOTES

[1] Feeding America. Food insecurity among overall (all ages) population in Virginia 2019. map.feedingamerica.org. Accessed June 28, 2022. https://map.feedingamerica.org/county/2019/overall/virginia.

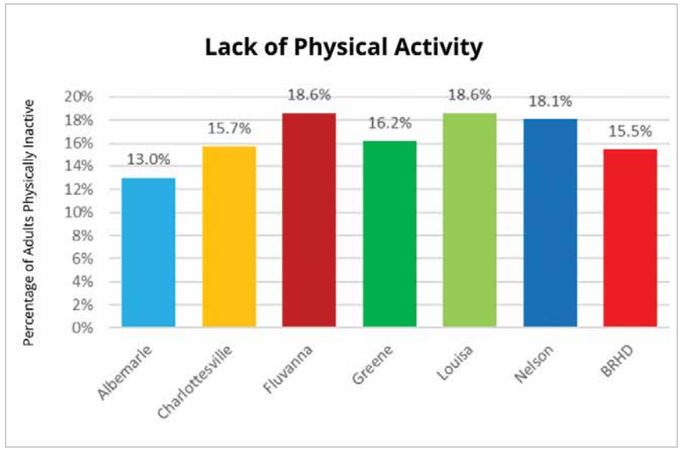


Figure 7 Proportion of Adults Who are Physically Inactive, 2018. Source: CDC, Diabetes Atlas. https://gis.cdc.gov/grasp/diabetes/DiabetesAtlas.html#.

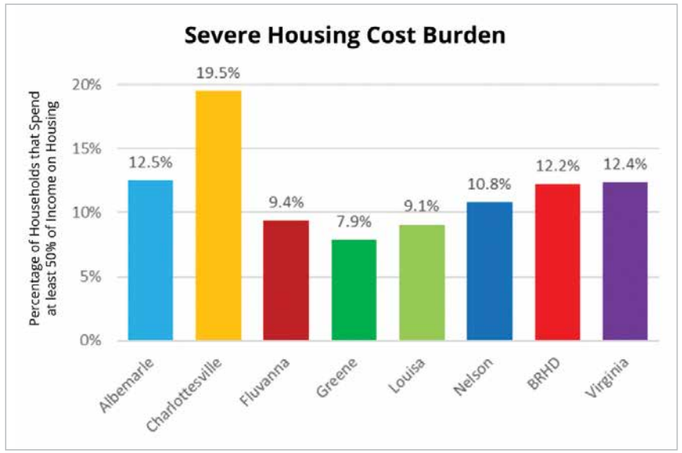


Figure 8 Proportion of Households that Spend 50% or More of Their Household Income on Housing, 2016-2020. Source: County Health Rankings (based on ACS survey data). www.countyhealthrankings.org.

SUPPLEMENTAL DATA: CANCER SUMMARY

Cancer – along with heart disease – remains one of the two leading causes of death in the U.S., through 2020, as shown in Figure 1. The rest of this data supplement focuses on cancer in BRHD, with all data coming from the Virginia Cancer Registry, 1995-2018, updated May 2021.[1]

The top 10 most common cancers in BRHD are shown in Figure 2, with breast and prostate cancer leading the way; those two incidence figures are calculated based on only the female population and male population, respectively.

Overall cancer incidence has been dropping over the last decade, within both Virginia and BRHD, and for both Blacks and Whites, as shown in Figure 3.

Figure 4 shows data for 2018 alone, broken down by locality; all localities other than Albemarle had cancer incidence rates greater than Virginia as a whole, with Charlottesville's far higher than that of any other locality.

By contrast, overall cancer mortality within BRHD is slightly lower than the Virginia rate, with Nelson hit the hardest, as shown in Figure 5.

Looking at the most common (within BRHD) cancers, Figures 6 and 7 show that while breast cancer incidence is comparable for Whites and Blacks (though slightly less in Blacks within BRHD), mortality is greater in Blacks than Whites.

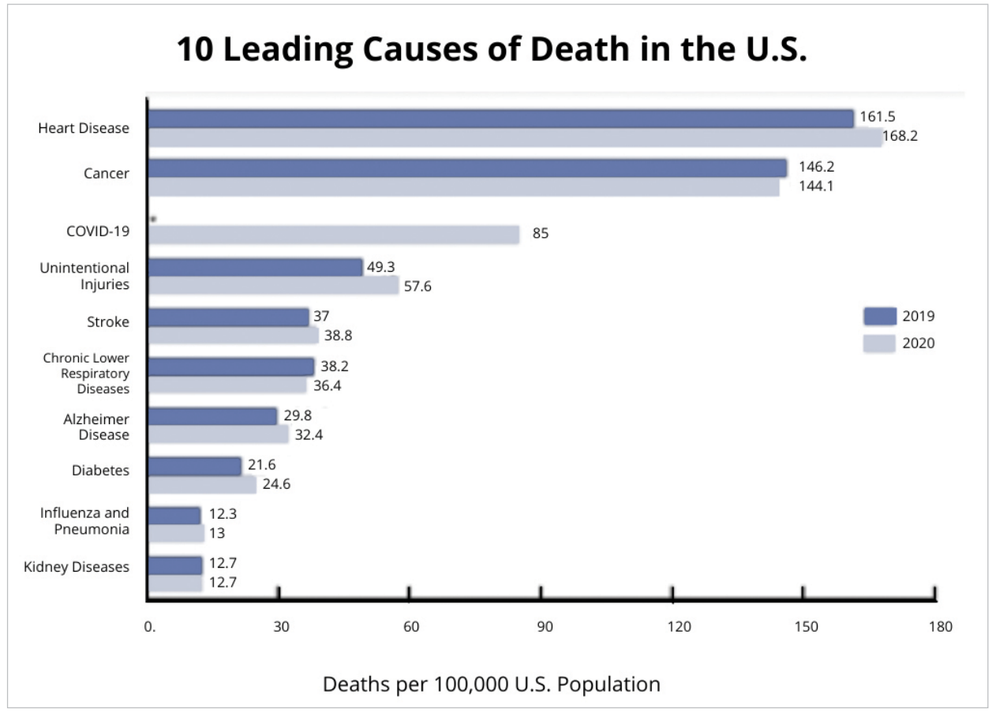


Figure 1 Age Adjusted Death Rates for the 10 Leading Causes of Death in the U.S., 2019-2020 Source: National Center for Health Statistics[2] https://www.cdc.gov/nchs/data/databriefs/db427.pdf.

Photovoice Project | Charlottesville

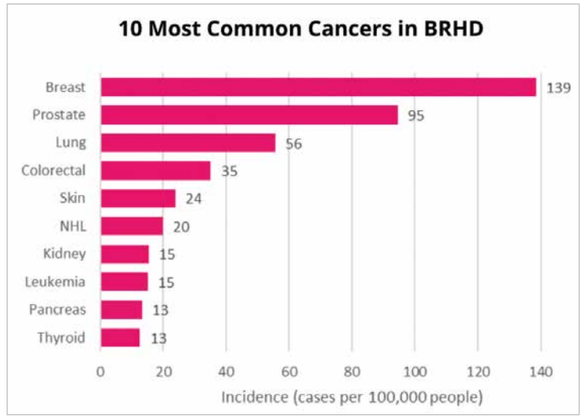


Figure 2 Top 10 Cancers in BRHD, 2014-2018 (NHL= Non Hodgkins Lymphoma) https://www.vdh.virginia.gov/virginia-cancer-registry/data/.

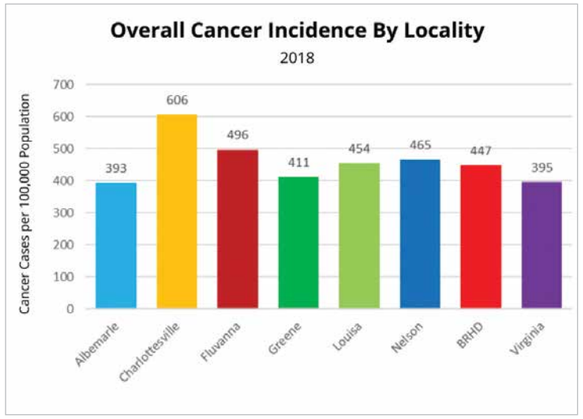


Figure 4 Overall Cancer Incidence (Cases per 100,000 People) by Locality, 2018. https://www.vdh.virginia.gov/virginia-cancer-registry/data/.

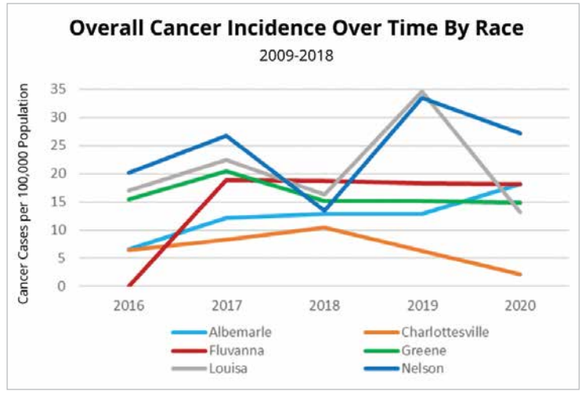


Figure 3 Overall Cancer Incidence (Cases per 100,000 People) by Race, 2009-2018. https://www.vdh.virginia.gov/virginia-cancer-registry/data/.

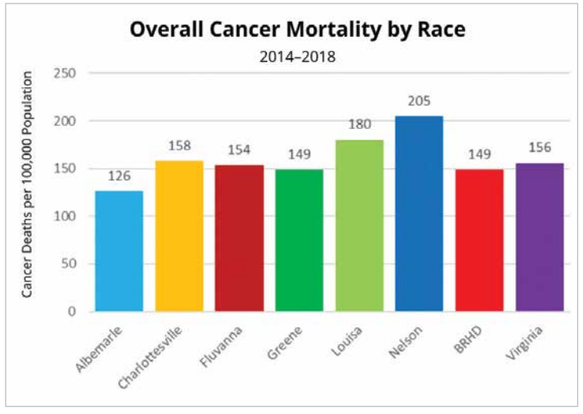


Figure 5 Overall Cancer Mortality (Deaths per 100,000 People) by Locality, 2014-2018. https://www.vdh.virginia.gov/virginia-cancer-registry/data/.

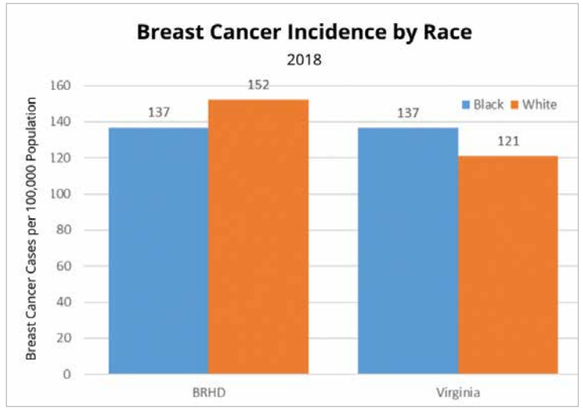


Figure 6 Breast Cancer Incidence (Cases per 100,000 People) by Race, 2018. https://www.vdh.virginia.gov/virginia-cancer-registry/data/.

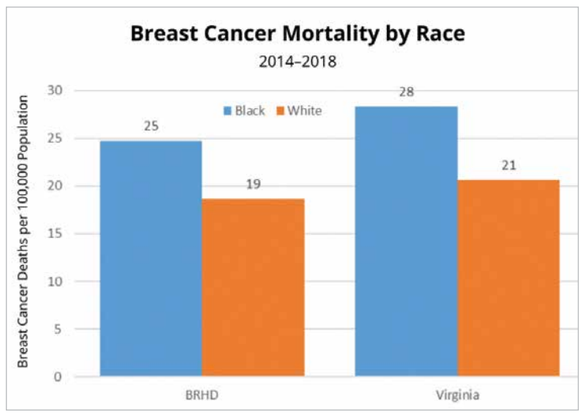


Figure 7 Breast Cancer Mortality (Deaths per 100,000 People) by Race, 2014-2018. https://www.vdh.virginia.gov/virginia-cancer-registry/data/.

While breast cancer incidence has stayed steady over the past decade (data not shown), prostate cancer incidence has declined over the same period, as shown in Figure 8.

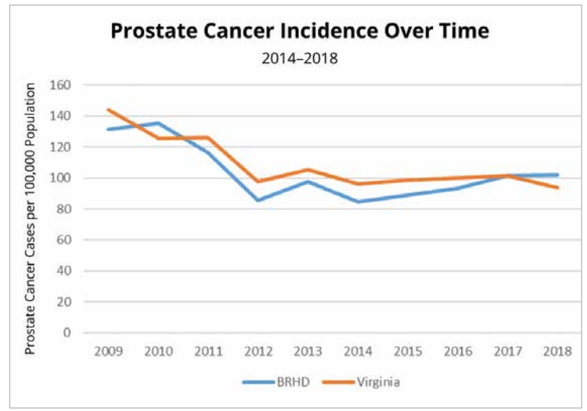


Figure 8 Prostate Cancer Incidence (Cases per 100,000 People), 2009-2018. https://www.vdh.virginia.gov/virginia-cancer-registry/data/.

Moreover, both incidence and mortality are dramatically higher in Blacks than in Whites, as shown in Figures 9 and 10.

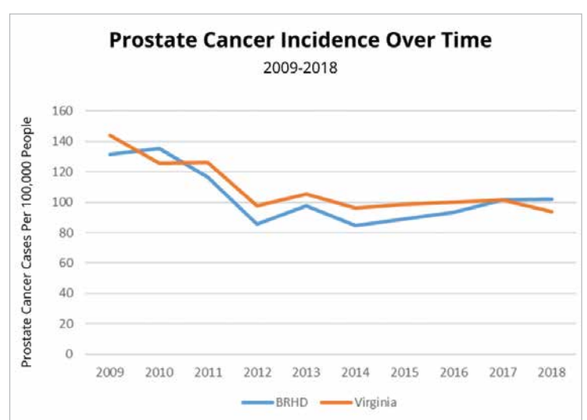


Figure 9 Prostate Cancer Incidence (Cases per 100,000 People) by Race, 2018. https://www.vdh.virginia.gov/virginia-cancer-registry/data/.

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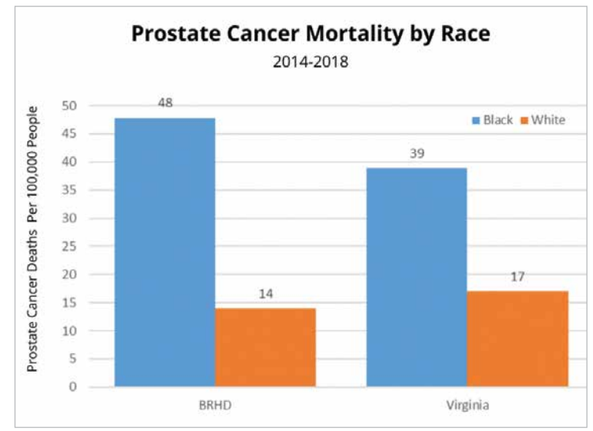

Figure 10 Prostate Cancer Mortality (Deaths per 100,000 People) by Race, 2014-2018. https://www.vdh.virginia.gov/virginia-cancer-registry/data/.

Lung cancer incidence has declined by a quarter over the past decade, as Figure 11 shows.

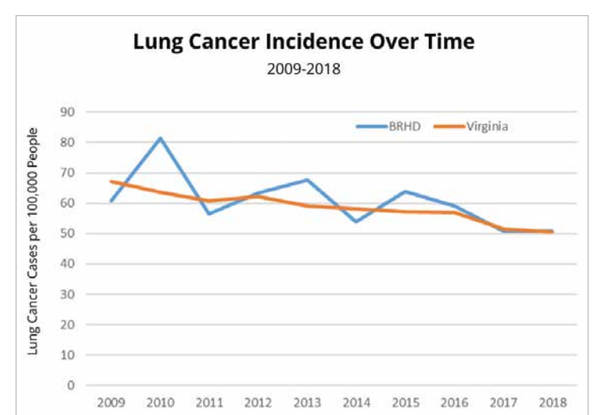

Figure 11 Lung Cancer Incidence (Cases per 100,000 People), 2009-2018. https://www.vdh.virginia.gov/virginia-cancer-registry/data/.

While lung cancer mortality is nearly the same for Blacks and Whites (data not shown), there are striking differences between males and females, with Nelson males having particularly elevated mortality rates, as shown in Figure 12.

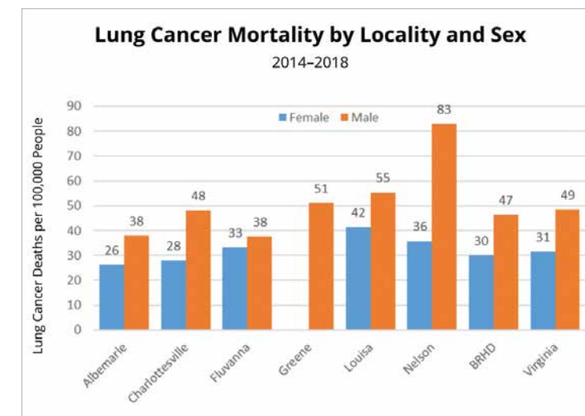

Figure 12 Lung Cancer Mortality (Deaths per 100,000 People) by Sex, 2014-2018. https://www.vdh.virginia.gov/virginia-cancer-registry/data/.

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There have been only slight declines in colorectal incidence during the past decade (data not shown), but Figures 13 and 14 show large differences in both incidence and mortality rates with mortality being nearly twice as high among Blacks than in Whites.

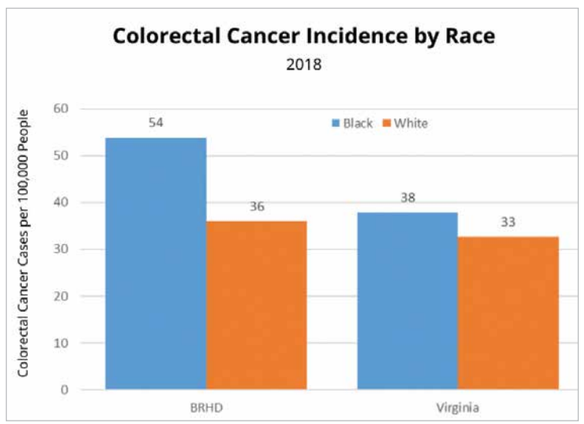

Figure 13 Colorectal Cancer Incidence (Cases per 100,000 People) by Race, 2018. https://www.vdh.virginia.gov/virginia-cancer-registry/data/.

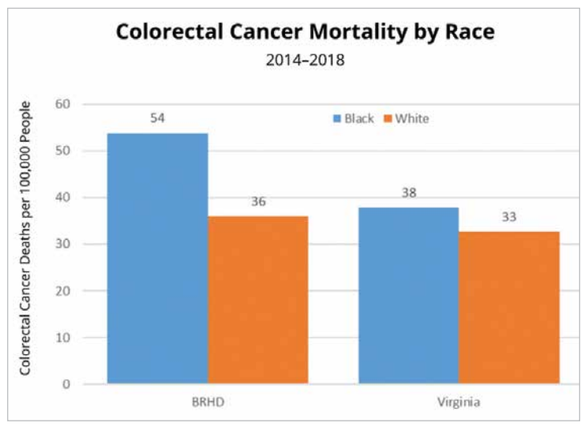

Figure 14 Colorectal Cancer Mortality (Deaths per 100,000 People) by Race, 2014-2018. https://www.vdh.virginia.gov/virginia-cancer-registry/data/.

ENDNOTES

[1] Virginia Department of Health (VDH). Virginia cancer registry data. vdh.virginia.gov. Accessed August 5, 2022. https://www.vdh.virginia.gov/virginia-cancer-registry/data/.

[2] Murphy SL, Kochanek KD, Xu J, Arias E. Mortality in the United States, 2020. NCHS Data Brief. 2021;437:1-7. doi: 10.15620/cdc:112079.

SUPPLEMENTAL DATA: HOSPITAL DISCHARGE DATA

As part of the effort to determine the health status of people living in the district, a set of data maintained by Virginia Health Information (VHI) was analyzed. The data examined were all inpatient hospital discharges of people living within BRHD from January 2019 to the most recent available at the time of analysis, which was August 2021. Fields considered were the patient's age, race (ethnicity was not available), locality, and zip code, as well as what VHI calls the "Primary ICD Rollup", which is a summary of the primary ICD-10 diagnosis code at discharge.

There were a total of 580,068 records included in the analysis, representing many distinct inpatient discharges (and corresponding admissions), but many people were admitted multiple times over the two-and-a-half-year period, so the number of individual patients is much smaller. The top 15 discharge diagnoses are shown in Figure 1 with the percentage of total discharges.

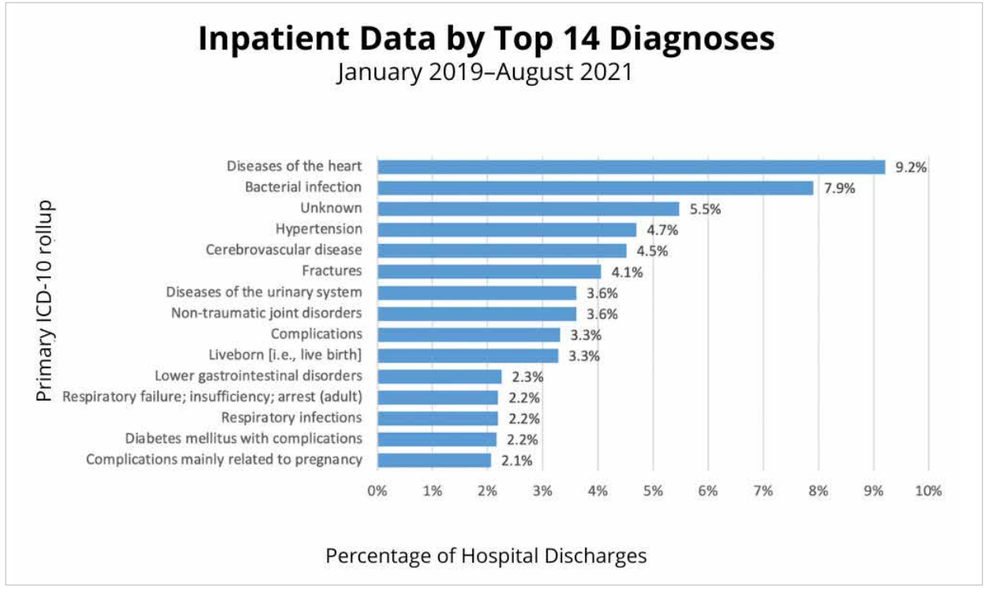

Figure 1 Inpatient Data for BRHD by Top 14 Diagnoses Codes, January 2019-August 2021. Source: Virginia Health Information, https://www.vhi.org

Hospital admissions varied widely by locality, age, and race, as shown in Figures 2-4, which are based on admissions per 1,000 people, to allow comparisons among demographic groups.

When taking all three of these demographic factors into account, people in Nelson County were typically two or three times as likely to be admitted to the hospital as residents of Albemarle County. On average, Blacks were more likely than Whites to be admitted, but it varied enormously by condition. For instance, Blacks were more than four times as likely as Whites to be admitted for hypertension and live births, but were 16% less likely than Whites to be admitted for fractures and half as likely as Whites to be admitted for non-traumatic joint disorders. As might be expected, the likelihood of hospital admissions rises with age, but children under five are often more at risk than older children and young adults. To take an extreme example, children under five are 44 times as likely as young adults (18-39) to be admitted for diseases of the heart (but still 10 times less likely than people 65 and over).

Rather than looking at all hospital admissions, it can be instructive to focus on admissions for conditions that can typically be prevented with appropriate primary healthcare, so-called "preventable admissions." That picture is somewhat different, as shown in Figure 5 for Medicare enrollees. As compared with Figure 2, note that Greene County has far more admissions per capita for preventable conditions than other localities and more than Virginia.

When the results are broken down by race, as shown in Figure 6, disparities are clear, with Blacks having higher rates than Whites for all localities except Greene, suggesting inadequate access to preventive or primary care.

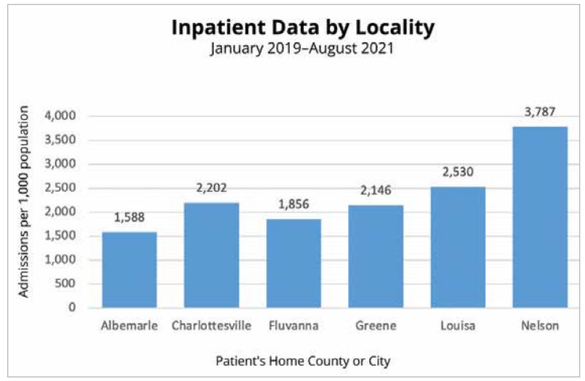

Figure 2 Inpatient Data for BRHD by Locality, January 2019-August 2021. Source: Virginia Health Information, https://www.vhi.org

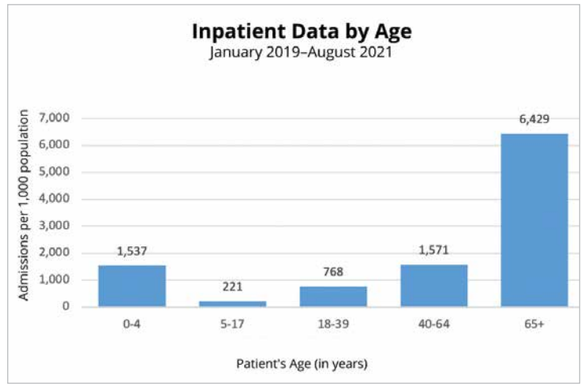

Figure 3 Inpatient Data for BRHD by Age., January 2019-August 2021. Source: Virginia Health Information, https://www.vhi.org

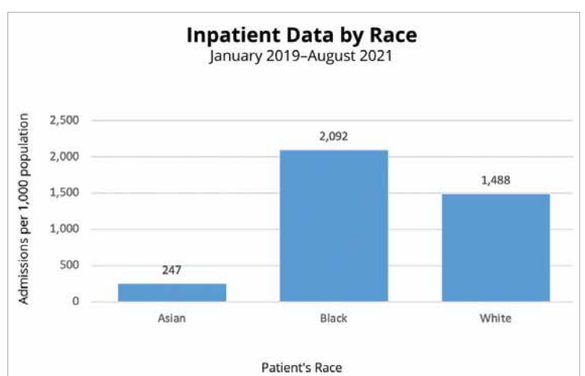

Figure 4 Inpatient Data for BRHD by Race, January 2019-August 2021. Source: Virginia Health Information, https://www.vhi.org

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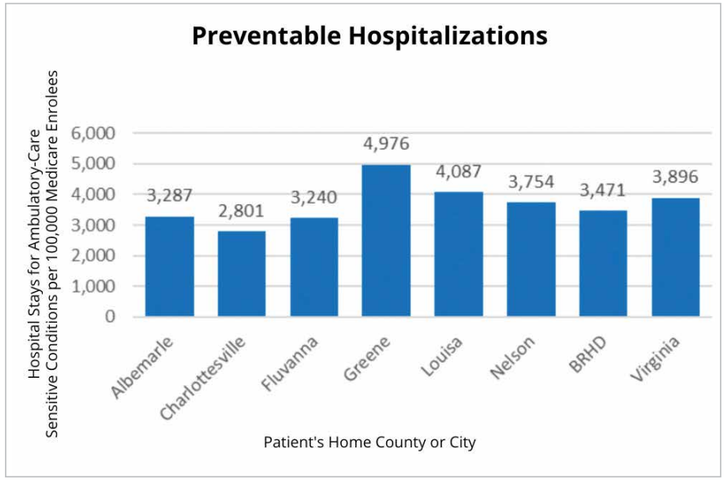

Figure 5 Preventable Hospitalizations. Source: County Health Rankings, https://www.countyhealthrankings.org/ (2019 data)

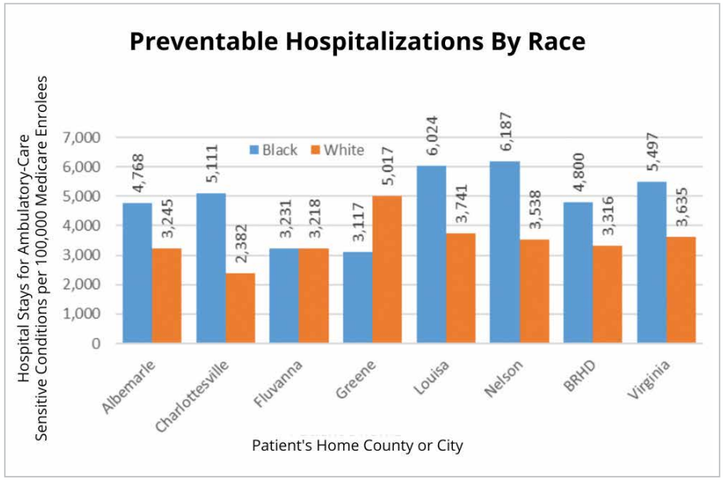

Figure 6 Preventable Hospitalizations by Race. Source: County Health Rankings, https://www.countyhealthrankings.org/ (2019 data)

SUPPLEMENTAL RESOURCES

The following resources provided by MAPP2Health participants and community partners support the 2022 focus areas and policy targets.

Equity Center Profile Project for Central Virginia

The Equity Center Profile (Report) was a class project of the graduate students from the Spring 2022 PLAN 6020 Methods of Community Research class in UVA's Master of Urban and Environmental Planning program.

The students engaged MAPP2Health members in focus groups to "identify the environmental, social, and economic factors that affect quality of life and wellbeing generally."[1] Specifically, they explored the services that exist in the five localities: Charlottesville, Fluvanna, Greene, Louisa, and Nelson, and established community-generated names for census tracts (the Equity Center had previously published an Equity Profile for Albemarle County in September 2021). The 2022 draft report on the five localities, "Central Virginia Equity Profile" is listed in full at the link below.

Central Virginia Equity Profile Draft
https://libraopen.lib.virginia.edu/public_view/pg15bf03p

Albemarle County Equity Profile
https://virginiaequitycenter.org

The Community Mental Health and Wellness Coalition Report on Mental Health

A summary of the report can be found on pages 46-52. The full report on the state of mental health in the district can be found at the link below.

Community Mental Health and Wellness Full Report
www.cmhwcoalition.org/planning/

The Community Climate Collaborative Transit Report

Published in September 2021, the report proposes transit system improvements as "essential to extending opportunity and access to all, breaking the cycle of poverty that burdens many underserved households."[2]

Transit Equity and Climate: Moving to a Cleaner Future
https://theclimatecollaborative.org/transit-equity-and-climate

Photovoice Project | Fluvanna County

UVA's Public Health Working Group, President's Council on UVA-Community Partnerships

The report, "Racism as a Social Determinant of Health" was published by the Public Health Working Group in September 2021.[3] MAPP2Health Core Group members who were part of the Working Group participated in report development, which supported 2022 MAP2Health focus areas.

Racism as a Social Determinant of Health Report
(posted with permission on the Blue Ridge Health District website)
https://www.vdh.virginia.gov/blue-ridge/mapp2health-reports/

Regional Transit Vision for the Charlottesville Area

The County of Albemarle, City of Charlottesville, Thomas Jefferson Regional Planning District Commission, and Virginia Department of Rail And Public Transportation are collaborating on a regional transit vision plan to evaluate "transit service in Charlottesville and the surrounding region and to establish a clear long-term vision for efficient, equitable and effective transit service in the region."[4]

Regional Transit Vision for the Charlottesville Area
https://storymaps.arcgis.com/stories/eba42b02fcf44a46a18d0d824b3ef911

ENDNOTES

[1] The Equity Center, UVA School of Architecture. Central Virginia Equity Profile. https://libraopen.lib.virginia.edu/public_view/pg15bf03p. Published May 2022. Accessed August 7, 2022.

[2] Lopes, C, Sutton, K. Transit equity and climate: moving to a cleaner future. https://theclimatecollaborative.org/transit-equity-and-climate. Published September 2021. Accessed August 7, 2022

[3] Harris, J, Hanny, A. Racim as a social determinant of health - public health working group report. https://www.vdh.virginia.gov/blue-ridge/mapp2health-reports/ Published September 2021. Accessed August 7, 2022.

[4] Thomas Jefferson Planning District Commission. Regional transit vision for the Charlottesville area. https://storymaps.arcgis.com/stories/eba42b02fcf44a46a18d0d824b3ef911. Accessed August 15, 2022.

For questions on this report or the 2022 MAPP2Health process, please contact Jen Fleisher at Blue Ridge Health District.

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