

Towards equitable investments for addressing challenges and needs of older African Americans in the State of Ohio





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The Kirwan Institute
33 W. 11th Avenue
Columbus, OH 43201
Phone: (614) 247-1633
Email: KirwanInstitute.osu.edu

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THIS REPORT WAS PREPARED FOR AND SUPPORTED BY:



PROJECT TEAM

GLENNON SWEENEY • Senior Research Associate
MIKYUNG BAEK • Senior Research Associate
ANGE-MARIE HANCOCK • Executive Director
CLAIRE MEI • Research Associate
HUIZI ZENG • Graduate Research Associate

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Executive Summary

Towards Equitable Investments for Addressing the Challenges and Needs of Older African Americans in Ohio was commissioned by and completed in partnership with the Ohio Department of Mental Health and Addiction Services to expand two previous studies conducted by the Kirwan Institute for the Study of Race and Ethnicity (Kirwan Institute). Kirwan's 2014 report, Meeting the Challenges of an Aging Population with Success,¹ focused on older adult vulnerability in Franklin County. The older adult vulnerability and density mapping tool that emerged from this report garnered attention from aging practitioners and interest in using this mapping tool for additional analysis. In 2017,² the Kirwan Institute completed a second study, which focused on African American older adult vulnerability in Franklin County. The current study expands the analysis to the entire state of Ohio by replicating the older adult vulnerability and density mapping tool and spatial analysis at the state level and engaging older African American Ohioans about their experiences.

The most disturbing finding of this work is that many of our state's older African Americans are facing what we define as *multiple and complex needs* in high vulnerability areas. The analysis of vulnerability and density by race/ethnicity revealed that more than half (58.1%) of African American older adults reside in high vulnerability areas where older adult population density is either high (41.9%) or moderate (16.2%). These older African Americans are experiencing several chronic physical, mental, and behavioral health challenges, live in high vulnerability and high density or prevalence areas, and lack reliable internet access, which is why we use the term *multiple*. However, our spatial analysis indicates that not all African Americans experience these challenges in the same way based on the census tracts where they live. Given that a one-size fits all solution does not exist, we term these needs *complex*. These multiple complex needs neighborhoods where many older African American Ohioans live are areas experiencing acute challenges that will likely require both

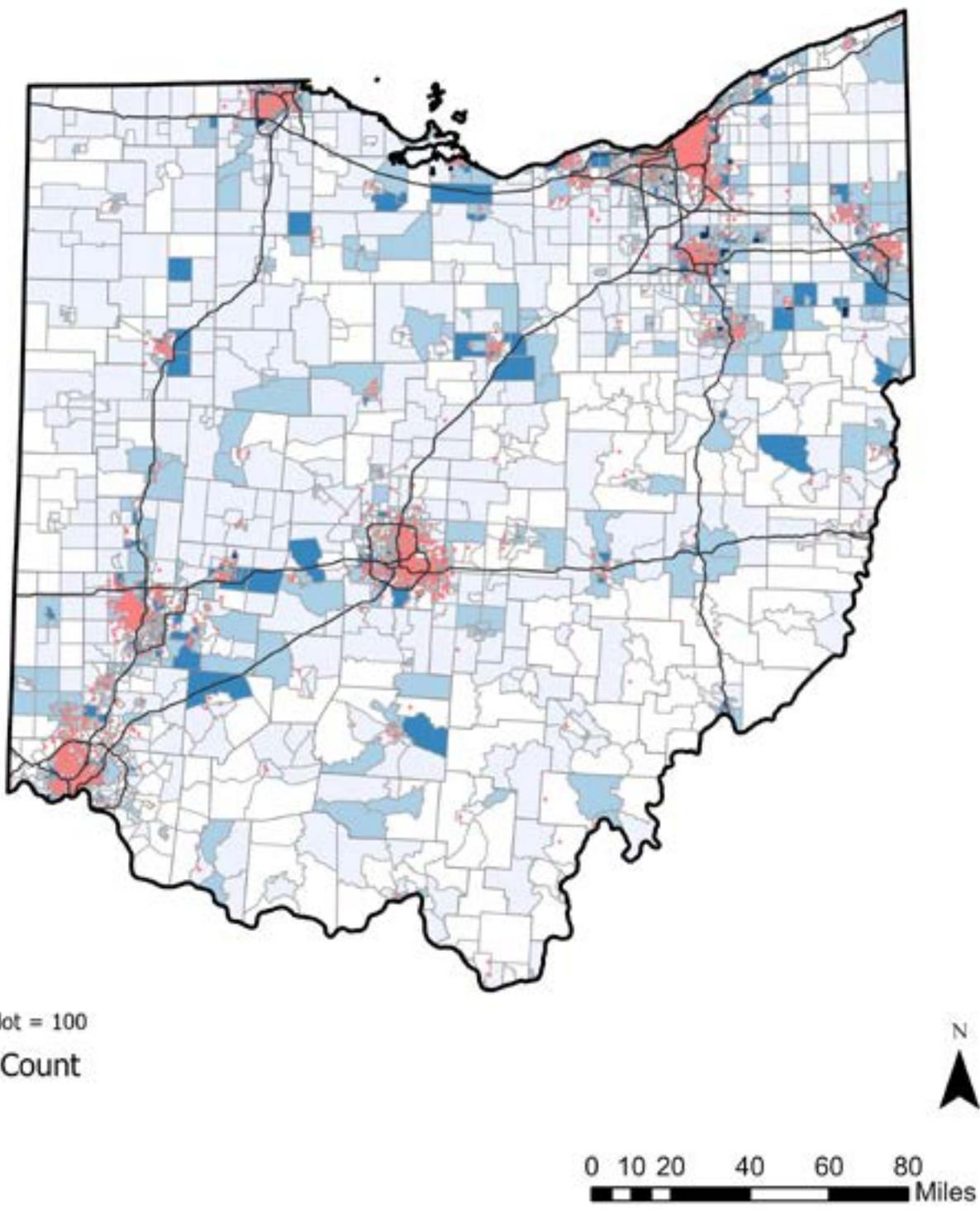
policy and programmatic solutions. ***More than 44% of Ohio census tracts fit this definition (1,302 census tracts total).*** Table A illustrates the variety of combinations experienced by older African Americans living throughout the state of Ohio, while Map A illustrates the locations of these census tracts. The larger report both provides the maps that substantiate this conclusion and greater detail from several focus groups confirming both the needs analysis along with several proposed solutions.

This research was conducted in partnership with a variety of experts and agencies from around the state of Ohio. We would like to thank the members of our Steering Committee who guided this work, providing invaluable advice, feedback, and critique throughout the research process (in alphabetical order): Beth Kowalczyk, Ohio Association of Area Agencies on Aging; Julie Maurer, Ohio Education Research Center; Ann Nguyen, Case Western Reserve University; and Katina Williams, Area Office on Aging of Northwest Ohio, Inc. Finally, we would not have been able to complete this project without the support of the agencies and the 28 participants in the six focus groups we held in Akron (at the University of Akron), Columbus (at Chandler Arms on the city's Southeast Side and made possible by Concord Counseling and St. Stephen's Community House located in the Linden neighborhood), and Toledo (at Senior Services, Inc.). We are grateful for everyone's contributions and expertise; all responsibility for the final report content remains that of the Kirwan Institute.

Table A Multiple and Complex Needs Census Tracts in Ohio and Their Patterns of Need

Multiple and Complex Needs Census Tracts (total 1,302)	Cumulative Percentage of Multiple Complex Needs Tracts	Vulnerability-Density Index	Ten Chronic Conditions	Mental & Behavioral Health Needs	Broadband Supply & Demand
295	22.6%				
204	15.7%				
160	12.3%				
160	12.3%				
154	11.8%				
91	7.0%				
79	6.1%				
69	5.3%				
48	3.7%				
22	1.7%				
20	1.5%				

Map A Ohio Locations Where Multiple Needs Exist for Older African Americans



Following a multi-method study approach that consisted of spatial analysis and qualitative focus groups with older African Americans in Akron, Columbus and Toledo, this study produced **16 recommendations** designed to inform future programs and policies of the Ohio Department of Mental Health and Addiction Services and the Ohio Department of Aging. The recommendations are organized around five themes.

The *Improving Access* theme focuses on strengthening access to the resources already available to Older African Americans in Ohio. The *Expanding Access* theme focuses on enhancing the amount and quality of access older African Americans have to care resources. The *Increase Inclusion* theme responds to the isolation and lack of respect articulated by focus group participants and is a call for including the voices and needs of older African Americans. *Enhancing Experiences* refers to the need across agencies for an improved understanding of and relationship to the older African American Ohioan community. Finally, *Strengthen Place* refers to place-specific planning and policy decisions that can improve outcomes for older African Americans in Ohio. Table B lists the themes and their connections to various recommendations; for more information about each recommendation, please go to page 60 in the larger report.

We note in much greater detail throughout the report two key realities. First, implementation of these recommendations will likely require multiple sectors (government, non-profit, philanthropy) as well as cross-agency collaboration within government. Second, where applicable we note multiple areas where greater research would expand the ability to successfully implement these recommendations.

Nearly 18% of Ohioans are over the age of 65, and a significant proportion of them are African American. As we discuss below, a strong public health case can be made for including African Americans between the ages of 55-64 within the cohort of an aging population in Ohio. As we continue to change as a state it will be critical to address the needs of older African Americans at younger ages in order to ensure all Ohioans have the benefit of the highest quality of life possible for as long as possible. We encourage all key stakeholders to include older African Americans in the discussions of changes that will impact their lives; not only is it the right thing to do, but increased involvement in community discussions is good for their health outcomes as well. The Kirwan Institute stands ready to support community efforts that fall within our mandate to conduct community-engaged research in partnership going forward.

Table B General Recommendations to Address the Complex Vulnerability of Older African American Ohioans

#	Recommendation	Improve Access	Expand Access	Increase Inclusion	Enhance Experiences	Strengthen Place
1	Utilize Statewide Older Adult Vulnerability Mapping Tool for Programs and Policy					
2	Utilize Statewide Older Adult Mapping Tool to Site Low-Income and Affordable Housing in High Opportunity Neighborhoods					
3	Conduct Statewide Listening Series					
4	Review Existing Policies & Programs					
5	Increase Volunteer Opportunities					
6	Foster Relationships Among Older Adults					
7	Directly Engage Older Adults in Safety-Related Decision-Making					
8	Foster Positive Relationships with First					
9	Partner with Local Law Enforcement to Ensure Bias Trainings for Officers					
10	Support Age-Friendly and Inclusive Community Development and Redevelopment					
11	Create and Disseminate a Black Medical Practitioner's Guide					
12	Create a Cultural Humility and Bias Certification for Serive and Medical Providers					
13	Pilot a Statewide Case Worker Program					
14	Grow and Support Existing Transportation Assistance and Better Disseminate to Vulnerable African Americans					
15	Lower Programmatic Eligibility Age from 65 to 55 when are where possible					
16	Support, Replicate, and Expand Age- and Income-dependent Tablet and Technological Assistance Programs					

Study Approach

Our previous studies have greatly shaped how we should think about vast disparities in life expectancy across Ohio. It also affected how we approached the research design and methodology we used in this study. For example, our Franklin County studies identified many census tracts with large African American populations where the life expectancy was **below** 65 years of age. As a result, we define “older adults” more expansively than may be expected: as all adults over 55 years of age. There are two rationales for this expansive definition. First, previous biomedical and biopsychological health literature on experiences of African Americans suggests that African Americans age at more rapid rates due to exposures to health risks. This is particularly true for African Americans living in poverty who are more likely to experience food insecurity and poor access to adequate nutrition,³ develop frailty,⁴ experience lower life expectancy,⁵ lack a vehicle,⁶ and lack access to internet connections and or devices.⁷ Inability to access the internet can also have health impacts for older adults due to the proliferation of tele-med services and strong reliance on this technology during the pandemic for both health care services and to combat isolation.^{8,9} Being a low income elder is also associated with elder mistreatment.¹⁰ Lower income elders are also more likely to be renters and experience housing cost burden, both of which are associated with older adult vulnerability and poor health outcomes.^{11,12,13} Older renters are also more likely to end up in care homes, reducing this population’s ability to age in place.¹⁴ Likewise, elders who live alone are at greater risk of vulnerability and health challenges, including those associated with isolation,¹⁵ especially during the pandemic,¹⁶ and reduced social supports.¹⁷ These issues are compounded for older adults with disabilities.^{18,19,20}

The experience of African Americans is unique in the United States. Along with Native Americans, Asians, and Hispanics, African Americans have experienced centuries of institutionalized racism manifesting in strategic disinvestment of African American and minority neighborhoods, discrimination in job markets, disproportionate incarceration, and unequal access to educational structures. Regular experiences of racism, whether interpersonal or structural, take a toll on individuals, particularly impacting their health. This manifests in what Dr. William Smith terms *Racial Battle Fatigue*,²¹ a multi-symptom condition that negatively impacts the physical, mental,

and behavioral health of minoritized groups in the United States. Similarly, scholar Arline T. Geronimus proposed the theory of Weathering,^{22,23} which suggests that the impacts of structural racism on minority group leads to increased aging and associated physical, mental, and behavioral health impacts. Recent studies^{24,25} cited weathering as a factor in disproportionate impacts of the COVID-19 pandemic on both African Americans and Latinx populations.

Given those experiences and the impact of on the potential for healthy aging, we hypothesize that there is an under- or unserved population of older African Americans who are very likely experiencing the life conditions of being an older adult without access to key programs and services available only to those 65 and over. For this reason, we include the 55-64 demographic in addition to the 65 and older demographic in our study.

We are also well aware that census tracts and spatial analysis cannot capture all of the story. In order to best capture the full picture we utilized a mixed methods research design that included both quantitative indicators as part of a spatial analysis and qualitative data from those with expertise and/or lived experience as a member of the older African American population in Ohio. We discuss each in turn.

Our spatial analysis utilized secondary data at the census tract level to create the first statewide Older Adult Vulnerability and Density map for Ohio [see page 19] This unique mapping tool identifies both metropolitan areas where older Ohioans are particularly vulnerable as well as neighborhoods where their population density is particularly high. We conducted overlay analyses of demographics and population health outcomes pertaining to older Ohioans using Medicaid claims data to enable users to identify high density and vulnerability areas where large older African American populations reside or where specific health conditions are particularly acute. Together this approach enables both the state in general and counties more specifically to identify neighborhoods for place-based investment and policy initiatives aimed at supporting older Ohioans. Previous studies have found place-based solutions to be effective in addressing mental health challenges and loneliness,²⁶ two issues disproportionately experienced by older adults and reflected in our findings below. Place-based interventions targeting older adults found that social interventions specifically support social relatedness, motivation, self-continuity, and self-efficacy.²⁷

Census tract data-driven spatial analysis is very helpful for understanding broad patterns of vulnerability but cannot give us the detailed understanding at the individual level of how older African Americans are experiencing barriers to or opportunities for healthy aging. Our qualitative analysis proceeded in three steps. In order to craft an informed plan

for how to qualitatively engage communities across the state we first formed a steering committee of four experts representing academia, social services, and state-level elder policy. These individuals were identified using a variety of means. We contacted the Ohio Department on Aging, with which we had an existing relationship from our previous older adult studies, to identify a state-level policy expert. We conducted a review of academic literature to identify an academic gerontology expert with research focused on Ohio to identify our academic expert. We leveraged relationships formed in our previous two studies to identify one social service provider and we worked closely with our contact at the Ohio Department of Aging to identify an individual providing direct social services in Ohio for our final member. We then interviewed these four experts from around the state of Ohio. Together they represent expertise from the perspectives of academic research, high-level policy, and on-the-ground service providers.²⁸ Our interviews of these steering committee members helped shape our preliminary engagement strategy and focus group questionnaire. We then went back to our steering committee for comment on our focus group questions and engagement strategy.

Six focus groups in three metropolitan areas were conducted to inform this study. Our initial plan was to conduct a minimum of nine focus groups in large and mid-sized cities with sizable vulnerable older African American populations (including Columbus, Cleveland, Cincinnati, Akron, Toledo, Dayton, Mansfield, and Youngstown). However, our project timeline for engagement coincided with a new wave in the COVID-19 pandemic. This new wave of illness, coupled with the stress and challenges that the pandemic had already placed on social service organizations, community centers, and senior centers, left us struggling to confirm these engagements. We attempted to schedule virtual focus groups as a back-up plan. However, this approach proved quite unsuccessful, for reasons that would become abundantly clear during the focus group discussions that we were able to conduct. We relied heavily on our steering committee members to connect us with social service agencies and community and senior centers to host the planned focus groups. In the end, we were able to schedule six focus groups, with two taking place in Columbus, Toledo, and Akron, respectively. In total, we engaged **28** older African American Ohioans in August and September of 2022. Each 60-90 minute focus group was recorded, and the audio was transcribed and analyzed in NVivo qualitative coding software. Transcripts were coded both deductively (utilizing the categories of barriers, supports, medical experiences, etc. derived from the focus group questions) and inductively to capture emergent themes²⁹. Two research team members completed the qualitative analysis and compared results to provide greater confidence in the findings.

Focus groups, unlike surveys distributed to collect representative samples, do not generate data representative of the broader population. The findings from our focus groups can only

be attributed to the people participating in the focus group and should not be assumed to be generalizable. However, these findings do point to areas that merit further investigation. There were thirteen distinct findings from our focus group conversations, and these can be further split into the following five categories: *supports for thriving, barriers to wellbeing, systems and trust, two sides of technology, and communication*. While focus group findings are discussed throughout the report along with the findings from the spatial analysis, in-depth discussion can be found starting on page 44.

The results of our research detail an abundance of racialized health disparities across the spectrum of physical, mental, and behavioral health specialties. Combined with chronicles of the experiences of disparate treatment at the hands of health care and service providers that older African American Ohioans expressed in focus groups we conclude that low-income older African American Ohioans are experiencing a plethora of mental and behavioral and chronic physical health conditions. The barriers to effective ongoing care are the result of several areas of complex needs including living in areas that lack resources and amenities to thrive (i.e. living in a high vulnerability neighborhood), lacking adequate internet service or being unable to afford said service, experiencing multiple physical health conditions, and experiencing multiple mental and behavioral health conditions.

Study Findings

Older Adult Vulnerability Index

To construct a statewide older adult vulnerability index we looked to our 2014 study of older adults in Franklin County, Ohio, which involved a robust literature review to identify unique challenges of older adults, resulting in a set of vulnerability indicators that were confirmed by conversations with the study's advisory committee members. A supplementary literature review and review of prior indicators were conducted during our 2017 study. Building upon these previous studies, a literature review conducted specifically to inform statewide older adult vulnerability, and consultation with our current advisory committee we selected the eight (8) indicators listed in Table 3 to use for the calculation of older adult vulnerability index at state level. The construction of a spatial older adult vulnerability index is described in more detail in Appendix A. Studies supporting how these indicators are related to vulnerability of older adults are summarized in Appendix B.

Table 1 Indicators of Older Adult Statewide Vulnerability

Indicator	Data Source
55+ In Poverty	ACS ³⁰
65+ That Are Housing Cost Burden (30%+ of income in housing)*	ACS
55+ Who Rent	ACS
55+ Single Person Households (Live Alone)	ACS
65+ With No High School Diploma*	ACS
65+ Persons with Disability*	ACS
55+ Households with No Personal Vehicle	ACS
Average Life Expectancy at Birth	USALEEP ³¹

*ACS Data for these indicators was not available for the 55-64 age group.

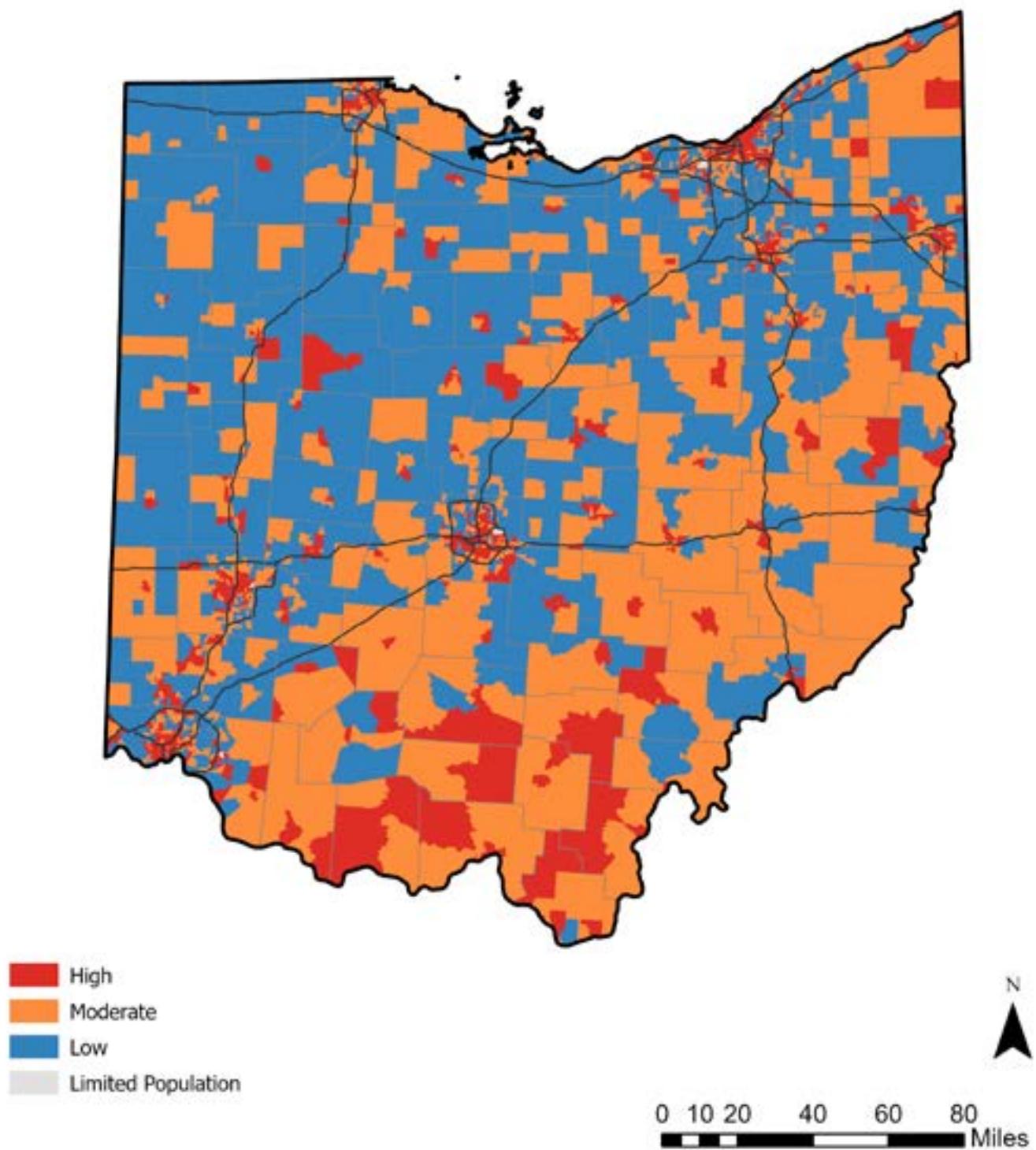
The Ohio Older Adult Vulnerability Map (Map 1) visualizes the distribution of different levels of vulnerability at the neighborhood level across the state. Across all populations higher vulnerability, shown in red throughout the map, appears in multiple urban centers – both in major cities and in mid-sized, post-industrial cities – as well as the southern and southwestern Appalachian regions of the state. Areas of moderate vulnerability are frequently found adjacent to both low and high areas of vulnerability and dominate the southeastern portion of the state. Low vulnerability areas dominate the northwestern portion of the state and many of the suburban areas surrounding major metropolitan areas.

Older Adult Vulnerability, Density, and Prevalence

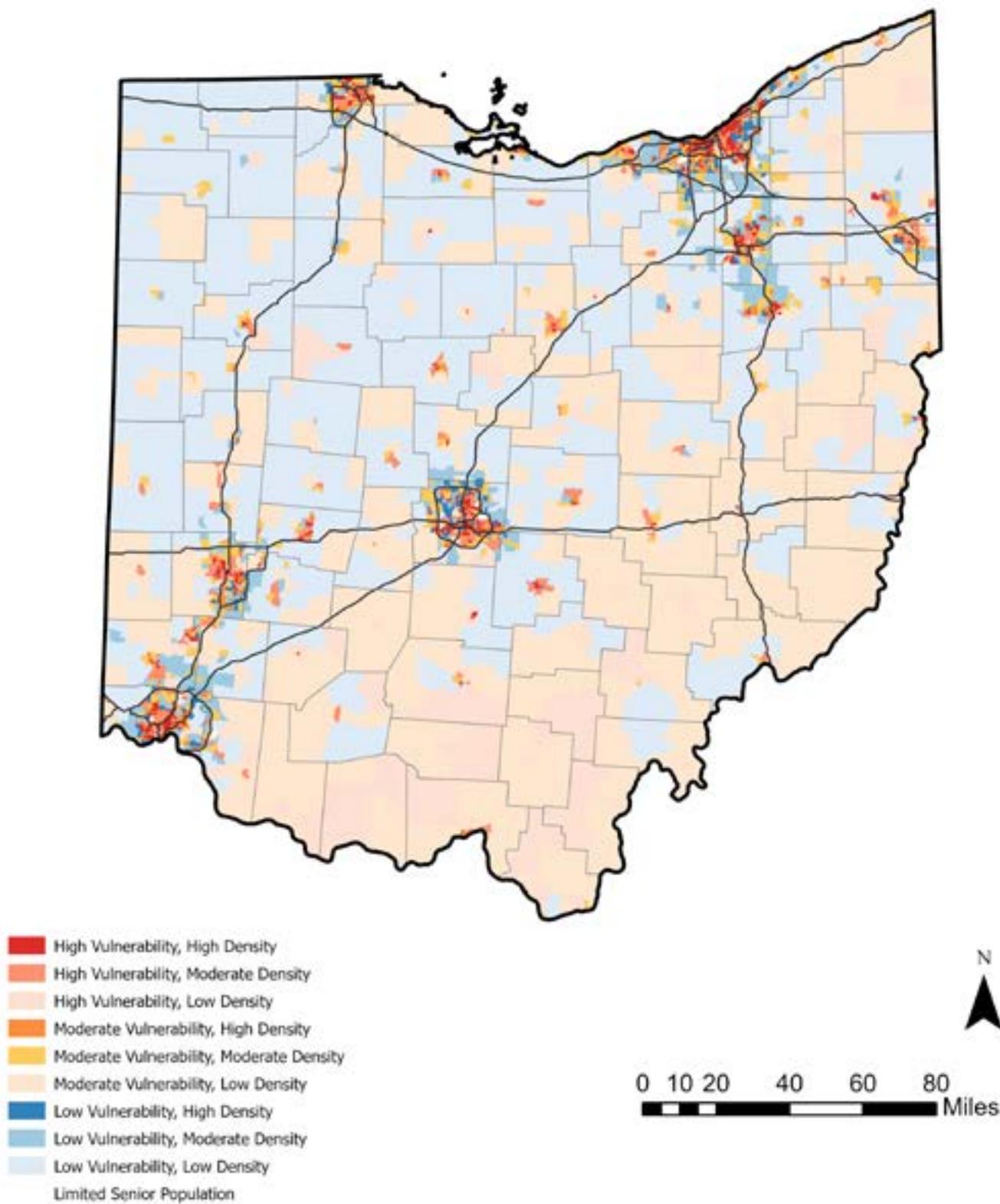
To better understand the concentration of older adults in relation to different levels of vulnerability, we have calculated density and prevalence of older adult population for each census tract and grouped these into three levels – high, moderate, and low density/prevalence. These three levels of density and prevalence were combined with the vulnerability levels to create Map 2 (Ohio Older Adult Vulnerability and Density) and Map 3 (Ohio Older Adult Vulnerability and Prevalence). Map 2 depicts how older adult vulnerability overlaps with older adult population density. High concentration of older adults (darker red/orange/blue area) are noted mostly within boundaries of large and mid-sized populous cities and each city shows a different geographic distribution pattern of vulnerability level. For instance, in Columbus metro, high vulnerability high density neighborhoods (dark red) are clustered in areas east of I-71 and south of I-70. Map 3, on the other hand, helps to understand older adult vulnerability in areas with different prevalence of older adults among area population. Neighborhoods where a high proportion of older adults reside (darker red/orange/blue area) are noted all across the state, mostly in rural areas as well as on the outskirts of cities. And neighborhoods with high vulnerability high prevalence (dark red) are also scattered across the state.

While Map 2 is useful to identify higher vulnerability areas with higher concentrations of older adults, Map 3 helps to identify areas of higher vulnerability where more older adults reside in the neighborhood. Therefore, the vulnerability and density map (Map 2) is the best tool to use to understand older adult vulnerability at the metropolitan scale while the vulnerability and prevalence map (Map 3) is the best tool to use to understand older adult vulnerability outside of metropolitan areas in Ohio. We discuss each in turn.

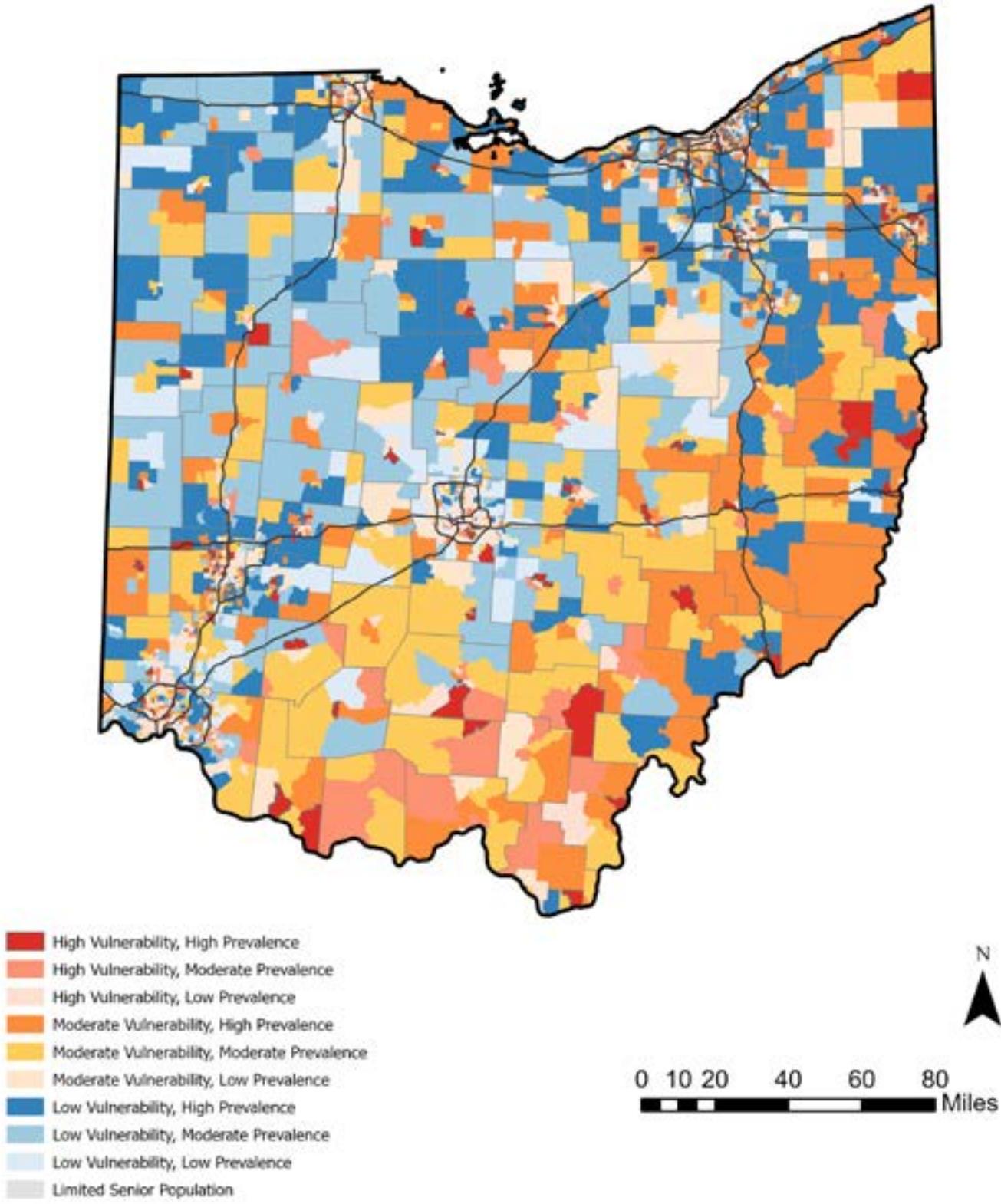
Map 1. Ohio Older Adult Vulnerability



Map 2 Ohio Older Adult Vulnerability and Density



Map 3 Ohio Older Adult Vulnerability and Prevalence



Older Adult Vulnerability by Race/Ethnicity

The analysis of vulnerability and density by race/ethnicity revealed that more than half (58.1%) of African American older adults reside in high vulnerability areas where older adult population density is either high (41.9%) or moderate (16.2%). On the other hand, about twenty percent (20.8%) of White older adults reside in low vulnerability and low-density areas. This suggests that African Americans who are the most vulnerable and thus need the most support are also residing in areas with a higher concentration of older adults, suggesting that a properly implemented place-based intervention could simultaneously help African Americans and the broader population of older Ohioans as well, including Hispanics and Asians. We discuss this possibility in greater detail in the recommendations section.

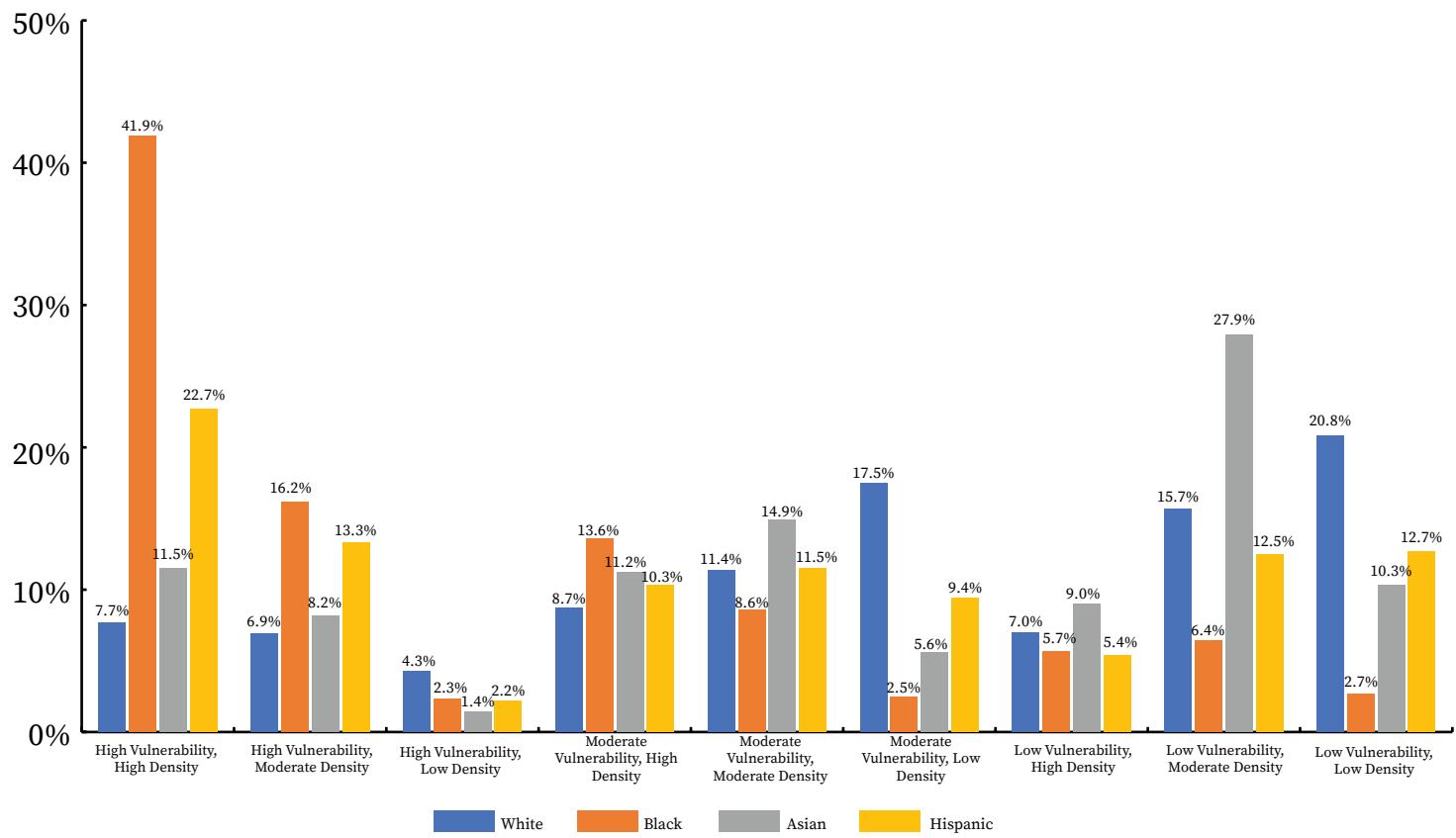
Despite living in areas with higher concentration of older adults, our Toledo and Columbus focus group participants none-the-less reported that social isolation and loneliness were high among them and their peers, suggesting that interventions aimed at improving social interactions for older adults may be warranted. However, these focus group participants also reported fear for their safety when living in neighborhoods that have experienced decades of disinvestment and subsequently exhibit high crime rates. The neighborhoods where focus group participants reported coming from in both Toledo and Columbus were identified as high vulnerability in our spatial analysis. Enhancing neighborhood safety may be just as important to increasing social interactions as programming in such neighborhoods.

Figure 1 can help practitioners understand the distribution of vulnerability across different population densities for different races throughout Ohio. Map 2 can help practitioners identify areas of higher vulnerability and density of older adults, informing place-based interventions. Utilizing these two tools in concert can illuminate the racial disparities in vulnerability/density levels that exist throughout the state for older adults.

To understand the vulnerability distribution of older African American Ohioans, we conducted an analysis that overlaid the older adult population for different racial/ethnic groups onto the vulnerability index map. Map 4 is Ohio older adult vulnerability with population overlay of African American older adults. This map does not include population density or prevalence. Higher concentrations of African American older adults are noted in areas of higher vulnerability in urban areas, but not so much in southern and Appalachian regions of the state. In addition to major urban areas, several mid-sized post-industrial cities are identified as areas of higher vulnerability with higher concentrations of African American

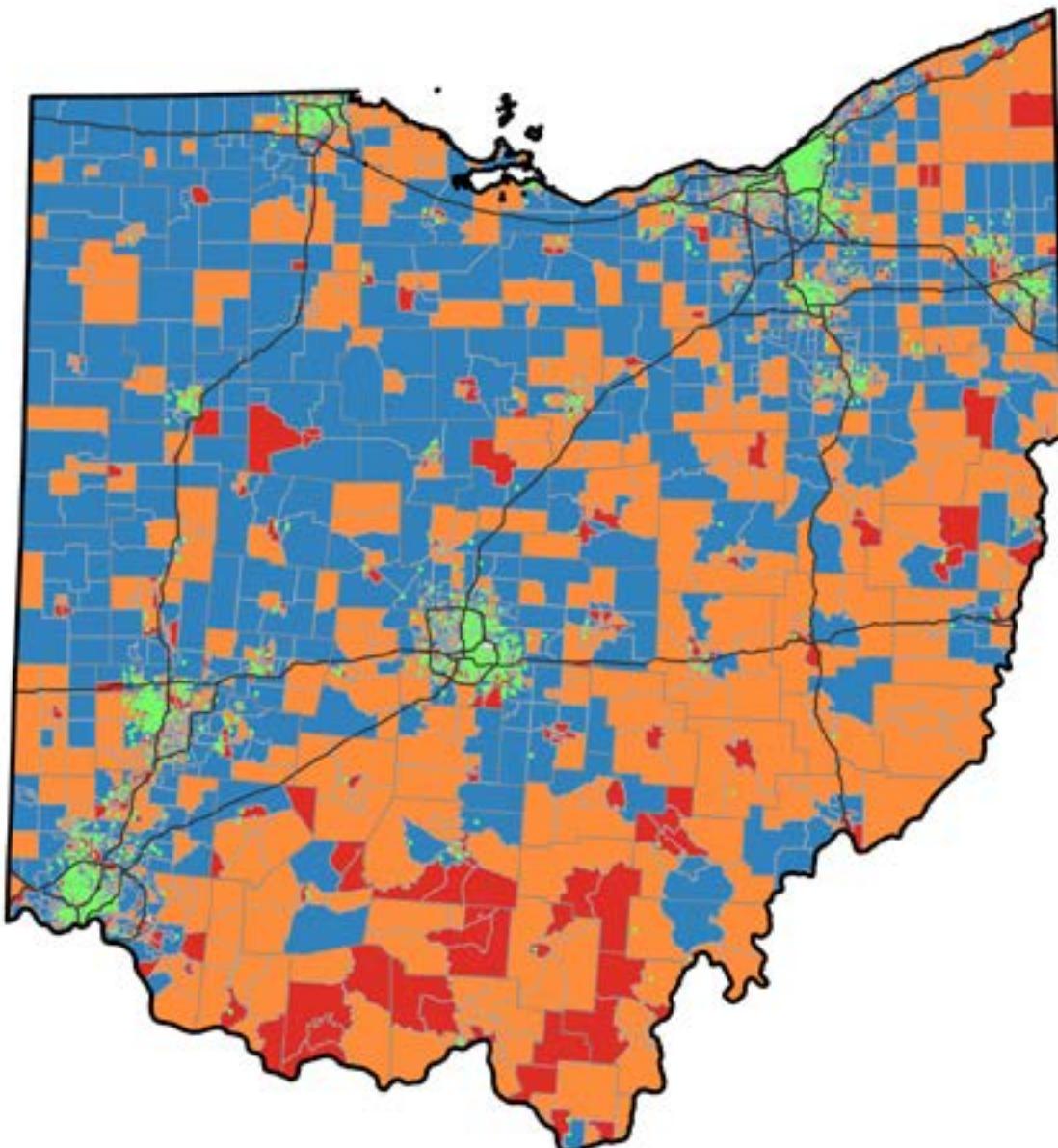
older adults. Given that older African Americans are largely concentrated in metropolitan regions and mid-sized cities, we have included the older adult vulnerability and density maps zoomed-in to highlight the State's eleven largest metropolitan areas and cities in Appendix C. These include Columbus, Cincinnati, Cleveland, Dayton, Springfield, Toledo, Youngstown, Akron, Canton, Lima, and Mansfield.

Figure 1 Older Adult Vulnerability and Density by Race/Ethnicity



Across the state, a stark racial disparity is found, with nearly 60% of African Americans and less than 20% of White older adults residing in high vulnerability areas, whereas less than 15% of African Americans and over 40% of Whites live in low vulnerability areas as shown in Graph 2. Currently, African Americans make up 9.75% of Ohio's older adult population (including all African Americans aged 55+).

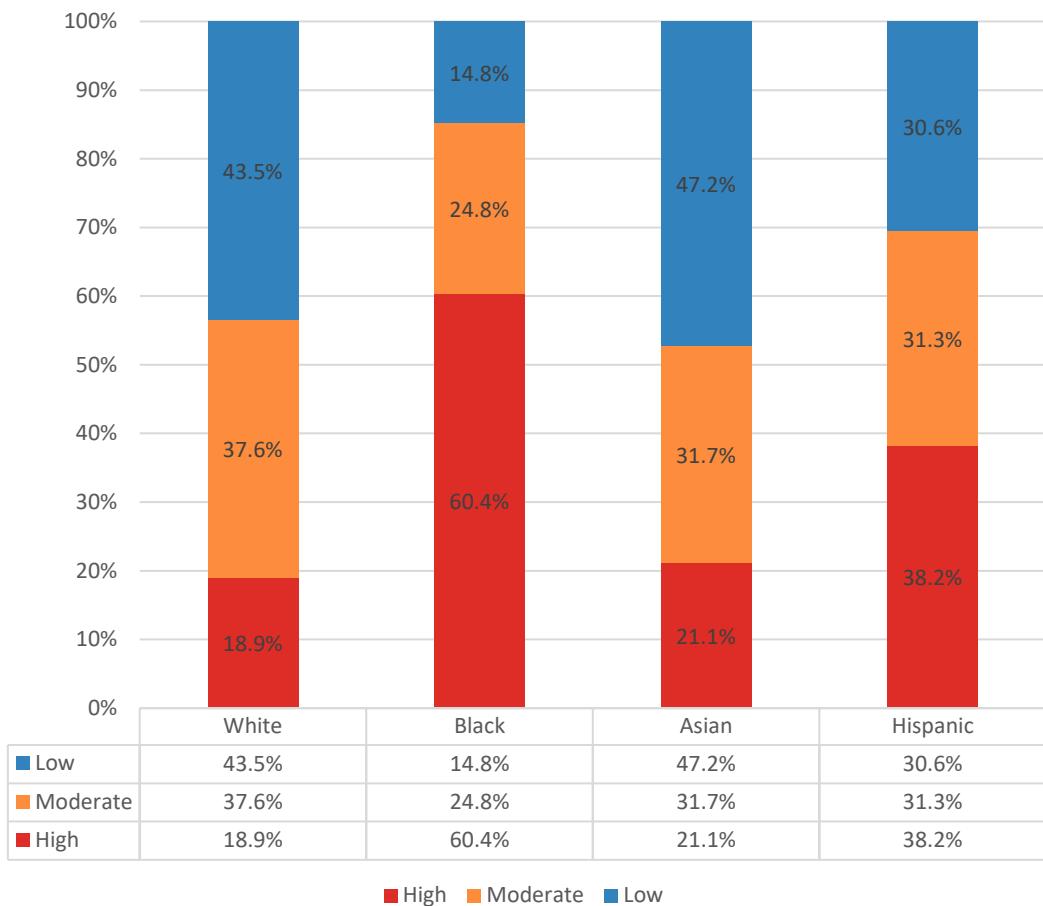
Map 4 Ohio Older Adult Vulnerability with Population Overlay of African American Older Adults



• 1 dot = 100
High
Moderate
Low
Limited Population

0 10 20 40 60 80 Miles

Figure 2 Older Adult Vulnerability by Race and Ethnicity



This analysis of older adult vulnerability and density/prevalence across the state provides a useful tool to help practitioners and policymakers identify neighborhoods for place-based interventions where there exists a density or prevalence of older adults who are living in high or moderate vulnerability census tracts. By overlaying race and ethnicity data and breaking down the analysis by race/ethnicity, we were able to highlight racialized disparities in vulnerability and density levels across the state. Our online tool which includes an analysis of Medicaid data, empowers users to explore this data to the census tract level. The tool can therefore play a critical role in how we understand the medical challenges faced by vulnerable older African Americans in Ohio. Our findings from that analysis are included in the next section.

Health Challenges of Older African American Ohioans

One of the aims of this study is to understand the prevalence of health challenges among older Ohioans, which will inform policy and programming recommendations for State agencies serving them. To fulfill this aim, we have obtained Medicaid utilization data from the Ohio Department of Medicaid for cases of older adults getting treatment for chronic conditions with greater relevance to African Americans. The following ten chronic conditions were identified through a review of chronic conditions with racialized disparities in academic literature and consideration of four areas highlighted in a recent report released by the Ohio Department on Aging (cognitive health, cardiovascular health, mental health, and chronic pain): Alzheimer's disease, arthritis, asthma, cancer, dementia, depression, diabetes, heart disease, hypertension, and substance use disorder. (see Appendix D for more details)

The dataset obtained from Ohio Department of Medicaid for our analysis contained Medicaid claims data from 2019 for recipients aged 55 and older for the ten chronic conditions and mental health conditions (ICD-10 F codes)³² listed above. The ten chronic conditions selected and corresponding ICD-10CM diagnosis codes are listed in Appendix E. The data included both demographic information (race, ethnicity, gender, and age) and geographic information (state, county, and ZIP code) for each case.

Descriptive Statistics

There were 1,051,646 unique cases included in the data for the ten chronic conditions and 5,518,921 cases for mental and behavioral health conditions, as illustrated in the graphs below, which summarize the cases by age group, gender, race/ethnicity. The total case counts were the highest for the youngest age group (Age 55-64) of older adults and the lowest for the two oldest age groups (Age 75 and up) for both ten chronic conditions and mental and behavioral health conditions. This is likely related to life expectancy: Ohio's average life expectancy was 76.9 according to the National Vital Statistics System data for 2019.³³ As for the composition of cases by gender, female older adults filed more cases for ten chronic conditions while males had slightly more cases filed for the mental and behavioral health conditions. The distribution of cases by race showed that White older adults had the highest case counts compared to other racial groups, which is attributable to the racial composition of older adults in the state – 87.6% White and 9.75% Black per ACS 2019 5-year estimates.

Figure 3a Ohio Medicaid Cases for Ten (10) Chronic Conditions by Age Group

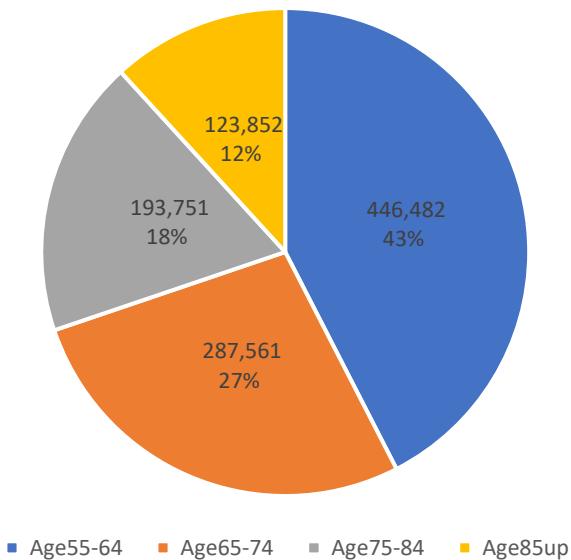


Figure 3b Ohio Medicaid Cases for Mental and Behavioral Health Conditions by Age Group

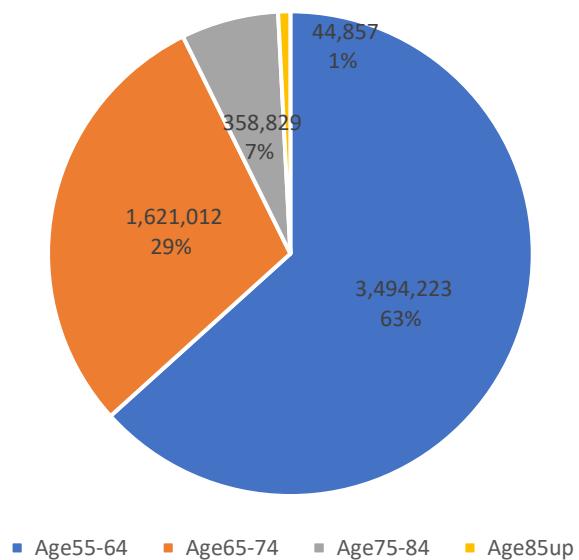


Figure 4 Ohio Medicaid Cases for Ten (10) Chronic Conditions and Mental and Behavioral Health Conditions by Gender

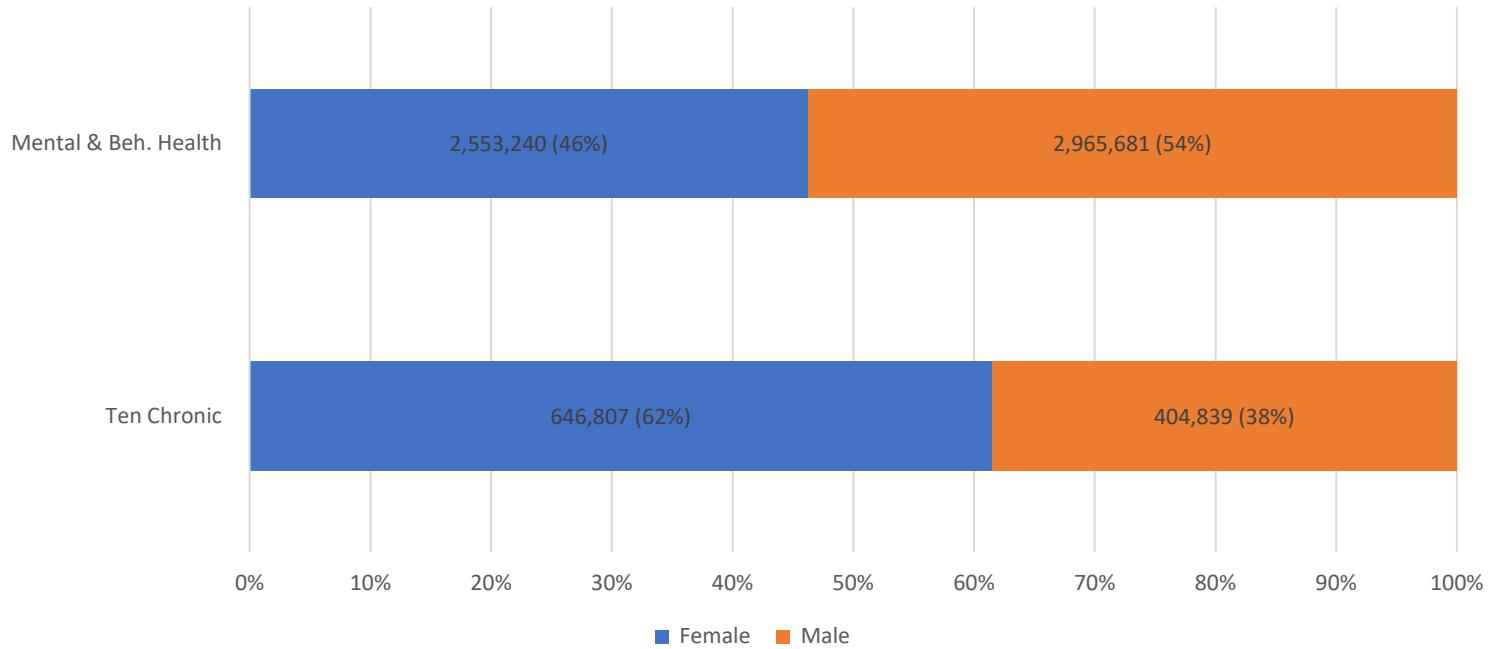
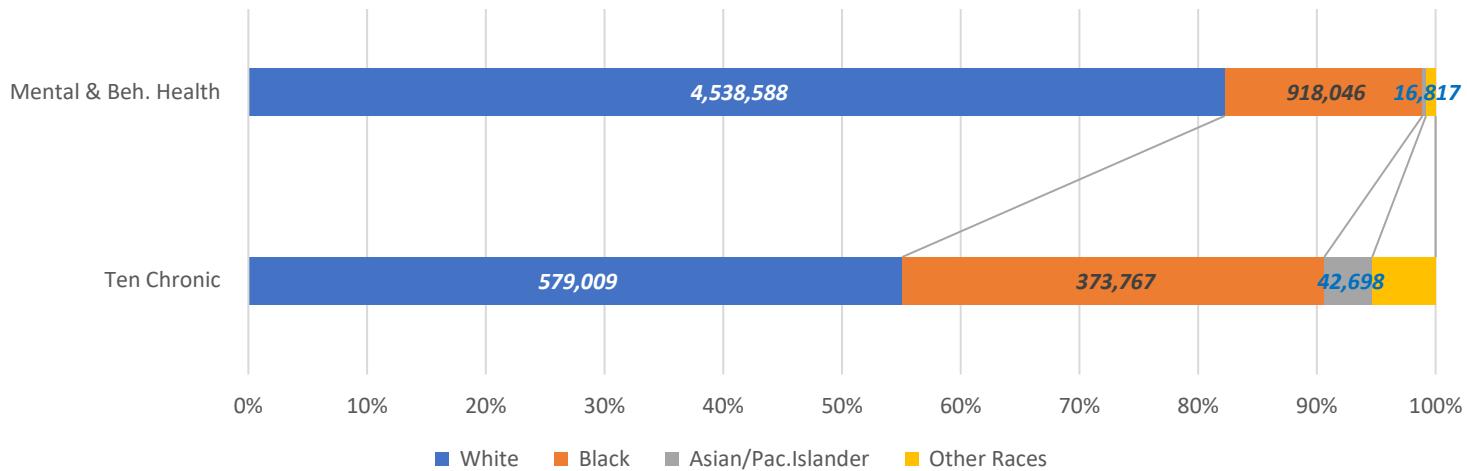


Figure 5 Ohio Medicaid Cases for Ten (10) Chronic Conditions and Mental and Behavioral Health Conditions by Race

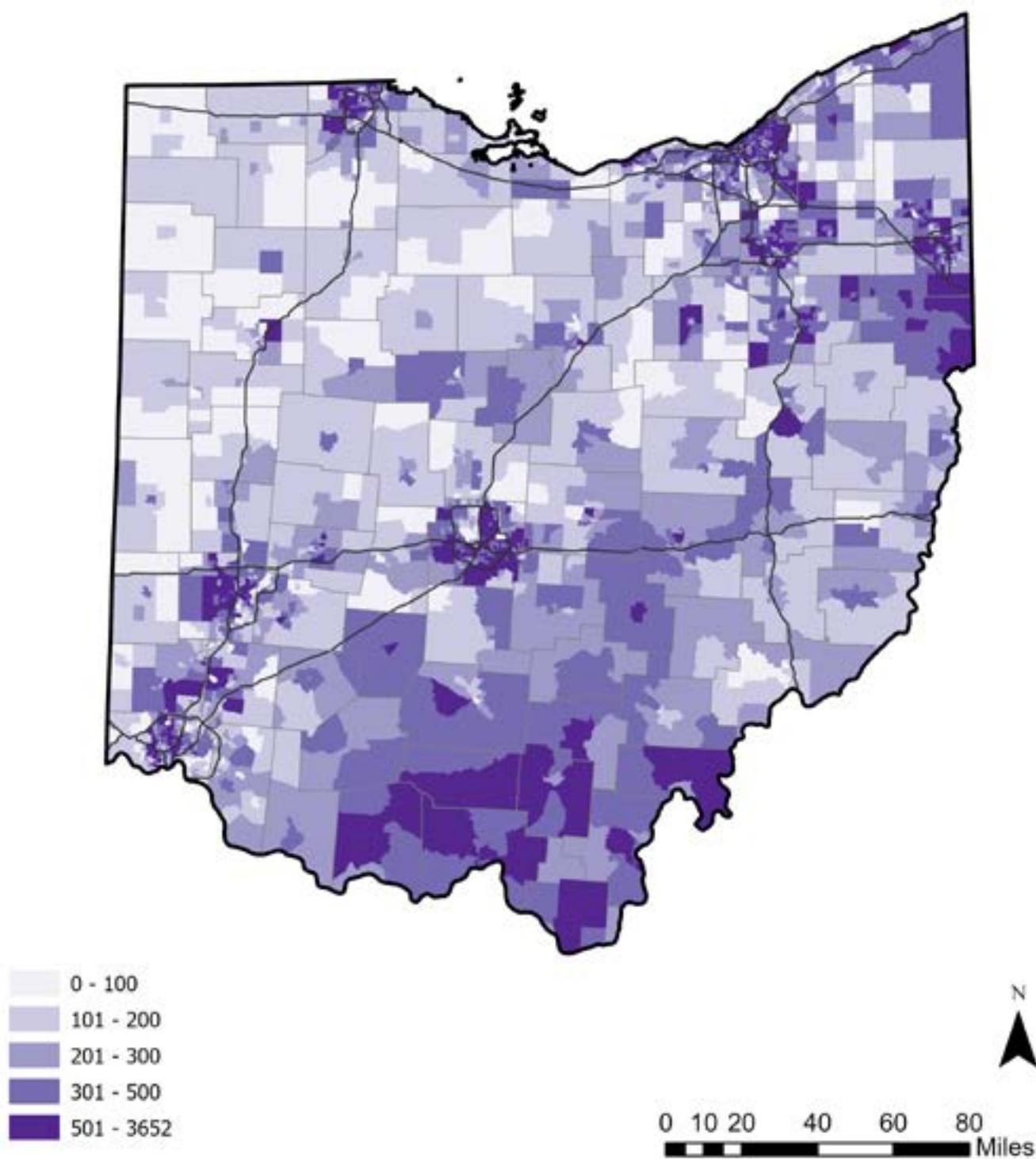


Medicaid Claims of Older Adults for Ten (10) Chronic Conditions

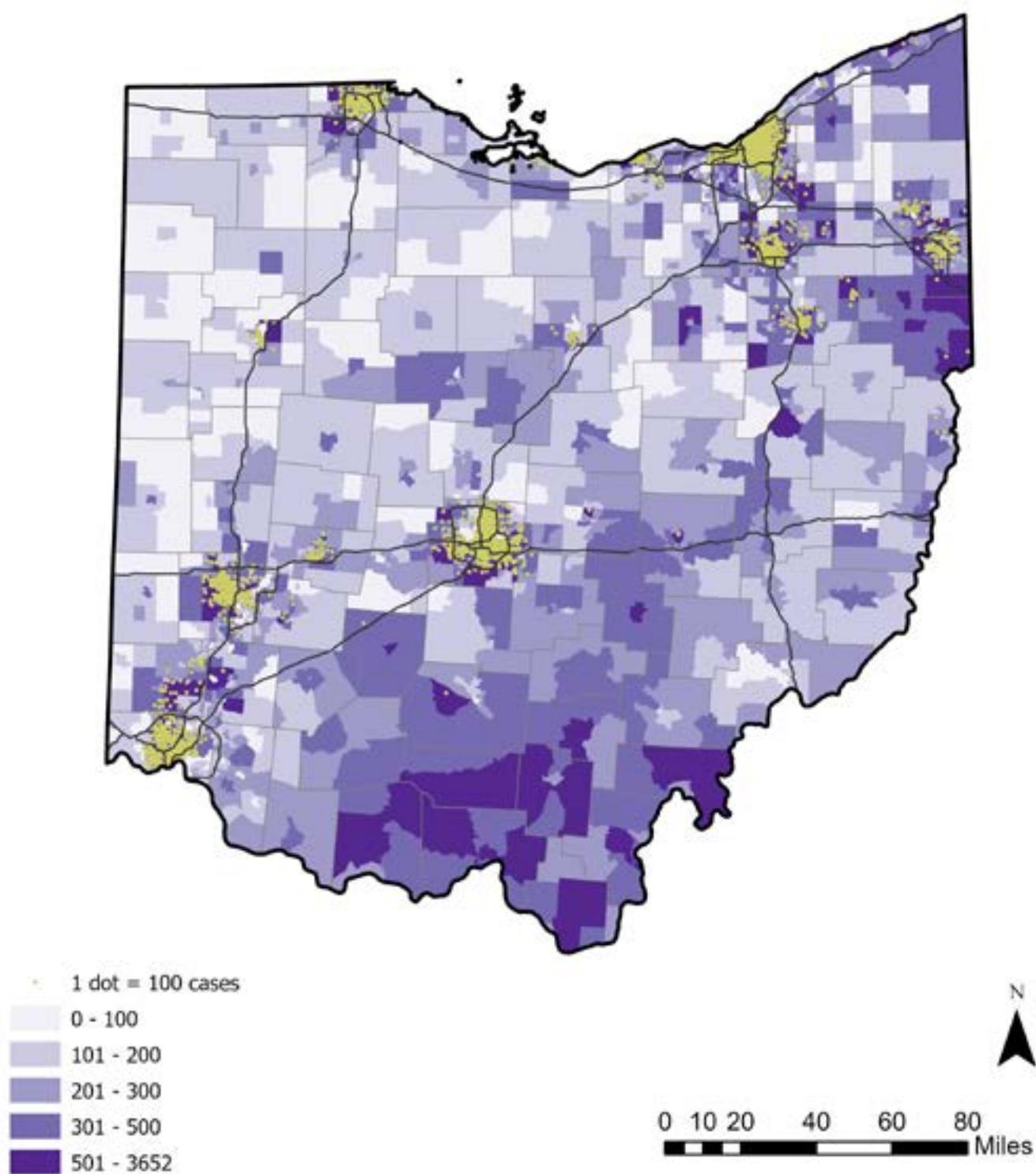
The Medicaid claims data went through a spatial conversion that aggregated individual case data to the census tract level. For more details, please refer to Appendix A. Map 5 is the resulting map of total case counts by census tract for ten chronic conditions, which show the highest case counts in mostly metropolitan areas, including Cincinnati, Dayton, Columbus, Cleveland, Akron, Canton, and Youngstown, and the Southeastern Appalachian portions of the state.

An overlay of older African Americans with such conditions (Map 6) revealed that African Americans with ten chronic conditions are mostly concentrated in metro areas and large cities, but not so much in the southern Appalachian regions of the state where total cases counts are higher.

Map 5 Total Case Counts for Ten Chronic Conditions by Census Tract



Map 6 Total Case Counts for Ten Chronic Conditions with African American Older Adult Cases Overlaid

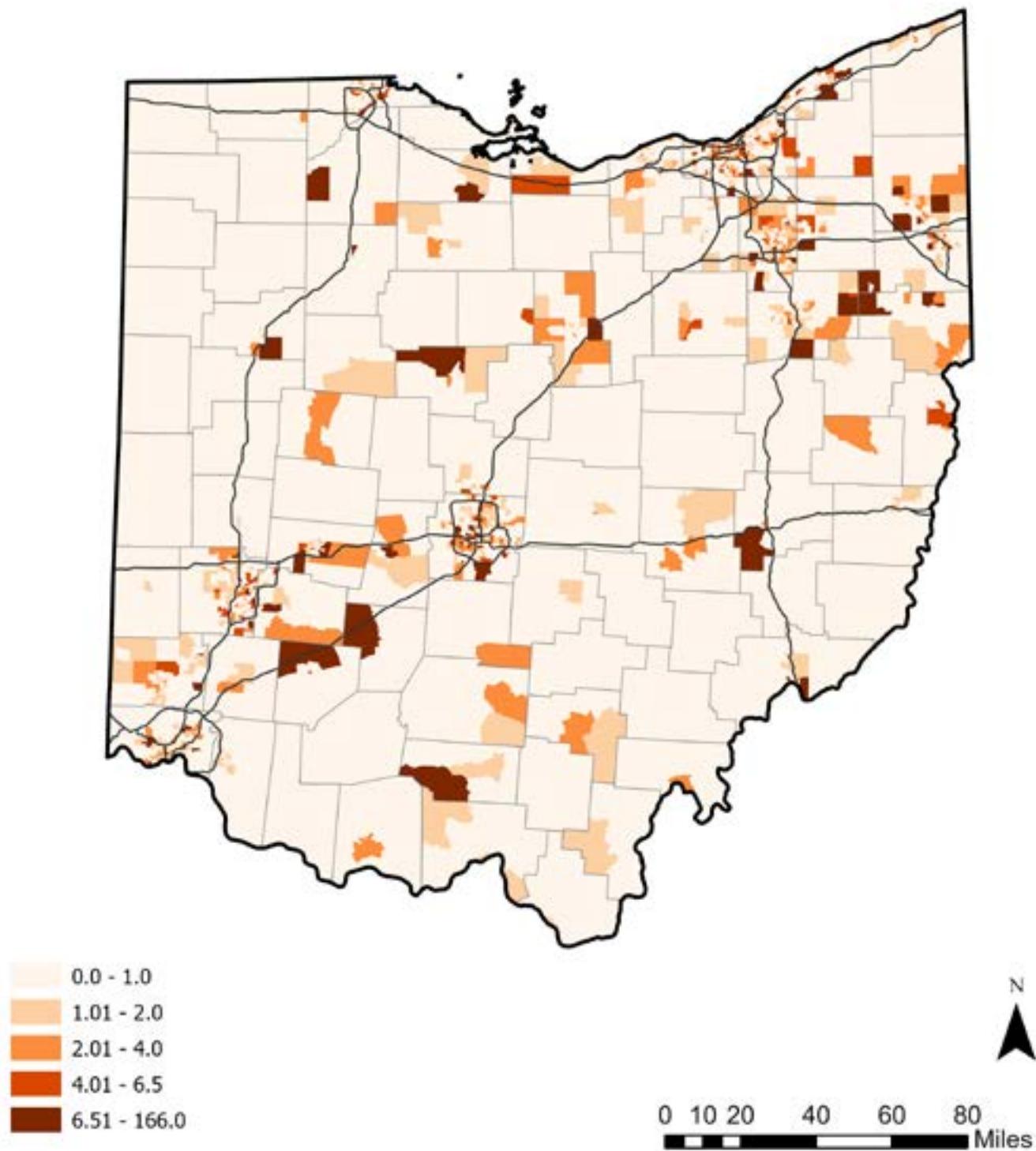


To examine disparities among different racial and ethnic groups of older Ohioans suffering from the ten chronic conditions, two measures were calculated and mapped: 1) incidence rates by race/ethnicity calculated as case counts by race/ethnicity divided by older adult population counts by race/ethnicity; and 2) racial disparity as a measure of over-representation of African American cases calculated as the proportion of African American cases minus the proportion of African American older adult population.

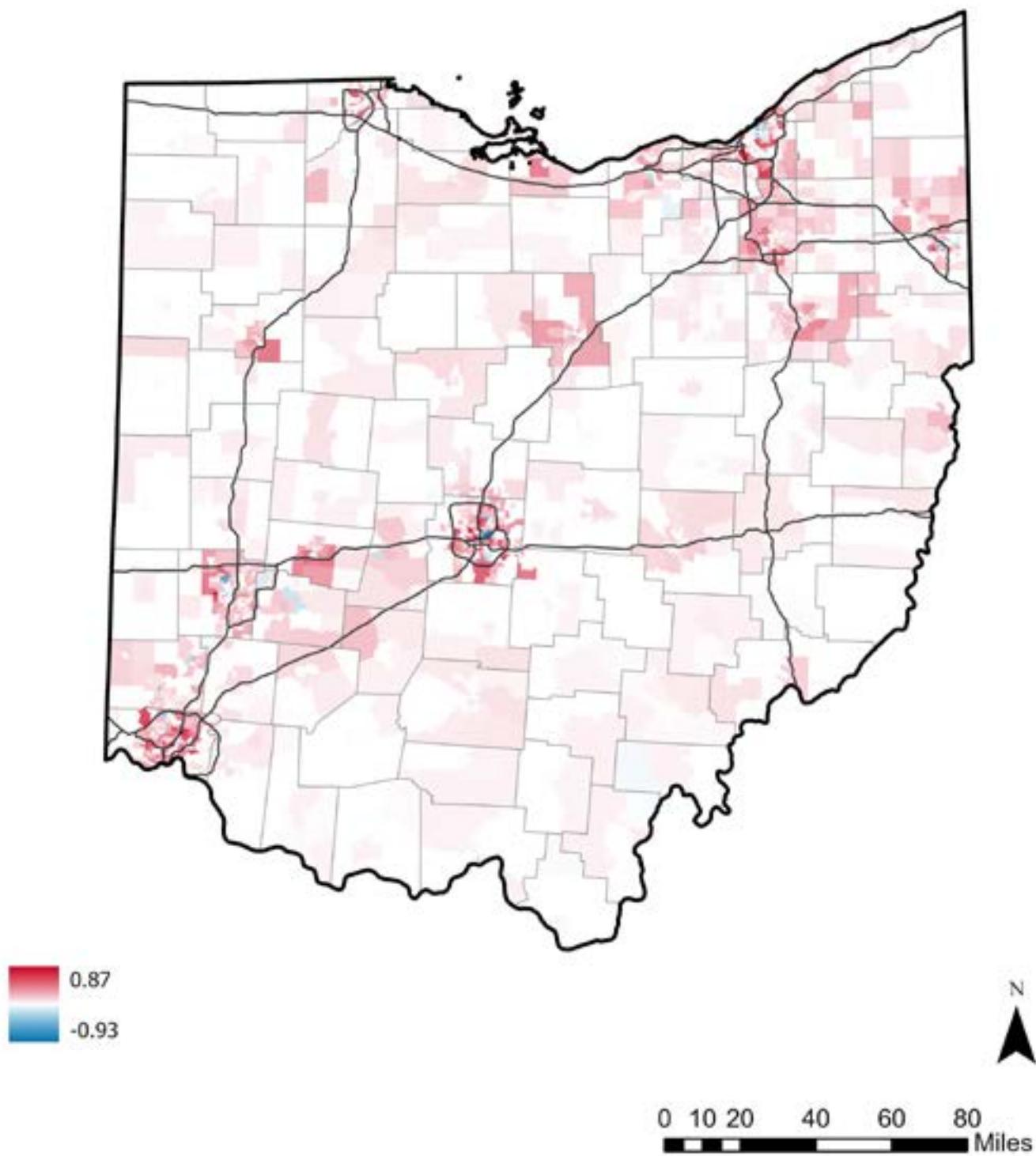
The incident rate for older African Americans for the ten chronic conditions was also mapped (Map 7) and showed more than one third of the state's census tracts (1,026 tracts, 34.8%) with incidence rates of greater than one, meaning that every qualifying African American older adult in those areas filed Medicaid claims for at least one of the ten chronic conditions at least once in 2019. High African American Incidence rates were also noted in pockets of areas where there is not a large African American older adult population, indicating that older qualifying African Americans living in these portions of the state may be disproportionately experiencing health issues compared to qualifying African Americans in other portions of the state. We look forward to investigating this possibility in future research.

We then created a map of racial disparity (Map 8), which shows over representation of African Americans with the ten chronic conditions throughout the state. Close to 80% of the census tracts (2,290) had positive racial disparity values, depicted with light and dark brown colors. These are areas where the proportion of African American cases among all older adult cases with the ten chronic conditions were larger than the proportion of African Americans among total older adult population in the neighborhood. Negative values of racial disparity (blue colors in the map) were found mostly in rural areas and the Appalachian region of Ohio where there are fewer African Americans compared to other racial/ethnic groups. **This analysis shows that older African American Ohioans are suffering from chronic conditions at a greater rate in both the larger and smaller cities across the state.**

Map 7 African American Incident Rate for Ten Chronic Conditions



Map 8 Racial Disparities in Incident Rates Across Ten Chronic Conditions in Ohio



Medicaid Claims of Older Adults for Mental and Behavioral Health Conditions

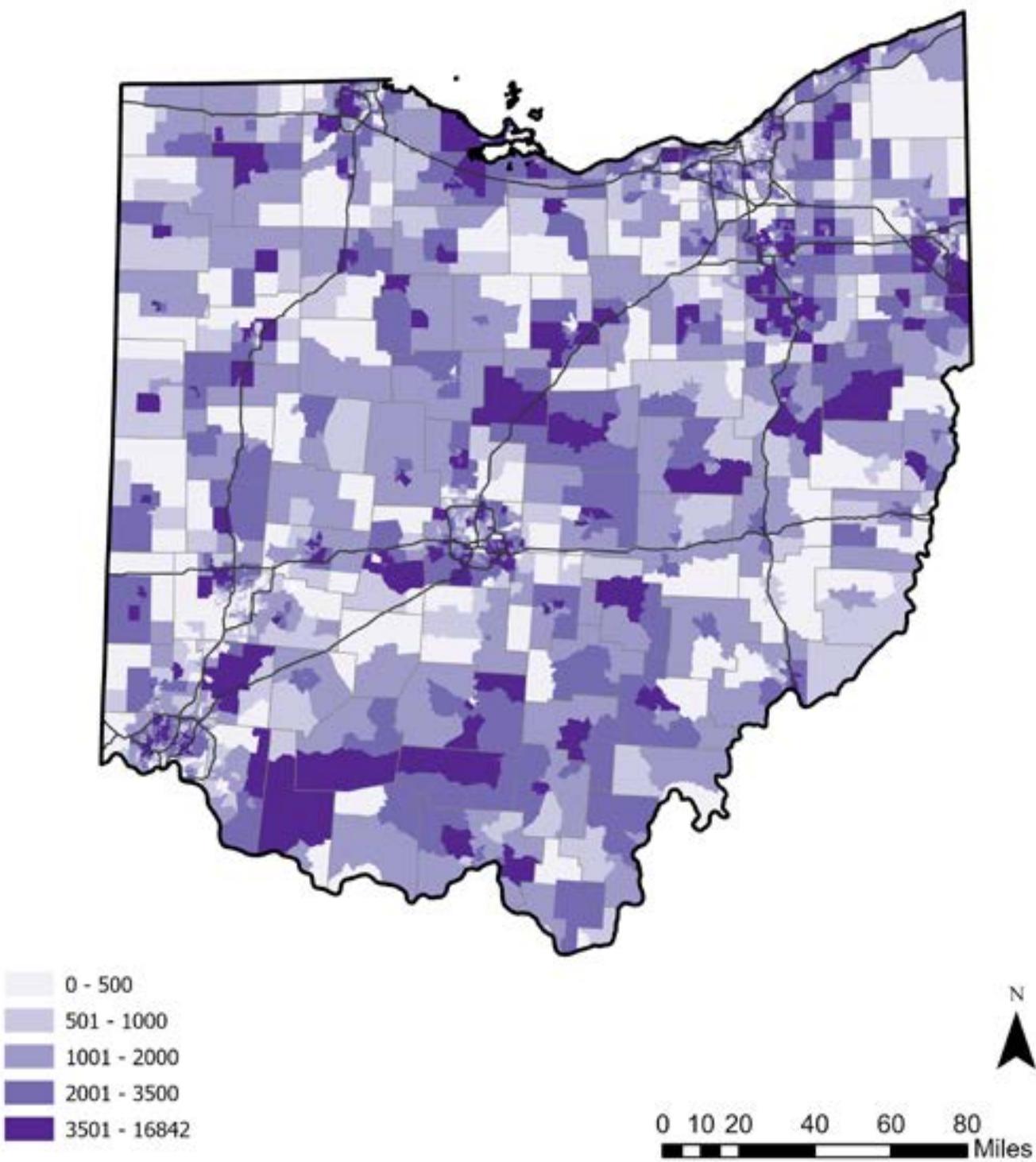
Older adult Ohioans filing Medicaid claims for mental and behavioral conditions showed a different geographic distribution compared to that of the ten chronic conditions (Map 9). Higher case counts of mental and behavioral health conditions appear to be rather prevalent in both urban and rural communities throughout the state. Areas with darker colors, which signify higher concentrations of mental and behavioral health cases, are noted in rural and non-urban areas and in Appalachia as well as major metro areas and mid-sized cities across the state.

An overlay of older African Americans on the map of total mental and behavioral health case counts (Map 10) revealed that African Americans with mental and behavioral health conditions are mostly concentrated in metro areas and large cities, as the concentrations of green dots illustrate. Older African American population sizes are larger in metro areas compared to other areas in the state.

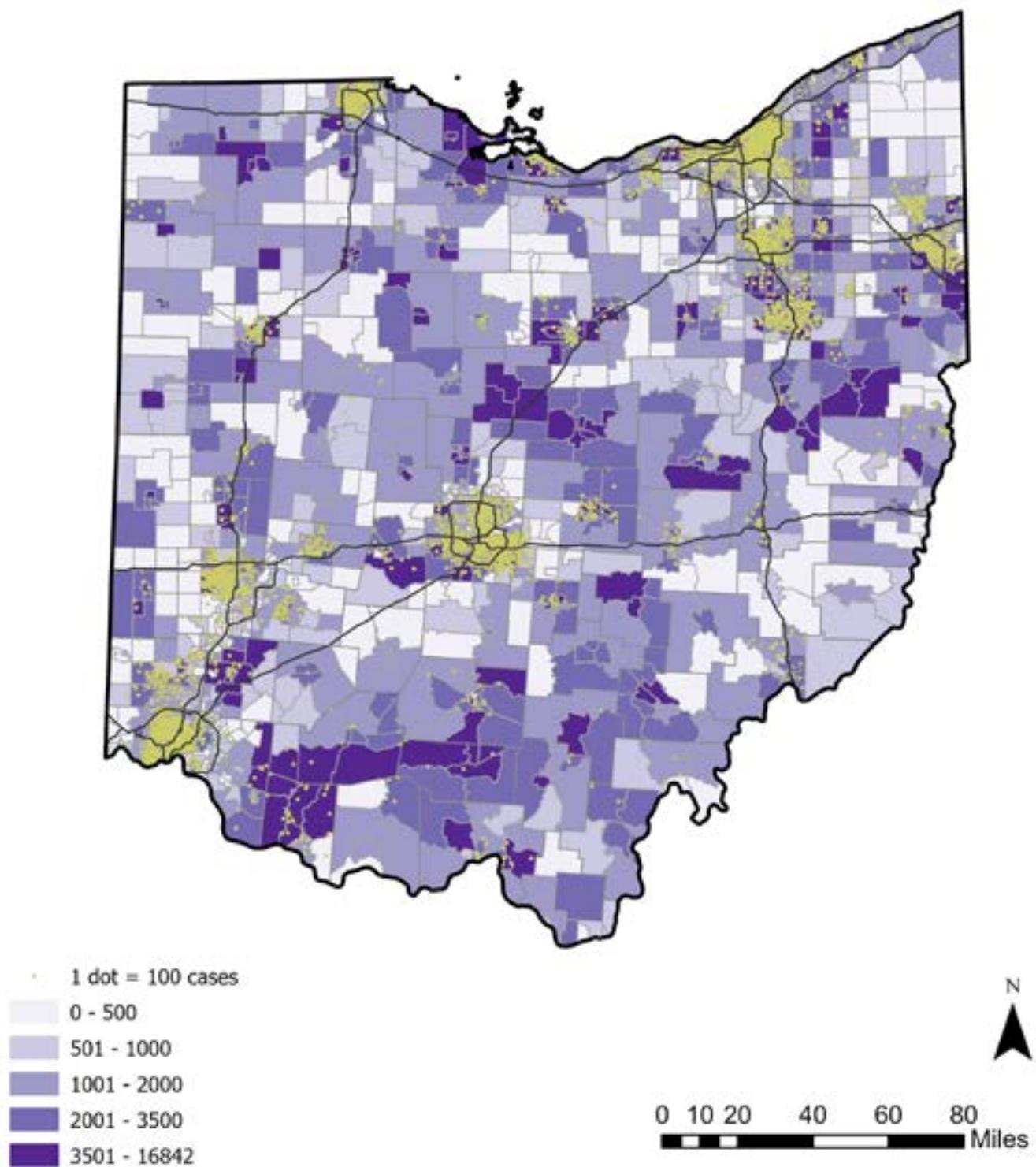
A map of African American incidence rate for mental and behavioral health conditions (Map 11) showed that more than half of the state's census tracts (52.9% or 1,559 census tracts) had incidence rates greater than one, which means that every qualifying older African American in the area filed Medicaid claims for mental and behavioral health conditions at least once in 2019. High African American Incidence rates were also noted in pockets of areas across the state, including many small cities, denoting the high prevalence of mental and behavioral health challenges for qualifying African American older adults in the state. Our focus groups in large cities suggest that one explanation for this could be that the minoritized African American populations in these predominantly white portions of the state are experiencing symptoms of racial battle fatigue. We look forward to testing this explanation in future research that engages this part of the state in focus groups.

Racial disparity for mental and behavioral health conditions (Map 12) showed that older African Americans are over-represented in more than half of the census tracts (54.5% or 1,607 census tracts). Similar to the ten chronic conditions map (Map 8), African American older adults are found to be suffering from mental and behavioral health conditions at a greater rate than older adults of other racial/ethnic groups and the disparity is noted throughout the state. This disparity could be explained by the concepts of weathering or racial battle fatigue, both of which suggest that increased physical and mental health challenges are a result of repeated experiences of discrimination. This causal link is also supported by feedback gathered during our focus groups, where participants discussed the challenges of being Black in America,

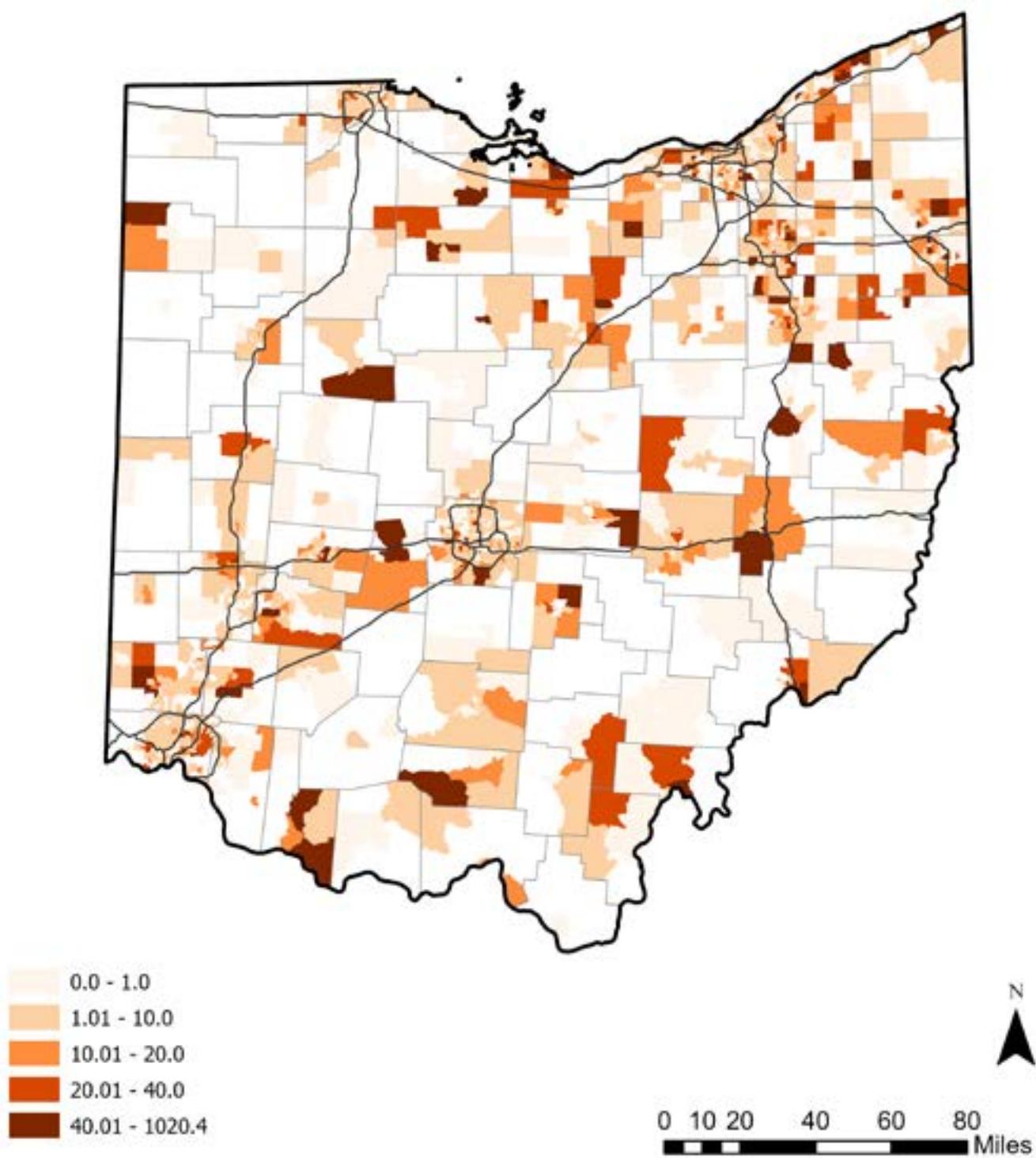
Map 9 Total Medicaid Case Counts for Mental and Behavioral Health Conditions by Census Tracts



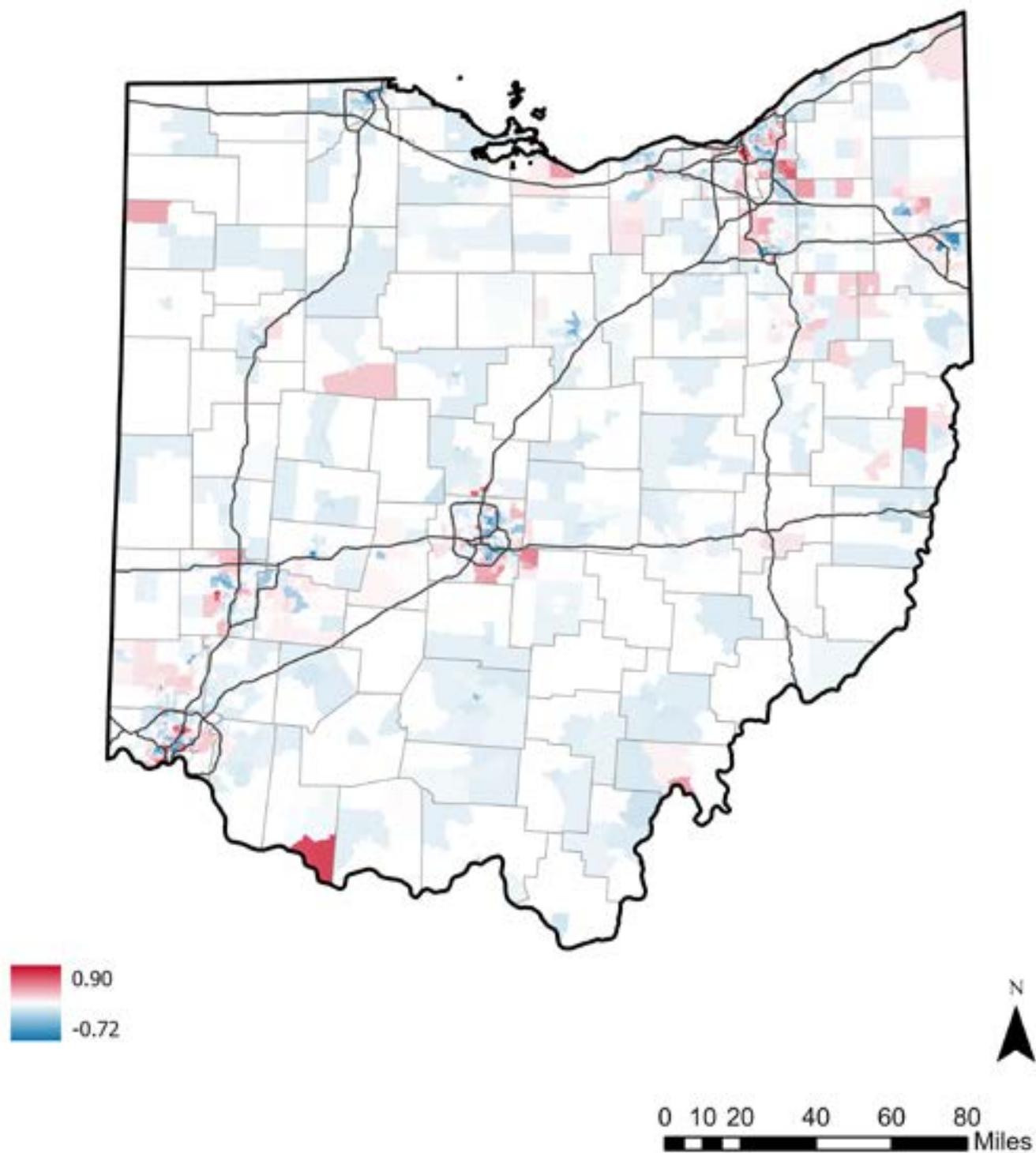
**Map 10 Total Case Counts for Mental and Behavioral Health Conditions
Overlaid with African American Older Adult Cases**



Map 11 African American Incidence Rate for Mental and Behavioral Health Conditions



Map 12 Racial Disparities in Medicaid Claims for Mental and Behavioral Health Conditions



stating that just being Black is stressful. They pointed not only to the stress that they feel from their own experiences of discrimination, but that they also worry constantly for their children and grandchildren, especially the males in their lives, because they “know” that they will encounter racism. Further, focus group participants stated that they believed that many of their peers, unable to deal with the trauma they have experienced in their lives, often turn to alcohol and drugs to cope.

We also examined the census tracts where our Toledo and Columbus focus groups took place as all four of these focus groups took place in specific neighborhoods where local residents were invited to participate. While there are only 168 African Americans aged 55+ living in the census tract where the Toledo focus groups occurred, there were 281 Medicaid claims filed for the 10 chronic conditions and approximately 99 Medicaid claims filed for the behavioral and mental health conditions that we analyzed, suggesting possible underutilization. In this census tract, older African Americans were slightly underrepresented in both chronic condition and mental and behavioral health Medicaid claims. This is an area for further research to both confirm our results and to determine whether Medicare claims follow suit.

In the South Linden neighborhood of Columbus, there are 410 African Americans aged 55+ but there were 685 Medicaid claims for the 10 chronic conditions and nearly 430 mental and behavioral health claims filed. In this census tract, older African American are slightly underrepresented in chronic condition claims and slightly overrepresented mental and behavioral health claims. Likewise, in the South Side neighborhood where our second Columbus focus group took place, there are 306 African Americans aged 55+ and 184 Medicaid claims for the 10 chronic conditions and 474 claims for the mental and behavioral health conditions, meaning that older African Americans are slightly underrepresented in both chronic condition and mental and behavioral health claims in this census tract.

The fact that older African Americans were underrepresented in mental behavioral health claims in two of our focus group neighborhoods aligns with what we heard from participants about stigmas in the African American community around seeking mental and behavioral health services. Likewise, focus group participants reported that they and their peers who were lower income often struggled to keep track of medical conditions, medications, and appointments, which participants claimed would lead to worse health outcomes for those individuals. The comparatively lower number of

Medicaid claims generated in these three high vulnerability and high or moderate density census tracts by older African Americans seems to echo the focus group results.

The Role of Digital Connectivity in Older Adults' Health Outcomes

Because of the crucial role that digital literacy and Internet connectivity plays for all social determinants of health, it has been called one of the “super social determinants of health.” With the steady increase in the use of digital tools in the health care sector, there is a concern about the potential of disparities in digital connectivity exacerbating health disparities³⁴. AARP’s Aging Connected report confirms this concern and characterizes the lack of digital connectivity among older adults as ‘a public health and social justice crisis’.³⁵ According to their annual technology report, technology adoption among older adults is increasing but some barriers still exist, including cost, knowledge gaps, and privacy concerns.³⁶

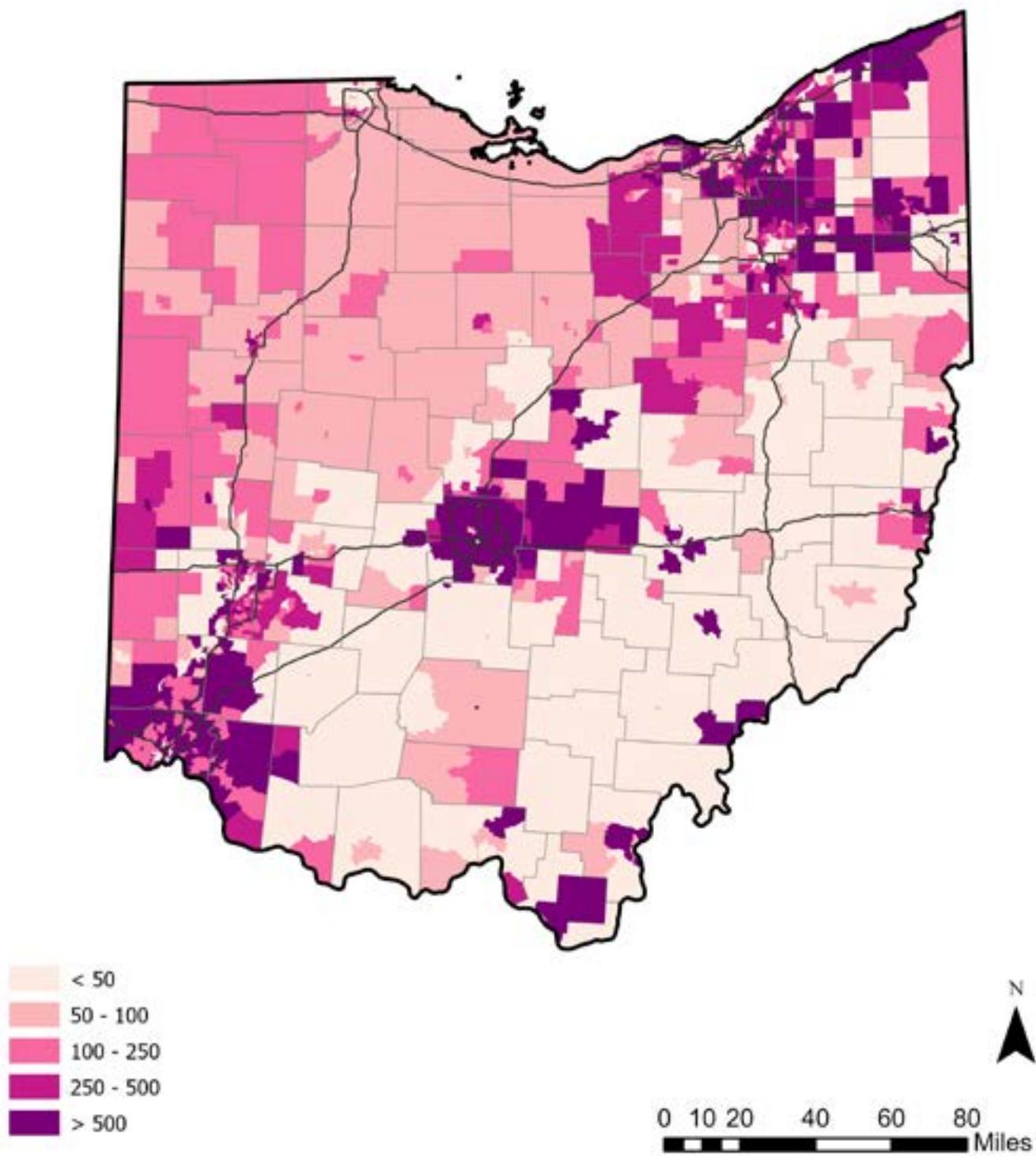
The importance of digital connectivity for older African American adults in Ohio was first highlighted as a potential barrier for multiple aspects of their lives in our interviews with steering committee members and was later confirmed by the older adults we have engaged through focus groups.³⁷ A minority of participants across all six focus groups were both digitally connected and expressed proficiency with technology. Far more frequently in our discussions participants noted the barrier that technology can play in many of their lives, especially in the age of COVID. Participants linked lack of proficiency with or inability to access technology to social isolation and loneliness, two key geriatric risk factors. Lack of proficiency or ability to connect was also identified as a barrier to telehealth care, accessing healthcare information, and to assisting grandchildren with homework. For those unable to navigate, afford, or access connectivity, technology was identified as a stressor.

To better understand the status of digital connectivity for older Ohioans, we have looked at both the supply and demand sides of digital connectivity in Ohio utilizing the following data:

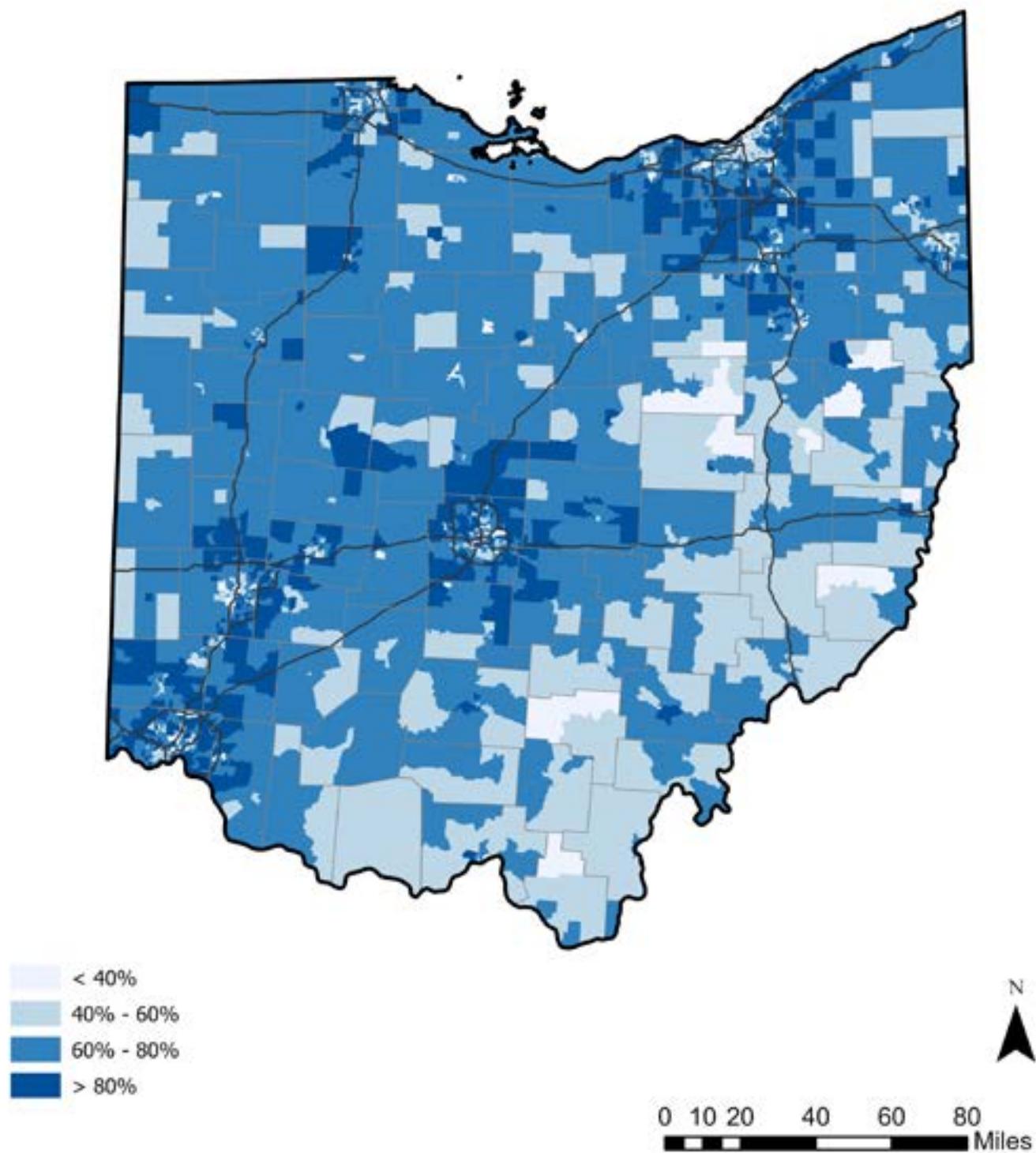
- Broadband Access in 2020 – a broad score based on the FCC’s Fixed Broadband Deployment Summary by Census Block with Provider Data³⁸ (see map 14)
- 2019 Computer Ownership & Internet Subscription from ACS³⁹

The level of access to broadband is largely determined by the availability of high-speed connection in the neighborhood. Map 13 illustrates the FCC Broadband Access Scores by census tract. It shows that larger metro areas like Columbus, Cincinnati, Cleveland, and some smaller pockets of the state have better internet access (higher broadband scores) than other areas such as rural areas of the state.⁴⁰ To better reflect recent increase in online needs, FCC proposed to raise the minimum broad speed to 100/20 Mbps in July 2022.⁴¹

Map 13 2020 Ohio FCC Broadband Access Scores



Map 14 Older Adults (age 65+) With Computer and Internet Access



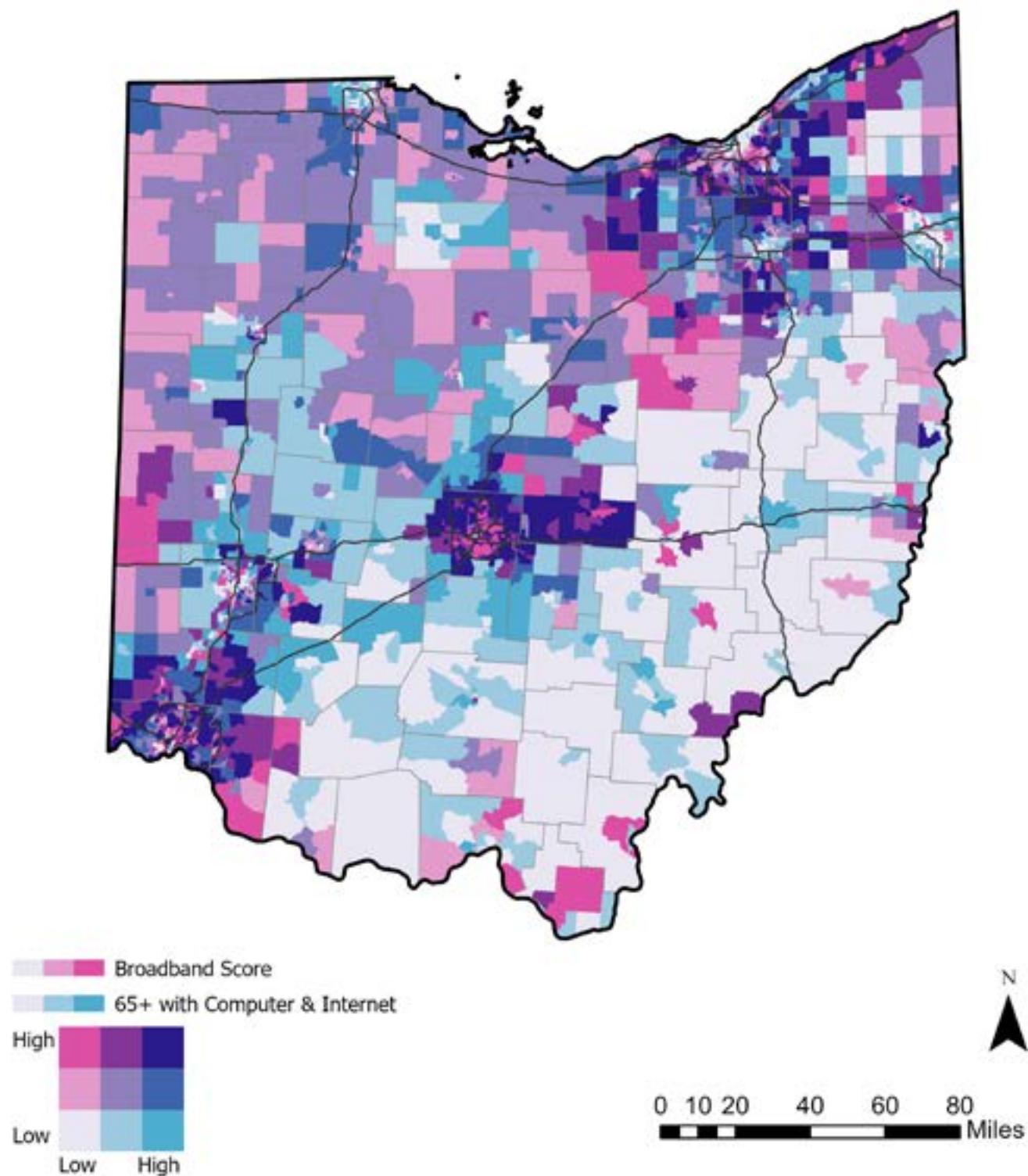
Another aspect of digital connectivity is the level of adoption and utilization of the technology itself, and Map 14 presents the percentage of older Ohioans who own computers and subscribe to the internet as a proxy for this important component of the “super social determinant of health.” Over 75% of older Ohioans in most counties have access to some level of digital technology, but there were some areas with a lower percentage of computer users and other areas with no data where there is not a large enough older adult population to conduct analysis.

To examine and visualize the relationship between the supply and demand of digital connectivity in Ohio, we have created Map 15, which reflects both FCC broadband access scores (supply) and computer ownership and internet subscriptions (demand). Mapping the relationship of the demand (computer ownership & internet subscription) and supply (broadband provision) enables us to pinpoint areas for intervention, where higher speed connection is unavailable (lower broadband score) despite of higher percentages of older adults intending to utilize the technology (higher computer ownership & internet subscription).

We utilized Map 15 to gain insight into our focus group conversation about connectivity. Many of our Toledo focus group participants reported challenges accessing, affording, and navigating the internet. The census tract where our focus groups took place is identified as an area with low broadband and low senior access to a computer with broadband internet and is surrounded by other census tracts with low broadband and low or moderate older adult access. Likewise, our South Side Columbus focus group location census tract exhibits high broadband but low older adult access. Focus groups in these two locations spent the most time talking about internet connectivity and there were more participants in these focus groups reporting challenges with accessing, utilizing, and affording internet access and devices. Conversely, our South Linden Columbus focus group participants spent less time talking about challenges with internet access or device ownership; the census tracts in that neighborhood exhibit high broadband and moderate older adult access.

Though not touched upon in this study, in addition to addressing availability of broadband connection, it is important to address other aspects of technology access, including affordability, adoption, and utilization, which focus group participants highlighted during our conversations. Researchers call for attention to multiple aspects of older adults’ access to technologies from multiple stakeholders such as tech companies, service providers, and communities.^{42,43,44} We identify this as an important area for future focus in our recommendations.

Map 15 2020 Ohio FCC Broadband Score and 2019 ACS Computer Ownership & Internet Subscriptions



Engagements with Older African American Ohioans

In August and September of 2022, six focus groups were conducted with older African American adults in Toledo, Akron, and Columbus. Participants were asked questions about barriers and supports to their wellbeing, the major stressors in their lives, and their experiences with health care, behavioral health, and social service systems. Thirteen largely interconnected themes emerged from these conversations which fall into the following five categories: supports for thriving, barriers to wellbeing, systems and trust, two sides of technology, and communication. Our findings from these discussions are detailed below.

Supports for Thriving: Purpose

Participants who did not report feeling isolated indicated that they were actively engaged in their communities in a myriad of ways including engagement with friends and family, volunteer activities, and employment. Specifically, many participants identified volunteer activities as supports for thriving. That said many focus group participants reported that they have not been able to reengage with the organizations they have traditionally volunteered with. They also linked a lack of purpose to higher isolation and substance abuse.

“By being out in the community and helping and meeting people, that keeps me going. You know what I’m saying? Whereas a lot of people my age are isolated, and I think I’m one of the fortunate few that I’m not isolated!”

“I think I get support when I’m volunteering. And I do a lot of volunteering in the community!”

Participants also linked purpose to spirituality, noting that spiritual communities and relationships with God can be major supports for older African Americans.

“One of the things I rely on is my spirituality. I’m not a big preacher, reading the Bible and you should do this and believe that. I’m kind of private in my spirituality. But I think it’s important in my life that I can sit back and reflect and find some type of relationship with God and fall on my knees and pray if I need to.”

Supports for Thriving: Relationships

In every discussion, participants emphasized the importance of relationships as supports for wellbeing and for coping with stressors. Family was discussed as providing support either through direct acts or financial support. However, family was seen as a stressor when they police or parent their elders.

“The support, I think, mainly from my husband and family. Because without family support, I couldn’t go out and do all the things I do because I don’t stay home much.”

Participants also emphasized the importance of friends who are sharing their life experiences. This was particularly true for lower-income participants who felt unsafe in their living situations. One low-income senior housing development has a partnership with an organization that provides counseling services. This collaboration has resulted in an on-site social worker to support residents. This individual specifically sought to create community among residents through programming and the focus group participants at this site unanimously credited him with creating a culture that uplifts such relationships. This model has been enormously successful at this particularly low-income older adult home, and we recommend ODMHAS support similar collaborations across the state with an emphasis on areas that exhibit multiple and complex needs.

“So, having that person or persons that when I’m losing my mind, I can talk to them and I’m free to say whatever I want to say, how I want to say it. If it’s a whole bunch of cuss words, okay! I don’t have to pussyfoot around about what I’m saying and how I’m saying it. There’s always that ear. They’re always willing to listen and it’s nonjudgmental.”

“I thank God because it’s getting rough getting older and trying to explain to your children and your grandchildren but with women that knows what you’re going through or how you’re feeling and can help you out of a funk before you get to the total funk, it is amazing! It is truly amazing! Like tonight, I’m getting ready to go out and kick it up, but I need her to help me get dressed.”

Supports for Thriving: Policies that Meet Older African Americans Where They Are

When asked what they would want policymakers to know if they had time with them, participants reported that they want policymakers to listen to them and be more accessible to their demographic. When asked about policy changes they would want to see, they noted that they want information and services to come to the places where they already are and specifically named low-income housing developments as one of the places where services should be offered. Participants further emphasized the importance of case management and many participants agreed with the idea that case management should be part of the health care system and available to all older adults.

“Case management for seniors is important, too. And that should be part of the healthcare system. When you reach a certain age, you have somebody through a program or agency that connects with you.”

Participants want policies that will help them stay in their homes and meet their needs. Specifically, they reported needing help around their homes, both inside and outside and lamented the dearth of programs offering such assistance. They want health care providers to meet them where they are, even if that means spending more time with them and linked the idea of meeting them where they are to respect.

“Don’t talk at me. Talk to me. And if I don’t understand something, if you got to tell me three or four times, then do so.”

Barriers to Wellbeing: Isolation

Focus group participants spoke about isolation in multiple contexts, linking it to safety, depression, substance abuse, lack of resources, and lack of family support. Isolation was linked to safety in two ways. First, participants discussed isolation in relation to the COVID-19 pandemic, focusing on the death of friends due to COVID and their fear of exposure to the virus. Second, participants linked isolation to issues of safety in their living arrangements.

“Elders has become hostages, not homebound! ...they have become hostages because of the fear factor!”

Participants discussed how families are living in different parts of the country, making it difficult for families to support their elders, despite genuinely wanting to provide this type of assistance.

“And so society has changed to where children would love to take care of their parents and grandparents and stuff like that but be based on their moving out and moving and migrating to other states that economically are better for them, it make you be by yourself!”

Participants also emphasized the role that technology can play in mitigating isolation, especially during the pandemic, but noted that only those proficient enough to use and able to afford the technology can reap these benefits.

Barriers to Wellbeing: Safety

One of the most distressing topics raised by participants was the issue of safety, which they discussed at length. Low-income participants discussed feeling unsafe in their homes and neighborhoods and noted that many older adults are not receiving the care that they need

and that participants believe they deserve.

“There’s a lot of people not safe in their house.”

They cited incidents of harassment, threats, and exposure to drug use and violence in their living situations and neighborhoods. Many linked these conditions to their status as recipients of public housing, noting that all people want to feel safe in their living arrangements; they clearly linked classism to their experiences in public housing.

“Harassment, and that drug use. How much does a senior citizen, even if they’re HUD, how much do we have to put up with? We have a group of people, and you have, almost a class system – we’re all under HUD, but still, there’s a pecking order. So, you have some people that know what’s right and wrong, and you have some people, you afraid of them!”

“But the seniors, they feel not safe because of the... now they’ve got younger folks moving into the apartments and they’re associated with the bloods and the crips gangs and stuff of that nature and just all kind of drugs and everything running in and out of the building. They should have kept it the way it was! Back 10 or 12 years ago, it was just for seniors, 55 and up, and after they got new management, they started letting the younger folks in”

Participants also discussed disinvestment and safety concerns in their neighborhoods, leading to a lack of amenities and services causing them to have to travel further to access what they need. They noted that even the walk to the bus stop can be a challenge for those who struggle to get around. Linking neighborhood disinvestment to crime and safety, these older adults made clear that they understand how structural racism in their neighborhoods impacts their daily lives.

“When you say barriers, I live in a desert. I consider it a desert. It has nothing – not a gas station, not a supermarket, not a drugstore, not a fast food joint. It does have a cell phone and two wine and beer locations in there.”

Barriers to Wellbeing: Lack of Resources

All participants who identified as living in public housing also indicated that financial resources were tight for them. Participants who seemed a bit better off financially indicated that they are feeling the impacts of inflation, with many linking their current

financial stress to the recession of 2008-2010, which negatively affected their retirement funds to the point where they have never recovered. These better-off participants recounted having to cut back on activities and not being able to enjoy retirement the way they had planned. Some participants, both higher and lower income, reported that they needed to go back to work.

“Just kind of having to back off from a lifestyle that they were accustomed to. Who knew that we would be in a situation like this? In 2009, the stock market fell, and we all saw big chunks of our 401K go away. And just even lamenting about the fact that I’m not going to live long enough, to work long enough, to recover that... So, for me, that was to take a second job.”

Linking a lack of financial resources to their own health and wellbeing, participants cited the cost of health care and prescription drugs as major stressors in their lives. Participants also linked a lack of financial resources to isolation, food insecurity, and an inability to pay for needed transportation services.

“You go to the store, you used to spend \$50 and now it’s up to \$75 on the same things you used to buy. They talk about all the problems with deliveries and people not working, so it’s hard to get food.”

Participants discussed the benefits cliff in two contexts. First, they discussed it in the context of hesitation to accept offered employment that might impact the benefits they receive. Second, other participants noted that they never qualified for benefits, and being just over that threshold, they felt they were never able to get ahead because they were denied this aid that they believed they needed.

“We have always been lower-middle-class and we never qualified for anything. We just made it over by \$100. Kind of a goofy number. So, we had no benefits most times and we had a child that had some medical issues that were severe... And at the time, we were working minimum wage jobs and trying to make it happen. And so, we had to depend on our family... We’ve never been on one side or the other, always in the middle.”

Barriers to Wellbeing: Racism, Classism, and Ageism

In addition to connecting what they perceive as inferior health care to class, participants also linked age discrimination as a barrier to accessing health care, indicating that they regularly feel discriminated against because of their age in interactions with both medical and service

providers. Participants discussed ageism, classism, and racism all at once, explaining that these are compounding issues for them when interacting with service and medical providers daily. Moreover, participants in all six focus groups linked these individual experiences to broader systems and historical practices. Two groups linked inferior health care to the Tuskegee experiment and other groups linked mistreatment to the legacies of slavery.

“Stop looking at us like chattel! They need to stop looking at us like that! They need to stop having that kind of perception, because it just doesn’t impact the seniors.”

Participants linked discrimination to an overall lack of respect that they feel, particularly from medical providers. They recounted stories of doctors not believing they were in pain and instead accusing them of seeking drugs in most focus group discussions.

“I have found, or at least, I think I found, that I don’t think the doctors truly understand Black pain. And I say that because of the fact that I’ve had a black doctor and white doctors and have been treated differently by them!”

Barriers to Wellbeing: Health Care

Participants noted that very low-income older African Americans often lack primary care physicians and visit the emergency department for everything. They noted that this makes it difficult for elders to keep track of their medical situation and build relationships with providers, which they noted were essential to building trust with their physicians. Participants overwhelmingly believe that class impacts the healthcare that a person can access in this country, noting that people on “public insurance” (Medicaid and/or Medicare) were not able to access the same quality healthcare as individuals on private insurance.

“Because I’m poor, I shouldn’t have less. I want the best just like a person that would have full insurance. Nobody wants to be poor! So, they shouldn’t have secondary standards because we are poor.”

“So, what I’m going to suggest is certain insurances that are paid for might be a little different to the ones for people that might have low-income and have to use Medicaid. And those services may not be available to them.”

Participants also lamented a dearth of access to vision and dental care for older adults, noting this was a particular challenge for older veterans who prefer to only use Veteran's Administration health care centers. Further, participants noted that the cost of medical services and prescription drugs and the distances they are made to travel to access health care also serve as barriers to their wellbeing.

"I had some experience with the dentist, where, being a veteran, they always, you know, take care of your health and everything... And dental is something they don't do."

Barriers to Wellbeing: Mental Health

Participants identified stigma around seeking mental health support as a big barrier in the African American community. They linked this stigma to drug use and addiction.

"But I think a lot of people, you know, drown in that pain, you know, through drinking or taking drugs versus, again, saying, 'I'm not okay, and this drink is not going to help the situation.'"

Importantly, participants noted that life is stressful for African Americans in general and pointed to systems as creating inequality in our society. They noted that stress for African Americans is often intergenerational and that many older African Americans have experienced trauma in their life that they are not equipped to deal with. Most notably, they expressed fear for their children and grandchildren, particularly males, who they know have and will continue to face racism in their lives. They indicated that this puts enormous strain on their own mental health. They linked racism and fear of the impacts of racism for family members as a barrier to their own mental health and wellbeing, a link supported by academic literature about Racial Battle Fatigue.

"Even if you are within the lower- or higher-middle-class, there's a presumption that a minority will not have a stress level. But you will have a stress level no matter what, no matter what your economic standing is. Because at one point, if you're stopped and you have to deal with the situation... Sometimes you can be profiled just based on the color!... But that's a pressure that's real for especially African American males."

"Nobody lives chronically like the African American male"

Systems and Trust

Participants reported that trust is paramount in health care and expressed strong opinions about health care systems and specific providers in our conversations. Participants recounted both stories of good and bad experiences at a myriad of health care systems in Cleveland, Akron, Toledo, Southern Michigan, and Central Ohio. They had similar feelings about service providers, noting that certain ones are trusted while others are not. How participants felt about health care or service provision systems were directly linked to whether they felt respected, listened to, and cared for during their visits and interactions. Some participants reported preferring black doctors who they felt could better relate to them and believed them when they said they were in pain. The lack of trust in health care systems was linked to historic abuses, including the Tuskegee experiment, and racism.

“That’s what’s wrong with physicians now, they don’t respect! Because they look at us like we are drug-ridden, or some negative connotation. The same concept they’ve had of us from the beginning of coming to this country! You know what I’m saying? So, that view has not changed. The respect! Why can’t we come in and say that my pain level is a nine and you respect that? And then you do what’s necessary.”

Participants reported feeling that their population, older African Americans, were used as Guinea Pigs by the health care industry both because they are older and because they are black. They emphasized the importance of taking the time to talk through issues with their doctor and that building a relationship with their doctor is what helps build trust.

“Because the seniors are the Guinea Pigs! I’m not gonna see it no other way! Because they feel that we are older and we are not as vibrant.”

Some participants also took aim at the government, particularly in relation to the cost and quality of health care. This was particularly true for veteran participants, who expressed dismay that the country they served is now not supporting them the way they feel they should be supported.

“But it is just one of the things that it really did to these two individuals was, ah, the disbelief. Because, I went and served my country. I did everything that you asked me to do. And when I get back, you said you’d take care of me. And they don’t!”

For trusted systems, participants lavished praise. Area Agencies on Aging were universally

trusted among our focus group participants. Likewise, Senior Options was trusted by those in Central Ohio and Catholic Charities in the Akron area.

“Catholic Charities in the morning and people drop off their grandparents so that they can go inside. They do crafts and little activities with them during the day so that they can really socialize with other people. I think agencies like that are really important. Here in Akron, we have a lot of agencies that give help and work with seniors.”

The Issue of Respect

There was one issue that seemed to permeate every conversation related to barriers these older African American focus group participants face: respect. In every focus group conversation, participants discussed the disrespect they experience in their daily interactions, particularly interactions with medical and social service providers but also from policymakers and everyday people. Participants expressed feeling dehumanized by decisionmakers. They linked the disrespect they experience to ageism, racism, and classism in our conversations.

“It’s like, excuse me, but I did go to college. I was, I am a veteran. I consider myself intelligent. I’m well read. So, I have just as much right to voice what I’m thinking as the next person! And don’t put me in a category based on the fact that I live in affordable housing!”

“They need to see us as people, see us as their grandmother, their grandfather. They need to see us as human beings instead of a number. And not as lab rats!”

They indicated that they feel left out from decisions that directly impact their lives and are ignored by policymakers. They want a say in policies that impact them and pointed to how empowering it feels when they are included in decision-making processes.

“It’s amazing how empowering it is when somebody comes along and listens to what I got to say. You know what I’m saying? And it gives you a sense of importance. You know what I’m saying? You actually heard what I said and you’re going to act on what I said!”

Participants also linked respect to reparative policies and the legacy of racism.

“I think that’s the reparation. Damn the 40 acres and a mule, we ain’t gonna get that! But some people got more than 40 acres... and they still don’t respect that! That should be the reparation,

respect! Allow us as a people, from young to senior, to receive what we earn, what we put out. You know? So, to me, it just come back to the respect.”

The Two Sides of Technology

While there were participants in every focus group discussion who expressed that they felt comfortable using technology and were able to successfully access the internet, the preponderance of participants, particularly those who were low-income, indicated that they desire help with accessing and learning to use devices connected to the internet.

“If a senior has not went down the road of technology from the beginning, it’s very hard for them to jump in.”

Even among those uncomfortable with technology, there was recognition of the benefits it can bring. However, many participants also felt that technology has downsides. Specifically, they pointed to grandchildren being too dependent on devices and unable to complete schoolwork without them. Likewise, they point to their own challenges sifting through information on the internet to find “facts,” a mistrust of technology due to the threat of internet scams, and the cost of devices and internet access as barriers to their own use.

“A lot of seniors are caring for the grandchildren and the great-grandchildren. Because they’re not technologically savvy, they can’t interact with the children when it’s time for them to come into homework and things like that because everything is done on tech, you know, on a device. Remember when the COVID came, you had to do school remote? You know what I’m sayin’? So, that does knock a senior – grandparents, great-grandparents – out of the box because what happened to pen and paper?”

Participants linked challenges with technology to isolation, particularly during the COVID pandemic, and made clear that devices and internet service can be too expensive for many older adults. They noted that technology is difficult to learn and that they need patient teachers who are willing to spend the time necessary to ensure they learn how to navigate these devices.

“Personally, I think that the people making all these different electronics forget about the older generation.”

Communication

When asked about the best way to get information to them, participants overwhelmingly indicated that word of mouth and information from trusted sources are the best ways to get information to their population. They made clear that once a system is trusted, they will use it to access information. However, participants also made clear that they believe most older adults do not know what services are available to them or where to go to access information about those services. They did not offer any solutions to this other than identifying trusted systems to gather information from. Participants largely indicated that technology is used by those who are able but is not necessarily where they go for trusted information because the amount of information available on the internet is overwhelming.

“I think getting that information out to the senior is the key element. Most seniors in general don’t know all that’s available.”

“You know, a lot of people... they’ll be sitting around the house complaining about this hurts or that hurts, you know? But then they don’t know who to ask to get the information they need to get well!”

Multiple and Complex Needs

Both the spatial analysis and the focus groups identified areas where multiple needs co-exist and need to be addressed together rather than in isolation from each other. ***More than 44% of the census tracts (1,302), according to this map, are facing at least two of the four challenges identified in our analysis, which we discuss in great detail below.*** This study performed spatial analyses to examine challenges of older African American Ohioans in a few different ways. First, a composite index of vulnerability was calculated as an overall measure of their challenges at a neighborhood level, which helped identify areas with higher levels of vulnerability with different levels of older adult concentration. To this, we have added analyses of health challenges based on Medicaid claims records and the resulting maps showed areas with more cases and higher cases rates. Lastly, we have examined digital connectivity for older Ohioans and mapped both the supply of digital connection (broadband speed in the neighborhood) and demand for technology use (computer ownership and internet subscription of older adults). This analysis enabled us to gauge the gap between supply and demand and locate areas where more investments in broadband connection are required to meet the technical demands for older adults.

While each analysis on its own offers insights for addressing different needs for older adults, we would like to call attention to their interconnectedness. Older adults with higher vulnerability are more likely to live in neighborhoods with lower scores of vulnerability indicators (e.g., lower average life expectancy, higher poverty rates, etc.), are more likely to suffer from various health conditions, and are less likely to have reliable access to the internet or own devices. The interconnected and interrelated nature of older adults' needs and the differential intensity of the needs we have identified through spatial analysis aligns very well with the essence of complex needs addressing "the breadth and depth of need."⁴⁵ As we discuss in greater detail on page 53, even those focus group participants who were uncomfortable with technology recognized its benefits and wanted support in how to use it for both their own health needs as well as in a manner that connected to their care duties for grandchildren and great grandchildren, who are growing up as digital natives.

Maps from this study identified areas that require more attention for addressing the needs of Ohio older adults as shown in Map 16: 16a) areas of higher vulnerability (high and moderate) with higher (high and moderate) density of older adults; 16b and 16c) areas with higher case rates of ten chronic conditions and mental and behavioral health conditions for African Americans, respectively; and 16d) areas of lower broadband speed (low and moderate) and higher computer ownership and internet subscription (high and moderate). The areas of

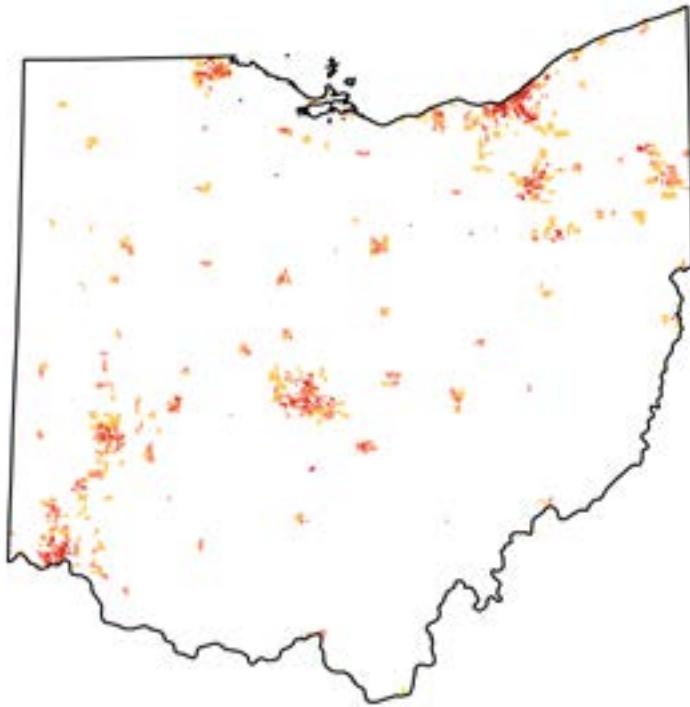
higher vulnerability and density displayed in Map 16a can be useful to highlight areas where ***overall investment*** for older adults is required. Maps 16b and 16c compliment Map 16a because they empower providers and policymakers to identify locations with higher rates of chronic conditions (16b) and higher rates of mental and behavioral health claims (16c) for more targeted intervention and prevention efforts for African American older adults in the state. Last but not least, Map 16d illustrates supply and demand among older Ohioans for digital connection, a critical pathway for access to healthcare of many kinds across the state.

A closer examination of the four separate maps reveals that certain areas of the state appear in more than one map. Those areas are areas where multiple needs occur and thus require multiple types of intervention. To assess the level of multiple and complex needs in different areas of the state, we have counted the number of times these maps overlap with each other. Map 18 illustrates the overlap and has identified **69** census tracts where all four maps overlap.

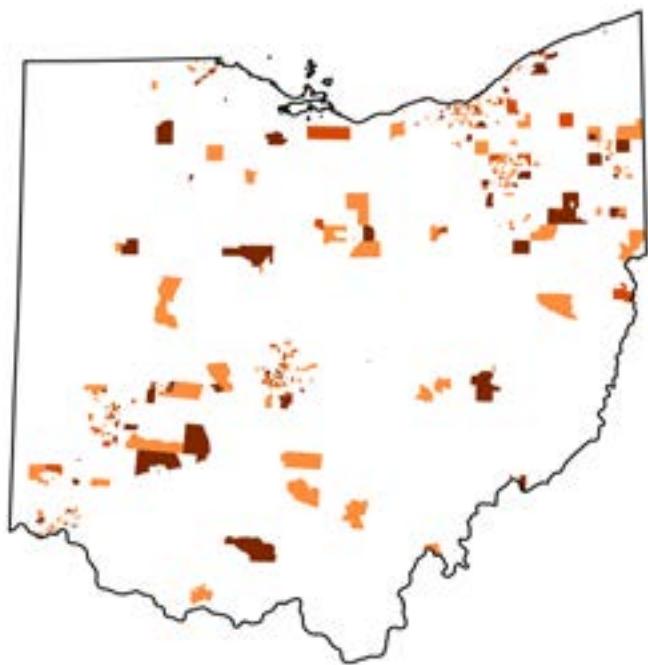
The areas with the darkest blue are where all four maps overlap (**69** census tracts or 2.3% from all census tracts in the state). These acute need neighborhoods are located in and around Akron, Cincinnati, Cleveland, Dayton, Springfield, and Toledo. These are the areas with higher vulnerability, where more older adults reside, where more African American older adults suffer from chronic and behavioral health conditions, but neighborhood broadband connection is not as fast as other parts of the state. Areas with 3 or 4 overlaps have a total of 484 census tracts (or 16.4% of total state tract counts) and expands to more census tracts in major metropolitan areas and mid-sized cities.

For the 1,302 neighborhoods with multiple needs for older adults, we identified different combinations of the needs. Table 4 identifies the patterns below using visual icons for census tracts with high combined vulnerability and density; high claims among ten chronic physical health conditions; high mental and behavioral health claims, and higher needs for stronger broadband connections based on lower available broadband speeds as well as higher computer and internet adoption.

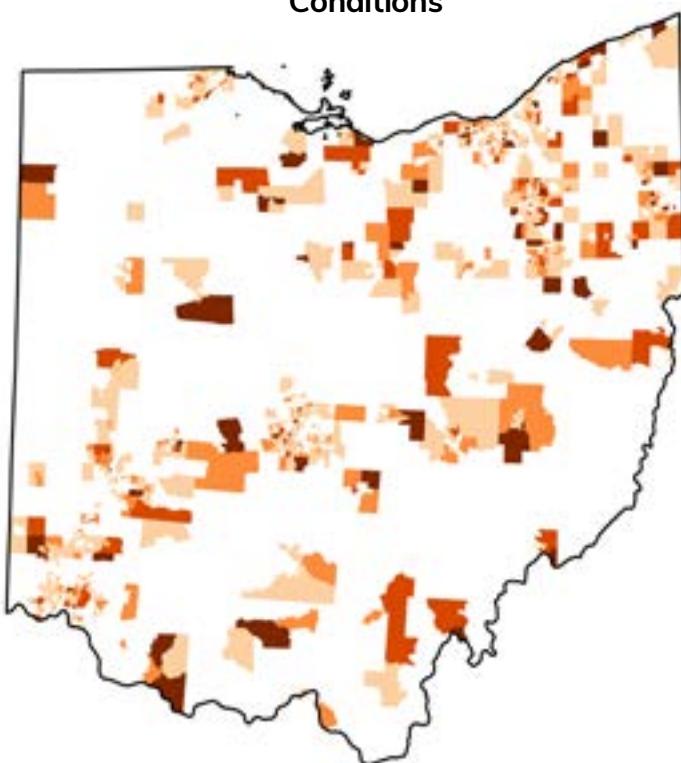
**Map 16a Areas of Needs:
Higher Vulnerability and Density**



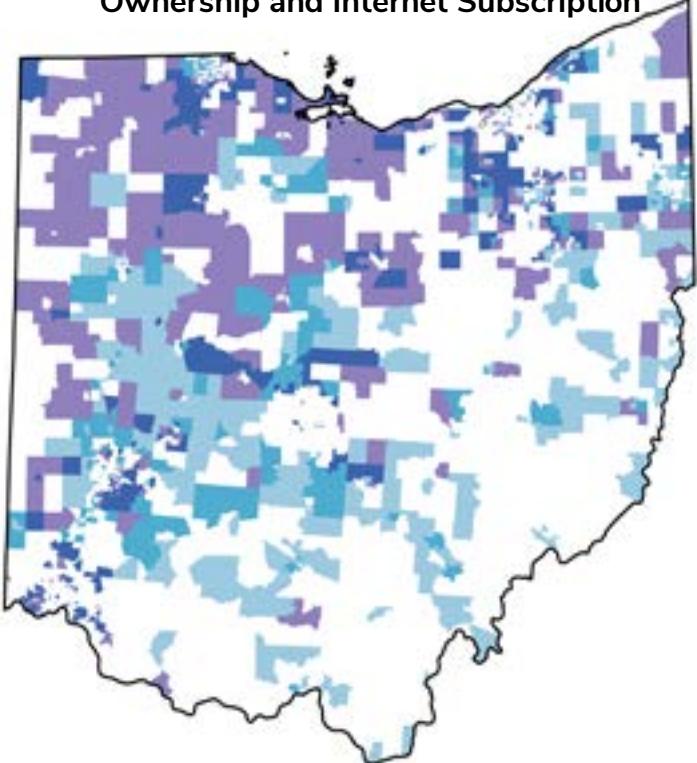
**Map 16b Areas of Needs:
High Rates of Ten Chronic Conditions**



**Map 16c Areas of Needs:
Higher Rates of Mental and Behavioral Health
Conditions**



**Map 16d Areas of Needs:
Lower Broadband Speed and Higher Computer
Ownership and Internet Subscription**



Map 17 Ohio Locations Where Multiple Needs Exist for Older African Americans

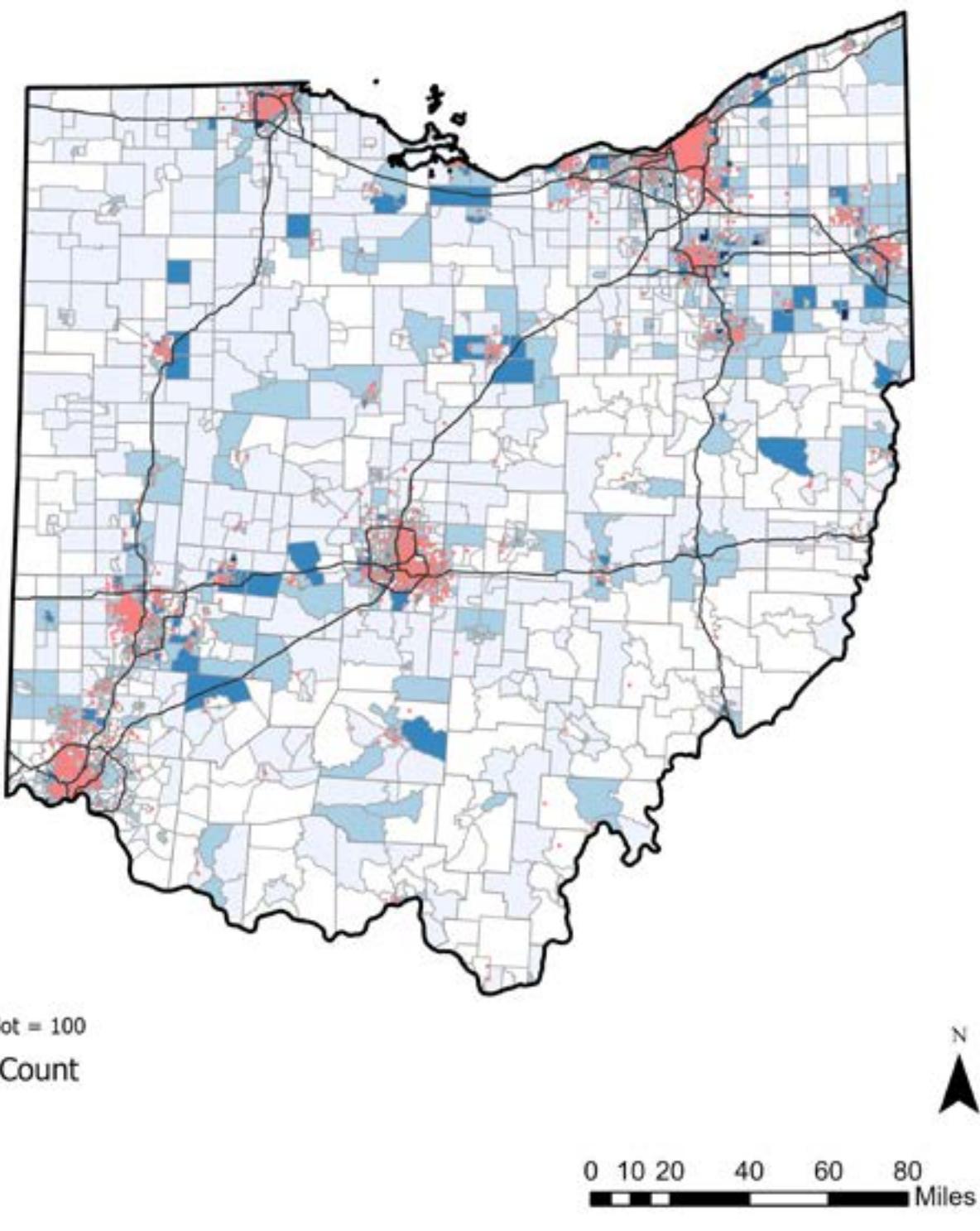


Table 2 Multiple and Complex Needs Census Tracts in Ohio and Their Patterns of Need

Multiple and Complex Needs Census Tracts (total 1,302)	Cumulative Percentage of Multiple Complex Needs Tracts	Vulnerability-Density Index	Ten Chronic Conditions	Mental & Behavioral Health Needs	Broadband Supply & Demand
295	22.6%				
204	15.7%				
160	12.3%				
160	12.3%				
154	11.8%				
91	7.0%				
79	6.1%				
69	5.3%				
48	3.7%				
22	1.7%				
20	1.5%				

The most frequent combination of needs is vulnerability & density and mental & behavioral health conditions with 295 census tracts, followed by vulnerability & density and broadband connectivity with 204 census tracts. Similar numbers of census tracts (154-160) had combinations of 2 or 3 needs - vulnerability & density, health challenges, and broadband needs.

The prevalence of multiple needs among older adults across the state suggests different approaches in addressing their needs and calls for collaboration among multiple actors from multiple domains. The 69 census tracts identified from our analysis are areas where the needs of its older adult residents are the most acute and interconnected in the state with at least four needs examined in this study. Any intervention effort put into those areas, then, would benefit from well coordinated collaboration among multiple service providers from different sectors addressing the needs identified - lack of overall resources, health services for chronic and mental/behavioral health conditions as well as digital connectivity. This map can be a useful tool for making data-informed decisions, directing policy makers and service providers where to focus their attention and resources to address complex and multiple needs for older adults in the state.

Recommendations

Given the results we noted in great detail we present 16 recommendations that will likely require multiple sectors and cross-agency collaboration at the federal, state and local levels. The following sixteen recommendations consider both the quantitative spatial analysis and the qualitative engagement with elder African American Ohioans and is informed by engagement with our Steering Committee. All recommendations are aimed at informing state and local policy and programming for the Ohio Department of Mental Health and Addiction Services as well as partner agencies and community organizations that partner with the Ohio Department of Mental Health and Addiction Services. Many of these recommendations could also inform policy and programming offered by the Ohio Department of Aging. These recommendations are organized around the following five themes, and most recommendations touch on more than one of them: improving access, expanding access, increasing inclusion, enhancing experiences, and strengthening place.

The *Improving Access* theme focuses on strengthening access to the resources already available to Older African Americans in Ohio. The *Expanding Access* theme focuses on enhancing the amount and quality of access older African Americans have to care resources. The *Increase Inclusion* theme responds to the isolation and lack of respect articulated by focus group participants and is a call for including the voices and needs of older African Americans.

Enhancing Experiences refers to the need across agencies for an improved understanding of and relationship to the older African American Ohioan community. Finally, *Strengthen Place* refers to place-specific planning and policy decisions that can improve outcomes for older African Americans in Ohio. Table 5 lists the general recommendations and their connections to each relevant theme.

Table 3 General Recommendations to Address the Complex Vulnerability of Older African American Ohioans

#	Recommendation	Improve Access	Expand Access	Increase Inclusion	Enhance Experiences	Strengthen Place
1	Utilize Statewide Older Adult Vulnerability Mapping Tool for Programs and Policy					
2	Utilize Statewide Older Adult Mapping Tool to Site Low-Income and Affordable Housing in High Opportunity Neighborhoods					
3	Conduct Statewide Listening Series					
4	Review Existing Policies & Programs					
5	Increase Volunteer Opportunities					
6	Foster Relationships Among Older Adults					
7	Directly Engage Older Adults in Safety-Related Decision-Making					
8	Foster Positive Relationships with First					
9	Partner with Local Law Enforcement to Ensure Bias Trainings for Officers					
10	Support Age-Friendly and Inclusive Community Development and Redevelopment					
11	Create and Disseminate a Black Medical Practitioner's Guide					
12	Create a Cultural Humility and Bias Certification for Serive and Medical Providers					
13	Pilot a Statewide Case Worker Program					
14	Grow and Support Existing Transportation Assistance and Better Disseminate to Vulnerable African Americans					
15	Lower Programmatic Eligibility Age from 65 to 55 when are where possible					
16	Support, Replicate, and Expand Age- and Income-dependent Tablet and Technological Assistance Programs					

Utilize the Statewide Older Adult Vulnerability Mapping Tool to Inform Place-Based Programming and Policies Aimed at Addressing the Needs of Vulnerable Older African Americans

Our findings have revealed that more than two-thirds of older African Americans live in high vulnerability census tracts. Our mapping tool includes multiple layers that enable users to explore vulnerability, demographic trends, internet access and usage, and health trends of older Medicare beneficiaries. Our “Multiple and Complex Needs” mapping layer can help policymakers and practitioners identify neighborhoods where older African Americans are experiencing compounding challenges that will require collaborative approaches. ***We recommend utilizing the Older Adult Vulnerability Mapping tool to identify neighborhoods can inform place-based policy and programmatic solutions to the challenges that this population faces. We strongly encourage collaboration among state agencies/departments and local service providers to meet these needs.***

Utilize the Statewide Older Adult Vulnerability and Mapping Tool to Site Affordable and Low-Income Older Adult Housing in Moderate and High Opportunity Communities with Low Crime Rates that are Accessible to Grocery Stores and Pharmacies in Partnership with Other Federal and Statewide Agencies

Beginning in 2016 the Kirwan Institute partnered with the Ohio Housing Finance Authority (OHFA) to bring the mapping strategy utilized in this study to multiple large counties as part of OHFA’s Qualified Allocation Plan (QAP). Now included in that mapping tool is a Urban-Suburban-Rural (USR) index that allows for adjustments to be made based on the density of the locality being analyzed. ***We recommend partnering with statewide agencies with similar interests to utilize the Statewide Older Adult Vulnerability Mapping Tool. Together with the OHFA Mapping Tool ODMHAS could collaborate across agencies to develop a joint affordable housing initiative that can bring together multiple pools of resources to bear on the multiple and complex needs of older African Americans.*** If done well this initiative would more effectively steward state dollars to the residents who need them most than separate initiatives by each agency.

Conduct Statewide Listening Sessions with Vulnerable Older African Americans

The older African American Ohioans that we engaged directly expressed gratitude to us for the act of simply listening to what they had to say about the topics we posed. They were eager to share their experiences and in general expressed feeling that overall, older adults are not

listened to or engaged around topics directly impacting their lives, noting that they felt this was even more true for older African Americans. A statewide listening series can help ODMHAS create a strategy for engagement that both meets older African Americans where they are and seeks to address the most pressing issues they are currently experiencing.

This listening series should take place over the course of a year or more and consist of deep engagement in vulnerable neighborhoods with large older African American populations as identified by the Older Adult Vulnerability Mapping tool and with existing organizations, city governments, and institutions involved as partners to implement solutions that come from these sessions.

Use the Statewide Listening Session Results to Conduct a Thorough Review of Existing Policies and Programs

To build trust and open lines of communication with this population, we recommend a state-wide listening series. These sessions should converge on multiple purposes:

1. Learning what sources of information are trusted by them to enhance communication
2. Understanding the most acute barriers to thriving they experience
3. Understanding what supports they most need to thrive and how to deliver them
4. Gaining insight into how to better meet older African Americans where they are

We recommend ODMHAS would utilize the feedback gathered from the listening series to inform a comprehensive review of existing policies and programs using a lens centered on meeting older adults where they are.

Provide More Opportunities for Older Adults to Engage with Community Through Volunteering

Isolation as a barrier to well-being is a well-documented phenomenon among aging populations and our focus groups confirmed this reality. Many of our focus group participants indicated their interest in volunteerism as a solution based on their pre-pandemic experiences. Prior to the pandemic, many of our focus group participants reported that they regularly volunteered with local organizations with food pantries and local elementary schools being the most frequent volunteer sites mentioned by

our participants. The social engagement and sense of fulfillment achieved through volunteerism was noted as being very important to many of the elders we spoke with in focus groups. Programs to connect older adults to volunteer opportunities can not only provide much needed capacity for small organizations, but they can also provide purpose and social interaction for elders experiencing isolation and foster positive relationships among older adults, which may be particularly impactful in high density/prevalence and high or moderate vulnerability neighborhoods. ***We recommend prioritizing an increase of volunteer opportunities in areas with high older adult density and high or moderate levels of vulnerability.***

Foster Relationships Among Older Adults, with Special Attention Paid to Low-Income Elders

Many of the older African Americans that we engaged in focus groups were not living with their families. Specifically, many of the most vulnerable older African Americans that we engaged reported that their friends living in their apartment complex were critical to maintaining their well-being. They celebrated the safe spaces that friendships create, the understanding that comes from people experiencing like circumstances and being in a similar place in life, and the community that friendships build, as participants clearly articulated during focus groups. As we noted in the results section, successful local models exist for building these kinds of relationships. ***We recommend that ODMHAS support similar initiatives across the state with an emphasis on areas with multiple and complex needs.***

Directly Involve Older African American Ohioans at Decision-Making Tables Related to Safety Initiatives

Safety was a prominent concern among focus group participants. This was particularly true for the lowest income participants we engaged. Beyond the safety concerns directly related to the COVID-19 pandemic, focus group participants reported feeling unsafe in their homes and neighborhoods. Many of these individuals are living in neighborhoods with higher-than-average crime rates that lack many amenities like grocery stores, pharmacies, and sit-down restaurants. Moreover, participants living in low-income housing reported theft occurring among residents in their own complex, incidents of assault, harassment, and substance abuse among residents, and fear for their own personal safety when living on the first floor if they open their windows.

Importantly, many of these older adults felt left out of discussions and decisions that

impact their safety and expressed a desire to have a seat at the table when safety initiatives that impact their lives are discussed. Broadly speaking, the older African American Ohioans that we engaged reported feeling ignored by policy makers and expressed a desire for more engagement with them. Identifying more ways to engage older adults in these discussions may help to ease some of the stress they report feeling due to safety concerns in their communities.

Foster Positive Relationships Between Older African American Ohioans and Law Enforcement and First Responders; and

Partner with Local Law Enforcement and First Responders in High Vulnerability/High African American Older Adult Density Communities to Ensure that Law Enforcement and First Responders are Given Proper Training Regarding Racism, Classism, and Ageism to Empower them to Properly Serve Older African Americans

It is critical for people who feel unsafe where they are living to feel comfortable calling on law enforcement to assist them when needed. Unfortunately, this is not the case for all of the older African Americans we engaged. Many of our focus group participants reported mistrust or even mistreatment from law enforcement and first responders. Participants related their experiences of discrimination to the broader disrespect rooted in historic racism, deep-seated classism, and ageism. While many of our participants reported living in unsafe environments where police were frequently called or present, they did not report having relationships with these officers, nor did they report trusting these officers. Fostering positive relationships between older African Americans and law enforcement and first responders can help build trust and make it more likely that vulnerable older adult will reach out when facing crisis.

However, law enforcement and first responders should also be mindful of the ways that their own biases might influence how they interact with citizens, particularly older and marginalized ones. Partnering with local law enforcement and first responders in high vulnerability high density/prevalence of older African American communities can improve both the services provided by these department and the level of comfort that vulnerable older citizens feel engaging them. We reiterate here that cross-agency partnerships will be critical in this instance to achieving buy-in from officers and first responders, which will greatly enhance the likelihood of successful implementation and decreases in negative experiences of discrimination.

Support Age-Friendly and Inclusive Community Development Initiatives In Areas with Large, Vulnerable Older African American Populations

In addition to improving siting decisions place-based community redevelopment is also critical to addressing the structures that make a neighborhood “vulnerable” in our mapping tool. Addressing the structural drivers of inequality at the neighborhood scale requires investment in a community’s built and social environment. Age-friendly and inclusive community

development creates environments welcoming to people of all ages and abilities. These types of developments can enable people to age more easily in place, encourage accessibility and versatility, and generally improve the quality of life for all residents, not just older people more easily. Such developments facilitate healthy aging, which means that they often include amenities that older adults require, such as affordable housing, accessible health care providers, grocery stores, and pharmacies. In age-friendly communities, walkability considers all abilities and even crosswalks may have increased walk times to accommodate less abled residents. Likewise, age-friendly businesses are physically accessible for people of all abilities, enhancing the social experiences of differently abled people. *Age-friendly community development is community development that should be occurring everywhere, but we recommend this explicit support because it is particularly important for this type of development to occur in higher vulnerability neighborhoods and places with existing large older adult populations.*

Create and Disseminate a Black Medical Practitioner's Guide

All medical practitioners and service providers should exhibit cultural humility and respect when interacting with patients regardless of their race, age, or income. Cultural humility recognizes that people from differing cultures cannot really achieve competency, therefore, it teaches humility in approaching difference. While many medical practitioners in Ohio are required to take cultural competency trainings, there does not appear to be a cultural humility certification for Ohio medical practitioners. We recommend that the State of Ohio consider revising their cultural competency policies and requirements to be consistent with the principles of cultural humility. We are hesitant to recommend additional requirements given the ongoing shortage of medical providers in Ohio; additional requirements might depress the number of practitioners and providers of geriatric medical care and services. That said a cultural humility approach would likely result in better experiences for the older African Americans who participated in the focus groups.

Revise Cultural Competency Requirements to Provide Cultural Humility Certification for Medical Providers

As noted above in the discussion of the focus group findings, focus group participants held very strong opinions about medical systems and even specific medical practitioners. Many reported “bad” experiences with white doctors with multiple participants indicating that they have felt discriminated against because of their race, age, and economic status by health care professionals. Creation of a Black Medical Practitioner’s Guide for Ohio would be a wonderful resource to help this population identify providers who they will feel more comfortable seeing.

Pilot a Statewide Case Worker Program for Low-Income Older Adults

The elders we engaged in Akron, Columbus, and Toledo specifically requested that we include a recommendation for a statewide case worker program for low-income elders indicating that the provision of such a service could greatly improve the quality of life for many of the people it would serve. Focus group participants celebrated the role that case workers can play in assisting older adults in the management of their health and medical records. They noted that case workers can not only help elders manage their health and navigate healthcare systems but can also assist with other social issues they might face related to their safety or problems with their housing. ***We recommend that ODHMAS create and pilot a program utilizing the Older Adult Vulnerability Mapping tool to identify where the pilot would focus.***

Grow Existing Transportation Assistance Programs and Disseminate Information About them Through Networks and Sources Trusted by Older African American Ohioans

While many of our focus group participants reported senior transportation services offered by local organizations or at the county level in their community, many of the most vulnerable elders that we engaged were not aware of these programs or reported that they were not able to assist them when needed. ***We recommend supporting existing programs and growing their capacity, particularly in high vulnerability communities with large older African American populations, to enhance the quality of life for residents by providing them the means to access the programs, services, and amenities they require and desire.*** While this recommendation does require additional spatial analysis focused on areas of higher vulnerability and multiple and complex needs identified from our analysis, it is a pretty straightforward analysis to execute. Adding a transportation overlay to the Ohio Older Adult Vulnerability Map would assist in this endeavor and is part of a broader need for additional research.

Lower the Programmatic Eligibility Thresholds in Certain Multiple and Complex Needs Census Tracts from 65 to 55 Years Old for Programming Aimed at Serving Vulnerable Older Ohioans Whenever Possible

Older African Americans disproportionately experience lower life expectancies and reside in higher vulnerability census tracts. As illustrated in our analysis of Medicaid and behavioral health data, older African Americans in Ohio are disproportionately experiencing chronic physical and behavioral health conditions. This was supported by our focus group participants who talked at length about health challenges. Specifically, the lowest income participants discussed health challenges the most frequently during our focus group discussions. Because our study defined

older adults as people aged 55+, some of our focus group participants were under the age of 65 and therefore did not qualify for Medicare. These participants reported using “public insurance”, which we interpreted to be Medicaid.

The reality of these disparities is that many older African Americans and other vulnerable older adults are frequently dying before they are eligible for many programs, services, and benefits available to older adults in our society once they reach the age of 65. We recommend lowering programmatic eligibility thresholds to 55 in high vulnerability/high density of older adult communities in order to improve access to much-needed programming and services for this vulnerable population.

Support, Replicate, and Expand Existing Age- and Income-Dependent Technological Assistance Programs for Older Ohioans

In every focus group, participants discussed the role of technology in their lives. While there were participants in each discussion who reported utilizing technology daily with ease and comfort, there were more participants who reported being challenged by technology. Focus group participants reported understanding the increasingly significant role that technology continues to play in our lives but found themselves struggling to understand how to use devices, being able to afford connectivity and/or devices, and finding assistance that was “patient” with them. Participants explicitly noted there is a need for programs to help them get connected, become technologically literate, and provide technical assistance when they run into trouble. We have heard of previous pilot projects but remain uncertain of their current status. We recommend a permanent effort for all older Ohioans, but with a focus on high vulnerability and high-density neighborhoods identified in our analysis, to participate in on an as-needed basis.

Conclusion

As we age, managing our health often becomes increasingly complicated, an issue compounded by challenges with technology literacy and accessibility, cognitive challenges some older adults face, and increasingly complex health systems that are not always connected to each other. If an elder lacks a primary care physician, they often end up utilizing the emergency department and may not have a system in place for managing their medical records. Staying healthy requires managing your health and health records.

African American older Ohioans face numerous barriers to their mental and physical health and wellbeing. This study examined indicators of older adult vulnerability and how older African American Ohioans disproportionately live in higher vulnerability neighborhoods. We then examined common health conditions experienced by older Adults to discover that this population experiences these health conditions at disproportionately higher rates than whites. Finally, we engaged older African American Ohioans to better understand how they navigate the health landscape and asked them to identify barriers and supports to their own wellbeing. Paramount among those barriers is the daily racism that this population experiences, which leads to “racial battle fatigue,” a condition that manifests through physical, behavioral, and mental health conditions, including the ten chronic conditions and mental and behavioral health conditions that we analyzed in this study. Regular experiences of classism and ageism reported by focus group participants compounds the fatigue these older African American Ohioans experience. It is critical for ODMHAS to understand how experiences of discrimination contribute to the physical and mental health disparities that this population experiences. All policy and programmatic solutions to the barriers outlined in this report must consider this aspect of African American health, which is unique to minoritized populations and, since most standards of care are based upon the experiences of the majority, is typically not considered or addressed in common practices.

Exploring older African American Ohioan vulnerability makes clear that different populations experience the same systems in very different ways. This means that departments like ODMHAS must consider that different populations have differing needs and even when their needs are similar, may require different approaches to solve them. Our maps can be very useful tools for identifying sites for place-based solutions and investment. Specifically, our multiple and complex needs analysis highlights specific geographic areas that will require multifaceted approaches to address. Studies note that various

groups are affected by multiple and complex needs with varying degrees and consequences and African American older adults, the focus of this study, are one of them. People with multiple and complex needs continue to be significantly disadvantaged and excluded in their interactions with service providers and the considerable gaps found in current service structures (service provision system, approaches, and resourcing) calls for attention to more innovative and creative joint strategies as well as partnerships involving service recipients themselves⁴⁶. Because these challenges that older African American Ohioans are experiencing are multifaceted and complex, it is imperative that ODMHAS collaborate with partner organization to address these issues.

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- 7 Choi, N. G., & Dinitto, D. M. (2013). The digital divide among low-income homebound older adults: Internet use patterns, eHealth literacy, and attitudes toward computer/Internet use. *Journal of medical Internet research*, 15(5), e93. <https://doi.org/10.2196/jmir.2645>
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- 9 Cotten, S. R., Ford, G., Ford, S., & Hale, T. M. (2014). Internet use and depression among retired older adults in the United States: a longitudinal analysis. *The journals of gerontology. Series B, Psychological sciences and social sciences*, 69(5), 763–771. <https://doi.org/10.1093/geronb/gbu018>
- 10 Burnes, D., Pillemer, K., Caccamise, P. L., Mason, A., Henderson, C. R., Jr, Berman, J., Cook, A. M., Shukoff, D., Brownell, P., Powell, M., Salamone, A., & Lachs, M. S. (2015). Prevalence of and Risk Factors for Elder Abuse and Neglect in the Community: A Population-Based Study. *Journal of the American Geriatrics Society*, 63(9), 1906–1912. <https://doi.org.proxy.lib.ohio-state.edu/10.1111/jgs.13601>
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- 12 Lubell, J., Morley, R., Ashe, M., & Merola, L. (2011). Housing and health: New opportunities for dialogue and action. Washington, DC: National Center for Healthy Housing.
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- 14 Jenkins Morales, M., & Robert, S. A. (2020). The Effects of Housing Cost Burden and Housing Tenure on Moves to a Nursing Home Among Low- and Moderate-Income Older Adults. *The Gerontologist*, 60(8), 1485–1494. <https://doi.org/10.1093/geront/gnaa052>

- 15 Chan, E., Procter-Gray, E., Churchill, L., Cheng, J., Siden, R., Aguirre, A., & Li, W. (2020). Associations among living alone, social support and social activity in older adults. *AIMS public health*, 7(3), 521–534. <https://doi.org/10.3934/publichealth.2020042>
- 16 Fingerman, K. L., Ng, Y. T., Zhang, S., Britt, K., Colera, G., Birditt, K. S., & Charles, S. T. (2021). Living Alone During COVID-19: Social Contact and Emotional Well-being Among Older Adults. *The journals of gerontology. Series B, Psychological sciences and social sciences*, 76(3), e116–e121. <https://doi.org/10.1093/geronb/gbaa200>
- 17 Chan, E., Procter-Gray, E., Churchill, L., Cheng, J., Siden, R., Aguirre, A., & Li, W. (2020). Associations among living alone, social support and social activity in older adults. *AIMS public health*, 7(3), 521–534. <https://doi.org/10.3934/publichealth.2020042>
- 18 Raymond É. (2019). The challenge of inclusion for older people with impairments: Insights from a stigma-based analysis. *Journal of aging studies*, 49, 9–15. <https://doi.org/10.1016/j.jaging.2019.03.001>
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- 25 Wakeel, Fatima and Njoku, Anuli. (2021). Application of the Weathering Framework: Intersection of Racism, Stigma, and COVID-19 as a Stressful Life Event among African Americans. *Healthcare*.
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- 27 Bellazzecca, Enrico, Teasdale, Simon, Biosca, Olga, and Skelton, Dawn A. (2022). The health impacts of creative programmes on older adults' health: A critical realist review. *Place & Health*. 76.
- 28 We are grateful for the time and expertise of Beth Kowalczyk, Julie Maurer, Ann Nguyen, and Tina Williams. Their affiliations are listed in the acknowledgements on page 71.
- 29 Saldana, J. (2016). *The Coding Manual for Qualitative Researchers*. Sage: Washington, D.C.
- 30 U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates, data available from <https://data.census.gov/>
- 31 U.S. Small-Area Life Expectancy Estimates Project (USALEEP), 2010-2015, data available from

<https://www.cdc.gov/nchs/nvss/usleep/usleep.html>

32 ICD-10-CM, the International Classification of Diseases, Tenth Revision, Clinical Modification is a classification system of diagnosis codes representing conditions and diseases, related health problems, abnormal findings, signs and symptoms, injuries, and external causes of injuries and diseases. Used for medical claim reporting in all healthcare settings, ICD-10-CM codes are the primary means to establish medical necessity for payment of healthcare services and procedures. In ICD-10, the diagnostic codes that start with the letter “F”, cover the category of “Mental, Behavioral and Neurodevelopmental disorders.” More information is available at CDC website (<https://www.cdc.gov/nchs/icd/index.htm>)

33 National Center for Health Statistics, National Vital Statistics System, 2018, 2019 and 2020 data. Available from: https://www.cdc.gov/nchs/pressroom/sosmap/life_expectancy/life_expectancy.htm

34 Sieck, C. J., Sheon, A., Ancker, J. S., Castek, J., Callahan, B., & Siefer, A. (2021). Digital inclusion as a social determinant of health. *Npj Digital Medicine*, 4(1), 1-3. 10.1038/s41746-021-00413-8

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36 Older Adults Technology Services from, AARP. (2020). Aging connected: Exposing the hidden connectivity crisis for older adults. https://agingconnected.org/wp-content/uploads/2021/05/Aging-Connected_Exposing-the-Hidden-Connectivity-Crisis-for-Older-Adults.pdf

37 In Appendix B, we have included a few articles on how digital connectivity relates to lives of older adults.

38 Federal Communications Commission Form 477 Fixed Broadband Deployment Summary (<https://www.fcc.gov/general/broadband-deployment-data-fcc-form-477>) by Census Block with Provider Data, December 2020, available from

39 U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates, data available from <https://data.census.gov/>

40 A score of 100 means the census geography has a median download speed of 25 Mbps and median upload speed of 3 Mbps, which would allow basic internet activity for a smaller household. The 25/3 Mbps is considered ‘broadband’ per FCC’s current definition, which was set in 2015. But in 2022, a good internet speed is a lot faster, with 100 Mbps is called an average but not quite ideal for multiple users <https://networkhardware.com/internet-speed/>; <https://networkhardware.com/internet-speed/100-mbps/>

41 Velazco, C. (2022, Jul 19). FCC calls 25 mbps “broadband” speed. the push is on to up it to 100. Washingtonpost.Com Retrieved from <https://www.washingtonpost.com/technology/2022/07/19/fcc-broadband-new-definition-100mbps/>

42 Golomski, C., Corvini, M., Kim, B., Wilcox, J., & Valcourt, S. (2022). Aspects of ICT connectivity among older adults living in rural subsidized housing: reassessing the digital divide. *Journal of Enabling Technologies*, 16(1), 17-27. 10.1108/JET-12-2020-0052

43 Xie, B., Charness, N., Fingerman, K., Kaye, J., Kim, M. T., & Khurshid, A. (2020). When Going Digital Becomes a Necessity: Ensuring Older Adults’ Needs for Information, Services, and Social Inclusion During COVID-19. *Journal of Aging & Social Policy*, 32(4-5), 460-470. 10.1080/08959420.2020.1771237

44 Birkland, J. L. H. (2019). Breaking the digital divide. *Gerontechnology: Understanding Older Adult Information and Communication Technology Use* (pp. 141-158). Emerald Publishing Limited. <https://doi.org/10.1108/978-1-78743-291-820191013>

45 Rankin, J., & Regan, S. (2004). Meeting complex needs in social care. *Housing, Care and Support*, 7(3), 4-8. 10.1108/14608790200400016

46 Rosengard, A., Laing, I., & Ridley, J. (2007). A Literature Review on Multiple and Complex Needs.

Appendix A

Methodology

Research Design

The Kirwan Institute used its community-engaged, mixed methods approach to understand the challenges and opportunities facing Older African Americans living in Ohio. We integrated community input throughout our process, from our engagements with the steering committee, and consultations on indicators that would allow us to calibrate our Older Adult Vulnerability index specifically with Older African Americans in mind. Below we describe the opportunity mapping and focus group components of our research design.

Mapping Older Adult Vulnerability

The Kirwan Institute constructed a spatial older adult vulnerability index to illustrate how different neighborhoods are exposed to various stressors that make older adults more vulnerable. All indicator data were collected at the U.S. Census Tract level. The indicators were then normalized to calculate z-scores to measure how far away each individual data point is from mean, or average, of all data points. The final comprehensive vulnerability index is calculated as an average of z-scores of all eight indicators for each census tract. All Ohio census tracts were then divided into three groups of equal numbers based on the final comprehensive vulnerability index and assigned three vulnerability categories -- High, Moderate, and Low Vulnerability.

Medicaid Claims Data Analysis

For mapping Medicaid claims data, the patient-level claims records were first aggregated by ZIP code and then converted to the census tract level using HUD ZIP-Tract crosswalk file for 4th Quarter 2019.¹ The census tract was chosen as a geographic unit of analysis for a couple of reasons. First, the older adult vulnerability index was calculated and mapped at census tract level so aligning the geographic unit to tract enables the comparison between the two. Second, ZIP codes contained in the Medicaid claims data are not directly mappable as they represent a collection of addresses created by the U.S. Postal Service to improve mail delivery service, which are not designed to hold population data, and change frequently.

Engagements with Older African American Ohioans

Six in-person focus groups in three metropolitan areas were conducted to inform this study.

¹ The crosswalk file is available at https://www.huduser.gov/portal/datasets/usps_crosswalk.html#data

Due to impacts from the COVID-19 pandemic, we were unable to conduct our target number of in-person focus groups. We did attempt to schedule virtual focus groups but were unable to recruit participants in these efforts. Ultimately, we held two focus groups in Columbus, Toledo, and Akron, respectively engaging 28 older African American Ohioans in August and September of 2022. Each 60-90 minute focus group was recorded, and the audio was transcribed and analyzed in NVivo qualitative coding software. Transcripts were coded both deductively (utilizing the categories of barriers, supports, medical experiences, etc. derived from the focus group questions) and inductively to capture emergent themes. Two research team members completed the qualitative analysis and compared results to provide greater confidence in the findings.

Focus groups, unlike surveys distributed to collect representative samples, do not generate data representative of the broader population. The findings from our focus groups can only be attributed to the people participating in the focus group and should not be assumed to be generalizable. However, these findings do point to areas that merit further investigation.

Appendix B

Vulnerability Indicators Annotated Bibliography

The selection of vulnerability indicators used in the statewide older adult vulnerability index calculation was a result of multi-step processes. To build upon two previous studies of older adults, we have revisited the indicators used in older adult vulnerability index of Franklin County, Ohio, which were identified based on literature review from each study. An additional literature review was conducted to specifically inform the current study and the resulting list of vulnerability indicators were presented to the advisory committee for consultation before finalizing the selection of vulnerability indicators used in this study. Eight vulnerability indicators are listed below with studies supporting how each is related to vulnerability of older adults, followed by a separate list of studies supporting the relevance of broadband access and internet access in lives of older adults.

55+ In Poverty

- Leung, C. W., & Wolfson, J. A. (2021). Food Insecurity Among Older Adults: 10-Year National Trends and Associations with Diet Quality. *Journal of the American Geriatrics Society*, 69(4), 964–971. <https://doi-org.proxy.lib.ohio-state.edu/10.1111/jgs.16971>

Seniors of lower income are more likely to report food insecurity which was associated with lower diet quality.

- Burnes, D., Pillemer, K., Caccamise, P. L., Mason, A., Henderson, C. R., Jr, Berman, J., Cook, A. M., Shukoff, D., Brownell, P., Powell, M., Salamone, A., & Lachs, M. S. (2015). Prevalence of and Risk Factors for Elder Abuse and Neglect in the Community: A Population-Based Study. *Journal of the American Geriatrics Society*, 63(9), 1906–1912. <https://doi-org.proxy.lib.ohio-state.edu/10.1111/jgs.13601>

Lower income or poverty was associated with elder mistreatment. Low economic resources are considered as contextual and situational stressor contributing to elder abuse and neglect.

- Hayajneh, A. A., & Rababa, M. (2021). The Association of Frailty with Poverty in Older Adults: A Systematic Review. *Dementia and Geriatric Cognitive Disorders*, 50(5), 407–413. <https://doi.org/10.1159/000520486>

Poverty and low income are significant contributors to the development of frailty, which may impact the quality of life among frail older adults. The reciprocal effect between poverty and frailty becomes a barrier for seniors to participate in social activities and less likely to have the ability to meet daily needs.

- Singh, G. K., & Lee, H. (2021). Marked Disparities in Life Expectancy by Education,

Poverty Level, Occupation, and Housing Tenure in the United States, 1997-2014. International Journal of MCH and AIDS, 10(1), 7–18. <https://doi-org.proxy.lib.ohio-state.edu/10.21106/ijma.402>

Life expectancy is positive correlated to income - Life expectancy increases continuously with income. Lower level of income was associated with higher prevalence of unhealthy behavior and lower access to health services.

- Choi, N. G., & Dinitto, D. M. (2013). The Digital Divide Among Low-Income Homebound Older Adults: Internet Use Patterns, eHealth Literacy, and Attitudes Toward Computer/Internet Use. *Journal of Medical Internet Research*, 15(5), e93. <https://doi.org/10.2196/jmir.2645>

Income is a significant indicator of Internet use, which provides a diverse array of online resources for homebound older adults to manage their health and mental health problems and ADLs/IADLs) because of barriers of affordability.

65+ That Are Housing Cost Burden (Spending 30% or More on Housing for Owner and Renter Households¹

- Meltzer, R., & Schwartz, A. (2016). Housing Affordability and Health: Evidence From New York City. *Housing Policy Debate*, 26(1), 80–104. <https://doi-org.proxy.lib.ohio-state.edu/10.1080/10511482.2015.1020321>

Housing cost burdens are continuously associated with poorer health outcomes and more health services postponements. People with housing cost burden confront with financial and well-being tradeoffs. The effects are exacerbated for those spending more than 50% of their income on housing.

- Shamsuddin, S. & Colin Campbell, C. (2022). Housing Cost Burden, Material Hardship, and Well-Being, *Housing Policy Debate*, 32:3, 413-432, DOI: 10.1080/10511482.2021.1882532

Housing cost burden was positively associated with material hardship, including food insecurity, bill-paying hardship, medical care hardship, etc. These domains can have immediate negative effect on well-being as well as cumulative effects over time.

- Lubell, J., Morley, R., Ashe, M., & Merola, L. (2011). Housing and Health: New

1 The conventional measure of housing affordability in the United States categorizes households that spend more than 30% of their income on housing expenses as moderately cost burdened; those spending more than 50% of their income are considered severely cost burdened (U.S. Department of Housing and Urban Development, n.d.).

https://www.huduser.gov/portal/pdredge/pdr_edge_featd_article_092214.html#:~:text=HUD%20defines%20cost%2Dburdened%20families,of%20one's%20income%20on%20rent.

Opportunities for Dialogue and Action. Washington, DC: National Center for Healthy Housing.

Adults living in unaffordable housing are more likely to report poor health and inadherence to healthcare treatments as a result of cost. They have a significantly higher likelihood of failing to fill a prescription due to cost and are less likely to have health insurance coverage; unaffordable housing also causes residential crowding, which can cause psychological distress and foster infectious diseases.

- Henning-Smith, C. (2017). Where Do Community-Dwelling Older Adults with Disabilities Live? Distribution of Disability in the United States of America by Household Composition and Housing Type. *Ageing and Society*, 37(6), 1227-1248. doi:10.1017/S0144686X16000210

Living arrangement may reflect one's current disability status and shape future disability through the resources that are (or are not) provided.

- Harrell, R., & Guzman, S. (2013). Loss of Housing Affordability Threatens Financial Stability for Older Middle-Class Adults. AARP. Retrieved from Social Science Premium Collection Retrieved from <https://search.proquest.com/docview/1820735166>

The impacts of housing cost can affect multiple generations, including older adults, by impacting the ability to enhance economic opportunity and achieve middle-class security.

- Joint Center for Housing Studies. (2019). Housing America's Older Adults. Retrieved from https://www.jchs.harvard.edu/sites/default/files/Harvard_JCHS_Housing_Americas_Older_Adults_2019.pdf

Older adults with housing cost burdens are likely to cut back on other budget items which are essential to health and well-being. Differences in food consumption and out-of-pocket health care expenses are significant between cost-burdened households age 65 and over and those living in housing they can afford.

55+ Renters

- Henning-Smith, C. (2017). Where Do Community-Dwelling Older Adults with Disabilities Live? Distribution of Disability in the United States of America by Household Composition and Housing Type. *Ageing and Society*, 37(6), 1227-1248. doi:10.1017/S0144686X16000210

Renting is associated with an increased risk of mortality and disability, which may be explained by higher transience and less place attachment among renters.

- Jenkins Morales, M., & Robert, S. A. (2020). The Effects of Housing Cost Burden and Housing Tenure on Moves to a Nursing Home Among Low- and Moderate-Income Older Adults. *The Gerontologist*, 60(8), 1485-1494. <https://doi.org/10.1093/geront/gnaa052>

Older renters with housing cost burden are more likely to move to a nursing home, which limits their option to age in place.

- Gonyea, J. G., Curley, A., Melekis, K., Levine, N., & Lee, Y. (2018). Loneliness and Depression Among Older Adults in Urban Subsidized Housing. *Journal of Aging and Health*, 30(3), 458–474. <https://doi.org/10.1177/0898264316682908>

Older tenants of subsidized housing who face with poor health and limited economic resources, reported a higher rate of loneliness.

- Lee, S., Kim, D., Kim, S., Parrott, K.R., Giddings, V., & Robinson, S.R. (2019). Emerging Themes on Aging in Place From Low-Income Older Renters. *Housing and Society*, 46, 110 - 127.

Older renters reported a lack of control or mastery feeling because they cannot live autonomously and are no longer in control of their environments and activities, which deteriorate their success aging in place.

- Spillman, B. C., Biess, J., & MacDonald, G. (2012). Housing as a Platform for Improving Outcomes for Older Renters. Retrieved from <https://www.issueLab.org/resources/12968/12968.pdf>

Older renters have higher rate of disability, being single, and lower income, compared to their homeowner counterparts.

55+ Single Person Household (Live Alone)

- Portacolone E. (2013). The Notion of Precariousness Among Older Adults Living Alone in the U.S. *Journal of Aging Studies*, 27(2), 166–174. <https://doi.org/10.1016/j.jaging.2013.01.001>
Older adults living alone are likely to experience a sense of precariousness. “Older adults living alone [also] need to navigate the complex, scattered, and ever-changing landscape of services and understand their eligibility criteria, accessibility, fees, and conditions.”
- Owens, O. L., Beer, J. M., Revels, A. A., & White, K. (2021). The Lived Experiences of Older Low-Income African Americans Living Alone: Implications for Aging in Place in the United States. *Journal of Aging and Environment*, 35(1), 42-61. doi:10.1080/26892618.2020.1780662

Living alone impedes older adults’ ability to age in place. Older people who live alone reported difficulty with selected activities of daily living (ADL), such as bathing, transitioning from seating, and stooping to lift objects, as well as instrumental activities of daily living (IADL) such as home maintenance and leaving the home.

- Fingerman, K. L., Ng, Y. T., Zhang, S., Britt, K., Colera, G., Birditt, K. S., & Charles, S. T. (2021). Living Alone During COVID-19: Social Contact and Emotional Well-being Among Older Adults. *The Journals of Gerontology. Series B, Psychological Sciences, and Social Sciences*, 76(3), e116–e121. <https://doi.org/10.1093/geronb/gbaa200>

During the Covid-19, older adults living alone experienced less in-person contact which could confer unique benefits to positive emotional well-being.

- Chan, E., Procter-Gray, E., Churchill, L., Cheng, J., Siden, R., Aguirre, A., & Li, W. (2020). Associations Among Living Alone, Social Support and Social Activity in Older Adults. *AIMS Public Health*, 7(3), 521–534. <https://doi.org/10.3934/publichealth.2020042>

Living situation is associated with social support. Older adults who live alone are more likely to report lower social support and they had less instrumental, information and emotional support. These outcomes are often accompanied by higher degree of social isolation, poorer self-rated health, more comorbid medical conditions, more physical limitations, and a higher level of depression.

- Choi, M., & Bae, J. (2022). 'I Eat to Not Die': Diet and Exercise Experiences of Older Adults Living Alone. *International Journal of Older People Nursing*, e12523. Advance online publication. <https://doi.org/10.1111/opn.12523>

Living alone leads to poor dietary habits, such as skipping meals or insufficient food intake. It is hard for older adults living alone to maintain a balanced diet and regular exercise because of their lack of social support, which threatens their well-being.

65+ Individuals With No High School Diploma

- Hiza, H. A. B., Casavale, K. O., Guenther, P. M., & Davis, C. A. (2013). Diet Quality of Americans Differs by Age, Sex, Race/Ethnicity, Income, and Education Level. *Journal of the Academy of Nutrition & Dietetics*, 113(2), 297–306. <https://doi-org.proxy.lib.ohio-state.edu/10.1016/j.jand.2012.08.011>

Education is associated with increased nutrition knowledge, which aligns with the ability to translate nutrition knowledge into better dietary practices. Older adults without a high school education had a higher intake of saturated fat and sodium, which increased risk of developing hypertension and cardiometabolic syndrome.

- Tsai, Y. (2017). Education and Disability Trends of Older Americans, 2000-2014. *Journal of Public Health*, 39(3), 447–453. <https://doi-org.proxy.lib.ohio-state.edu/10.1093/pubmed/fdw082>

Higher-educated older adults had a lower proportion and a smaller increase in functional limitations compared to lower-educated older adults. Educational disparities in functional limitations and chronic conditions may reflect inequalities in the social environment, access to health care, and quality of care and may reflect differences in lifestyle, willingness to conduct risky behaviors, the life skills and knowledge regarding preventive care and medical treatments, and occupational opportunities and earning potential, which in turn would lead to different health outcomes.

- Schwartz, R. M., Bevilacqua, K. G., Alpert, N., Liu, B., Dharmarajan, K. V., Ornstein, K. A., & Taioli, E. (2020). Educational Attainment and Quality of Life among Older Adults before a

Lung Cancer Diagnosis. *Journal of Palliative Medicine*, 23(4), 498–505. <https://doi-org.proxy.lib.ohio-state.edu/10.1089/jpm.2019.0283>

Older adults with lower education may encounter barriers to timely care access and health information, both of which affect the diagnosis of disease and early intervention.

- Sudore, R. L., Mehta, K. M., Simonsick, E. M., Harris, T. B., Newman, A. B., Satterfield, S., Rosano, C., Rooks, R. N., Rubin, S. M., Ayonayon, H. N., & Yaffe, K. (2006). Limited Literacy in Older People and Disparities in Health and Healthcare Access. *Journal of the American Geriatrics Society*, 54(5), 770–776. <https://doi-org.proxy.lib.ohio-state.edu/10.1111/j.1532-5415.2006.00691.x>

Health literacy level, which is directly related to high risk for poor health outcomes, and educational attainment were strongly correlated, while literacy level varied greatly within educational strata by race and sex.

65+ Persons with a Disability

- Raymond É. (2019). The Challenge of Inclusion for Older People with Impairments: Insights from a Stigma-Based Analysis. *Journal of Aging Studies*, 49, 9–15. <https://doi.org/10.1016/j.jaging.2019.03.001>

For older people with impairments, their participation in a mainstream seniors' social club is seen as unusual, disconcerting and disjunctive. Older people with disabilities have more chances to experience symbolic and environmental exclusion when they try to integrate into community or seniors' settings.

- Henning-Smith, C. (2017). Where Do Community-Dwelling Older Adults with Disabilities Live? Distribution of Disability in the United States of America by Household Composition and Housing Type. *Ageing and Society*, 37(6), 1227-1248. doi:10.1017/S0144686X16000210

Disability status may shape living arrangement, including one's household composition and housing type, or vice versa. Individuals with disabilities were more likely to live alone and stay in unstable housing.

- Groessl, E. J., Kaplan, R. M., Rejeski, W. J., Katula, J. A., King, A. C., Frierson, G., Glynn, N. W., Hsu, F. C., Walkup, M., & Pahor, M. (2007). Health-Related Quality of Life in Older Adults at Risk for Disability. *American Journal of Preventive Medicine*, 33(3), 214–218. <https://doi-org.proxy.lib.ohio-state.edu/10.1016/j.amepre.2007.04.031>

Older adults at risk for disability are more likely to experience loss of mobility which predicts loss of independence, mortality, and nursing home admission. Mobility limitations reduce both quantity and quality of life for older adults.

- Motl, R. W., & McAuley, E. (2010). Physical Activity, Disability, and Quality of Life in Older Adults. *Physical Medicine and Rehabilitation Clinics of North America*, 21(2), 299–308.

<https://doi-org.proxy.lib.ohio-state.edu/10.1016/j.pmr.2009.12.006>

Older adults with disability have lower rates of physical activity which is associated with reduced risks of many chronic disease conditions and premature mortality.

65+ Households with No Personal Vehicle

- National Academies of Sciences, Engineering, and Medicine. (2005). Cost-Benefit Analysis of Providing Non-Emergency Medical Transportation. Washington, DC: The National Academies Press. <https://doi.org/10.17226/22055>.

Older adults are more likely to be considered as “transportation disadvantaged” population who cannot provide or purchase their own transportation, and thus depends on others to access employment, education, shopping, and healthcare. Lacking available or affordable transportation results in missing or postponing routine care or preventive services, which places them at risk for poor health outcomes.

- Ding, D., Sallis, J. F., Norman, G. J., Frank, L. D., Saelens, B. E., Kerr, J., Conway, T. L., Cain, K., Hovell, M. F., Hofstetter, C. R., & King, A. C. (2014). Neighborhood Environment and Physical Activity Among Older Adults: Do the Relationships Differ by Driving Status? *Journal of Aging and Physical Activity*, 22(3), 421–431. <https://doi-org.proxy.lib.ohio-state.edu/10.1123/japa.2012-0332>

Nondriving older adults were more likely to be older, women, minorities, without a college degree, and without a partner. Non driving adults were less physically active than driving older adults, which could signify deteriorating health and impaired mobility.

- Freeman, E. E., Gange, S. J., Muñoz, B., & West, S. K. (2006). Driving Status and Risk of Entry into Long-Term Care in Older Adults. *American Journal of Public Health*, 96(7), 1254–1259. <https://doi-org.proxy.lib.ohio-state.edu/10.2105/AJPH.2005.069146>

Older adults who gave up driving may have no other choice but to enter long-term care institutions because of transportation problems, which causes an economic burden.

Average Life Expectancy at Birth

- OECD. (2021). *Health at a Glance 2021: OECD Indicators*. OECD Publishing, Paris. <https://doi.org/10.1787/ae3016b9-en>.

Life expectancy at birth is one of the most frequently used indicators to measure health status and defined as “how long, on average, a newborn can expect to live, if current death rates do not change.”

- Johnson, N. B., Hayes, L. D., Brown, K., Hoo, E. C., Ethier, K. A., & Centers for Disease Control and Prevention (CDC) (2014). *CDC National Health Report: Leading Causes of Morbidity and Mortality and Associated Behavioral Risk and Protective Factors--United*

States, 2005-2013. MMWR Supplements, 63(4), 3–27.

Changes in average life expectancy at birth relatively reflect fluctuation of death rates, prevalence of illness in a population, and the length of time living with a condition.

- Harper, S., Rushani, D., & Kaufman, J. S. (2012). Trends in the Black-White Life Expectancy Gap, 2003-2008. *JAMA*, 307(21), 2257–2259. <https://doi-org.proxy.lib.ohio-state.edu/10.1001/jama.2012.5059>

Between 2003 and 2008, the life expectancy gap between non-Hispanic blacks and whites declined but it still remains substantial - 5.3 years for males and 3.5 years for females.

Broadband and Internet Access

- Okoye, S. M., Mulcahy, J. F., Fabius, C. D., Burgdorf, J. G., & Wolff, J. L. (2021). Neighborhood Broadband and Use of Telehealth Among Older Adults: Cross-Sectional Study of National Survey Data Linked With Census Data. *Journal of Medical Internet Research*, 23(6), e26242. <https://doi.org/10.2196/26242>

The pervasiveness of neighborhood broadband internet is significantly associated with engagement in telehealth for older adults, particularly during the Covid-19 pandemic, which has amplified the role of telehealth in health care delivery.

- Xie, B. (2007). Using the Internet for Offline Relationship Formation. *Social Science Computer Review*, 25, 396-404.

Older adults generally go beyond use of the Internet as a tool to obtain online information that is relevant to their personal interests; they also use it to facilitate social interaction and relationship formation.

- Cotten, S. R., Ford, G., Ford, S., & Hale, T. M. (2014). Internet Use and Depression Among Retired Older Adults in the United States: a Longitudinal Analysis. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, 69(5), 763–771. <https://doi.org/10.1093/geronb/gbu018>

Internet use among older adults could reduce the probability of depression, and potentially remedy social isolation and loneliness.

- Cotten, S. R., Anderson, W. A., & McCullough, B. M. (2013). Impact of Internet Use on Loneliness and Contact with Others Among Older Adults: Cross-Sectional Analysis. *Journal of Medical Internet Research*, 15(2), e39. <https://doi.org/10.2196/jmir.2306>

For older adults, using Internet is a good way to increase social contacts and reduce loneliness.

- Freese, J., Rivas, S., & Hargittai, E. (2006). Cognitive Ability and Internet Use Among Older Adults. *Poetics*, 34(4-5), 236–249. <https://doi.org/10.1016/j.poetic.2006.05.008>

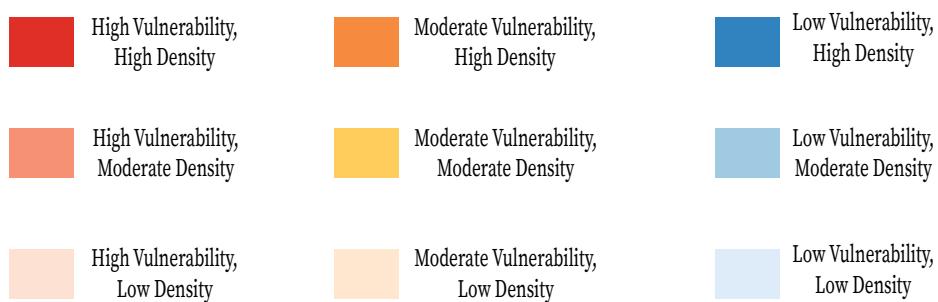
Older adults who have broadband access are more likely to have higher cognitive ability.

Appendix C

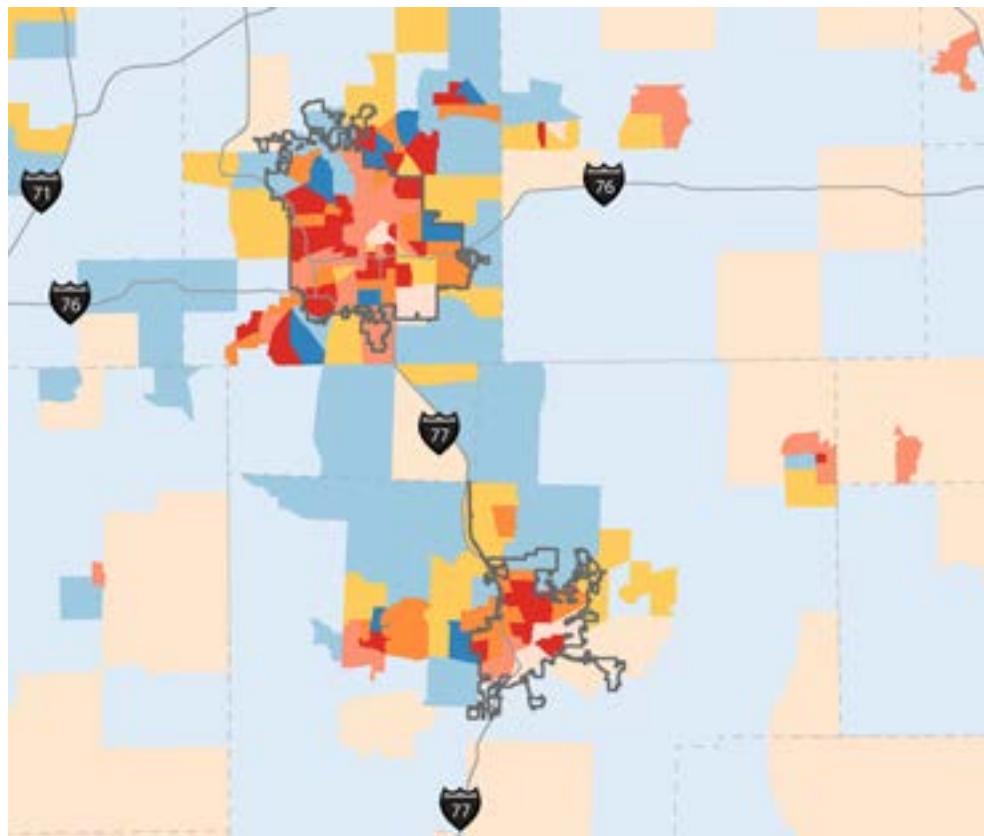
Additional Maps

This appendix includes additional maps for the metropolitan areas and cities in Ohio with the largest African American older adult populations. These cities include Akron/Canton, Cincinnati, Cleveland, Columbus, Dayton/Springfield, Lima, Mansfield, Toledo, and Youngstown.

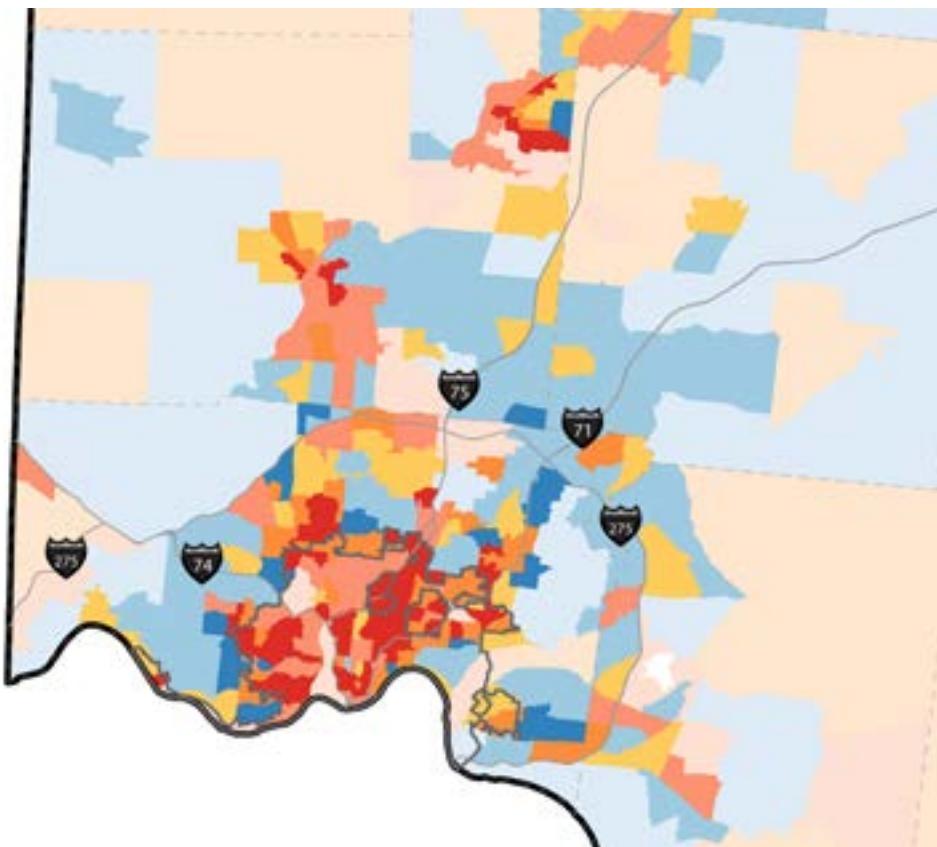
The legend below applies to all nine maps. Census tracts in these maps are either red, indicating high vulnerability, orange/yellow, indicating moderate vulnerability, or blue, indicating low vulnerability. The darker the color, the higher older adult population density is in the census tract. For example, a census tract shaded in dark red is classified as high vulnerability and high density while a census tract shaded in light orange is classified as moderate vulnerability and low density, and a census tract shaded in the medium shade of blue is classified as low vulnerability and medium density.



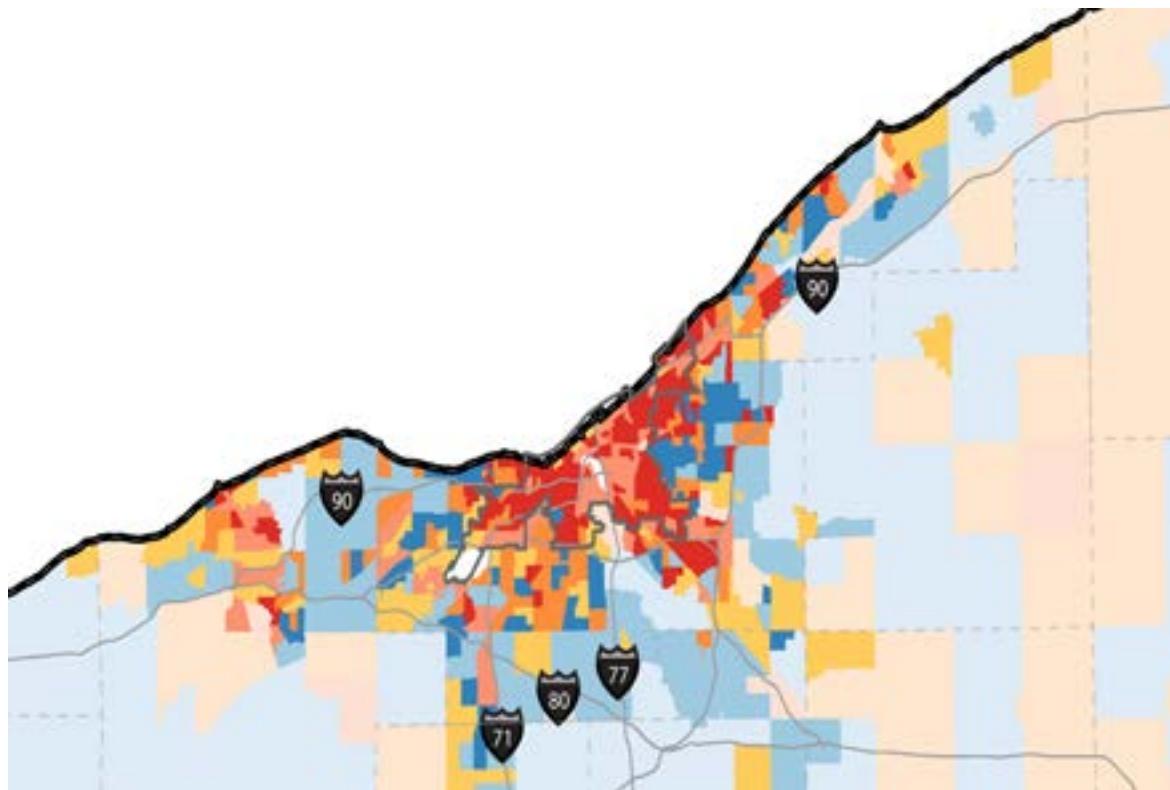
Map 2a Older Adult Vulnerability and Density - Akron & Canton



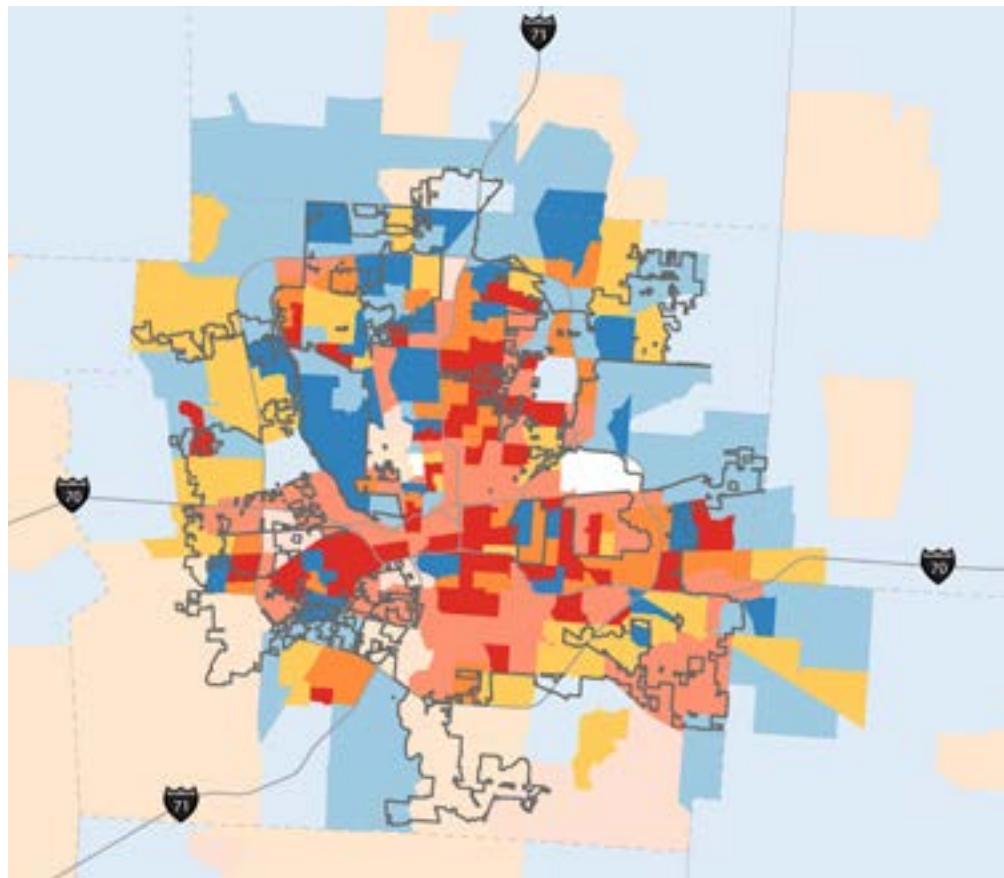
Map 2b Older Adult Vulnerability and Density - Cincinnati



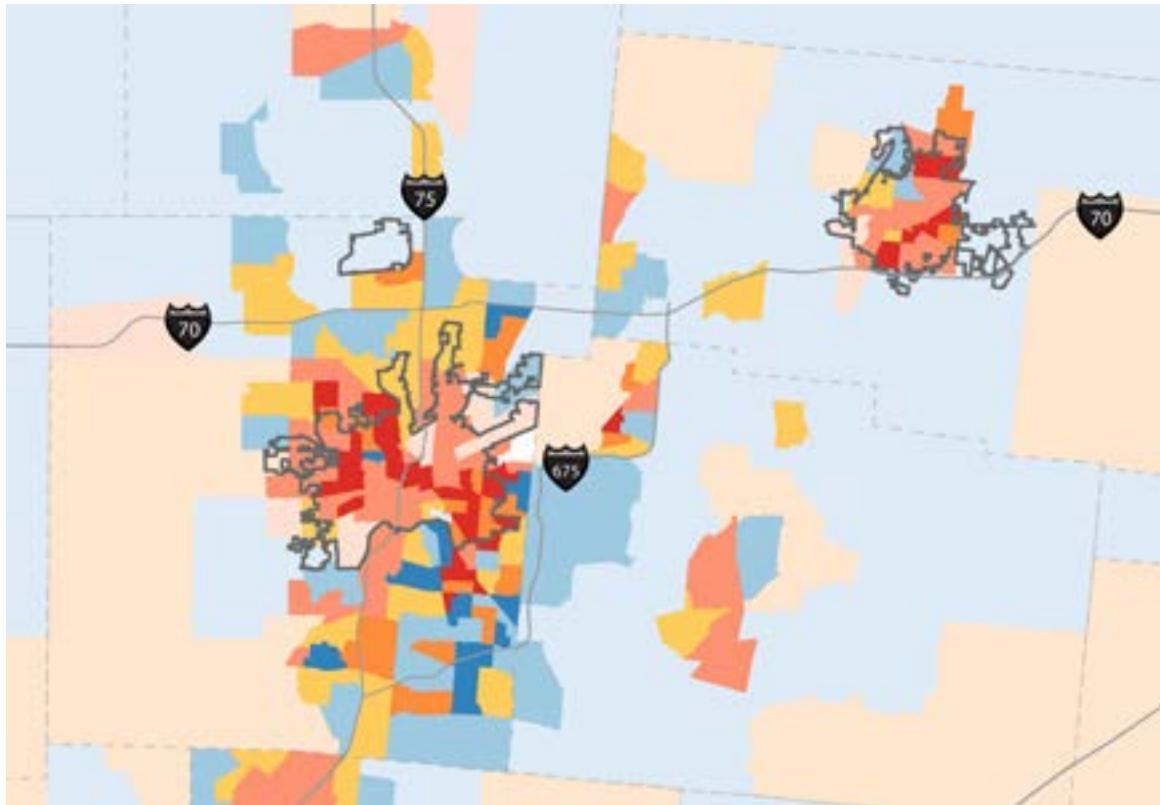
Map 2c Older Adult Vulnerability and Density - Cleveland



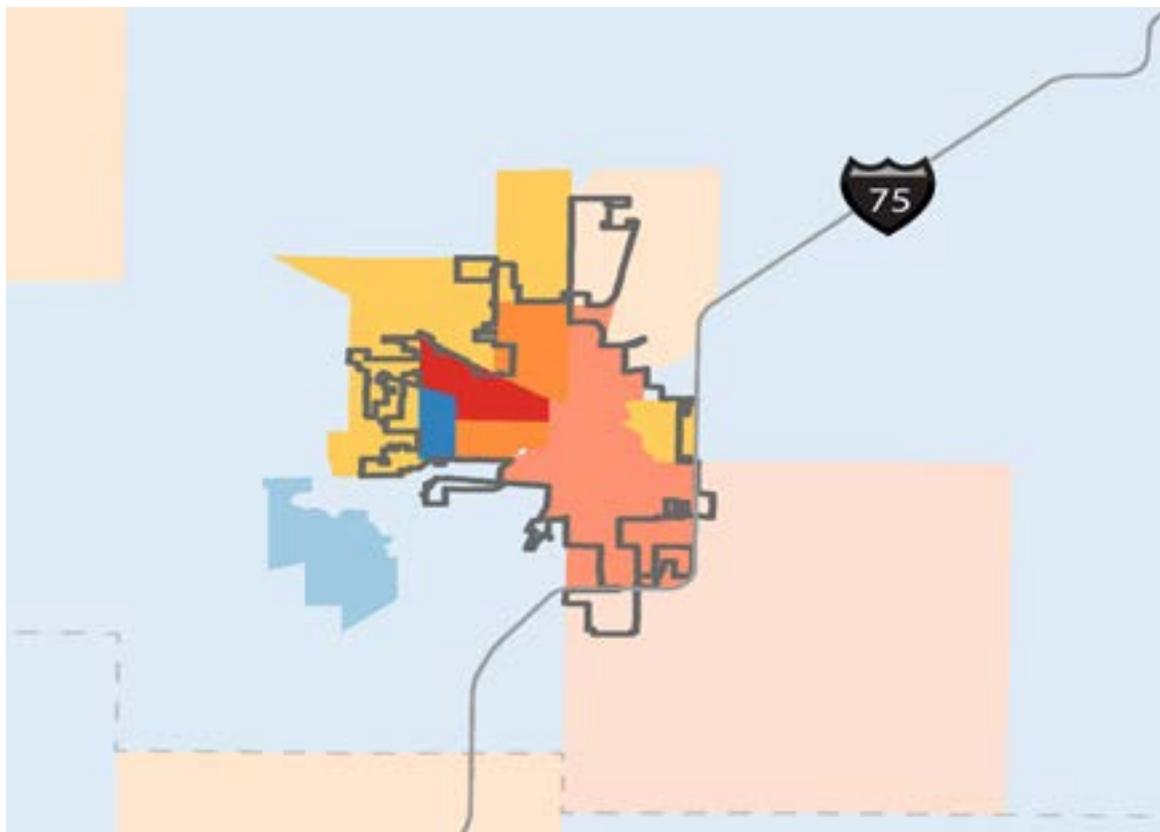
Map 2d Older Adult Vulnerability and Density - Columbus



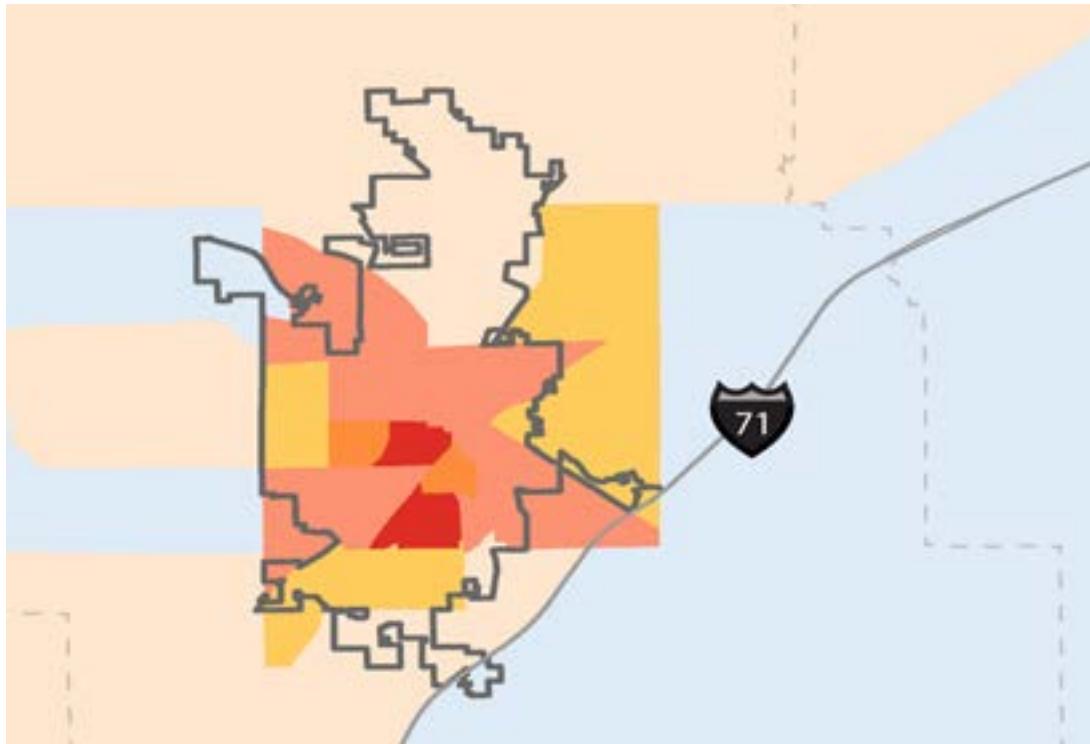
Map 2e Older Adult Vulnerability and Density - Dayton & Springfield



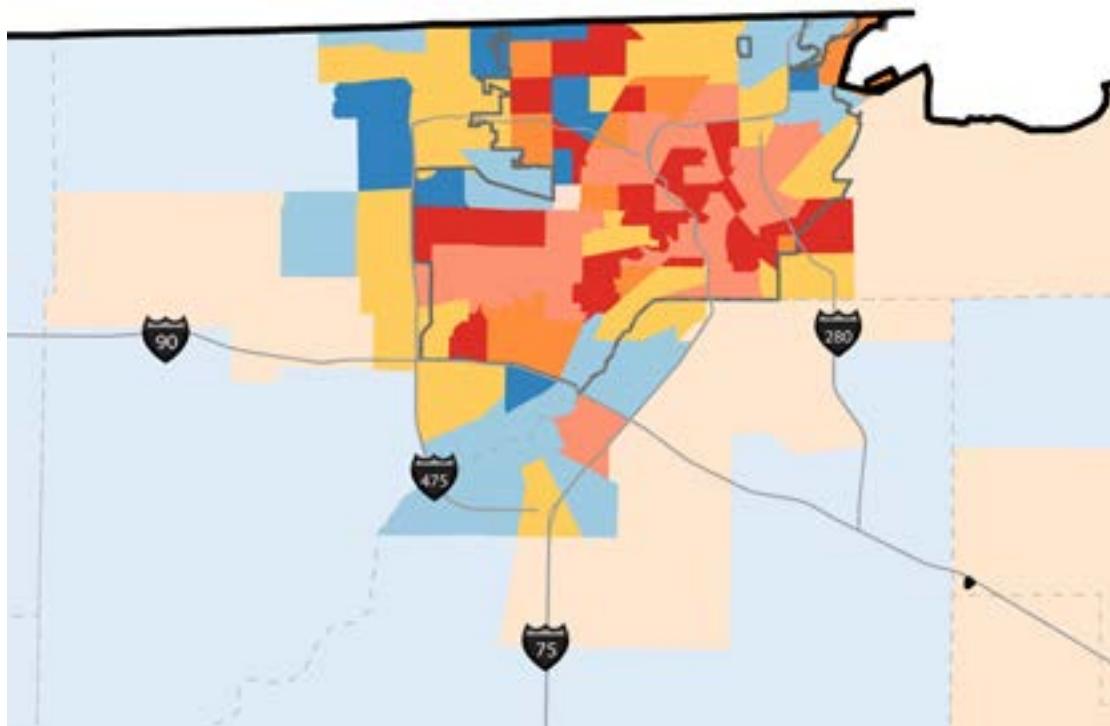
Map 2f Older Adult Vulnerability and Density - Lima



Map 2g Older Adult Vulnerability and Density - Mansfield



Map 2h Older Adult Vulnerability and Density - Toledo



Map 2i Older Adult Vulnerability and Density - Youngstown



Appendix D

Review of Literature Regarding Racial Disparities in Chronic Conditions

As people age, they are at a more significant risk of having chronic diseases.^{1,2} According to Centers for Disease Control and Prevention (CDC), chronic diseases are broadly defined as “conditions that last 1 year or more and require ongoing medical attention or limit activities of daily living or both.”³ What’s worse, multimorbidity, the coexistence of 2 or more chronic conditions, is increasingly widely prevalent in aging population.⁴ It is reported by the National Council of Aging that 80% of aging population 65 and older have at least one chronic condition, while 68% have two or more.⁵ The top 10 common chronic conditions in older adults include hypertension (high blood pressure), high cholesterol, arthritis, heart disease, diabetes, chronic kidney disease, heart failure, depression, Alzheimer’s disease, and chronic obstructive pulmonary disease.⁶ For somatic–mental multimorbidity, dyads that included depression and cancer, coronary artery disease, and chronic kidney diseases were more common among persons ≥ 70 years of age, followed by dementia and cognitive disorders which were the second most common mental health condition (after depression).⁷ Even though different conditions are identified between various national multimorbidity datasets, hypertension has the highest prevalence with other conditions such as arthritis, hyperlipidemia, and diabetes for people older than 65.⁸

1 Chronic Diseases and Cognitive Decline — A Public Health Issue. (2020, September 10)/ CDC. <https://www.cdc.gov/aging/publications/chronic-diseases-brief.html>

2 Goodman RA, Posner SF, Huang ES, Parekh AK, Koh HK. Defining and Measuring Chronic Conditions: Imperatives for Research, Policy, Program, and Practice. *Prev Chronic Dis* 2013;10:120239. DOI: <http://dx.doi.org/10.5888/pcd10.120239>.

3 About Chronic Diseases. (2021, April 28). CDC. <https://www.cdc.gov/chronicdisease/about/index.htm>

4 Salive M. E. (2013). Multimorbidity in older adults. *Epidemiologic reviews*, 35, 75–83. <https://doi.org/10.1093/epirev/mxs009>

5 The Top 10 Most Common Chronic Diseases. (2021, April 23). National Council of Aging. <https://www.ncoa.org/article/the-top-10-most-common-chronic-conditions-in-older-adults>

6 Ibid.

7 Bobo, W. V., Yawn, B. P., St Sauver, J. L., Grossardt, B. R., Boyd, C. M., & Rocca, W. A. (2016). Prevalence of Combined Somatic and Mental Health Multimorbidity: Patterns by Age, Sex, and Race/Ethnicity. *The journals of gerontology. Series A, Biological sciences and medical sciences*, 71(11), 1483–1491. <https://doi.org/10.1093/gerona/glw032>

8 Goodman, R. A., Ling, S. M., Briss, P. A., Parrish, R. G., Salive, M. E., & Finke, B. S. (2016). Multimorbidity Patterns in the United States: Implications for Research and Clinical Practice. *The journals of gerontology. Series A, Biological sciences and medical sciences*, 71(2), 215–220. <https://doi.org/10.1093/>

Significant racial disparity persist in aging population with chronic conditions and Medicaid services and provisions. People of color, especially African Americans, face higher risk of chronic diseases such as obesity, stroke, cancer, etc. and higher death rates related to chronic illnesses.^{9,10,11} Aggarwal et al. (2021) find that mortality rates of diabetes, hypertension, heart disease, and stroke have consistently been highest among Black adults living in rural parts of the United States over the last 2 decades.¹² Ellis et al. (2020) systematically review 114 articles regarding chronic diseases across multiple members of African American families and illustrates that depression (70.2%) is the most frequently examined chronic condition, followed by anxiety (23.7%), diabetes (22.8%), distress (21.1%), substance abuse (17.5%), coronary heart disease (16.7%), hypertension (16.7%), Alzheimer disease/dementia (15.8%), obesity (14.0%), HIV (12.3%) and cancer (12.3%).¹³ Several studies notice that black Americans are more likely to experience earlier and longer cumulative exposure to risk factors common

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9 The United States Can Reduce Socioeconomic Disparities By Focusing On Chronic Diseases. (August 17, 2017). Health Affairs Blog. DOI: 10.1377/hblog20170817.061561

10 Kent., J. (March 31, 2021). Chronic Disease Death Rates Continue to Reflect Racial Disparities. Retrieved from <https://healthitanalytics.com/news/chronic-disease-death-rates-continue-to-reflect-racial-disparities>

11 National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division; Board on Population Health and Public Health Practice; Committee on Community-Based Solutions to Promote Health Equity in the United States; Baciu A, Negussie Y, Geller A, et al., editors. Communities in Action: Pathways to Health Equity. Washington (DC): National Academies Press (US); 2017 Jan 11. 2, The State of Health Disparities in the United States. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK425844/>

12 Aggarwal, R., Chiu, N., Loccoh, E. C., Kazi, D. S., Yeh, R. W., & Wadhera, R. K. (2021). Rural-Urban Disparities: Diabetes, Hypertension, Heart Disease, and Stroke Mortality Among Black and White Adults, 1999-2018. *Journal of the American College of Cardiology*, 77(11), 1480–1481. <https://doi.org/10.1016/j.jacc.2021.01.032>

13 Ellis, K. R., Hecht, H. K., Young, T. L., Oh, S., Thomas, S., Hoggard, L. S., Ali, Z., Olawale, R., Cartرون, D., Corbie-Smith, G., & Eng, E. (2020). Chronic Disease Among African American Families: A Systematic Scoping Review. *Preventing chronic disease*, 17, E167. <https://doi.org/10.5888/pcd17.190431>

to multimorbidity and multiple chronic medical conditions (MCMC).^{14,15,16,17,18,19} A higher rate of the co-occurrence of mental and physical health conditions, such as depression and comorbid cardiovascular disease, mood/anxiety disorder and chronic physical conditions (e.g. hypertension, diabetes) was detected in African American.^{20,21,22,23} In addition, the access to Medicaid and other health insurance coverage and effects of health services are greatly different between racial groups.²⁴ Compared to their counterparts, African American were

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- 14 Quiñones, A. R., Liang, J., Bennett, J. M., Xu, X., & Ye, W. (2011). How does the trajectory of multimorbidity vary across Black, White, and Mexican Americans in middle and old age?. *The journals of gerontology. Series B, Psychological sciences and social sciences*, 66(6), 739–749. <https://doi.org/10.1093/geronb/gbr106>
- 15 14. Cabassa, L. J., Humensky, J., Druss, B., Lewis-Fernández, R., Gomes, A. P., Wang, S., & Blanco, C. (2013). Do race, ethnicity, and psychiatric diagnoses matter in the prevalence of multiple chronic medical conditions?. *Medical care*, 51(6), 540–547. <https://doi.org/10.1097/MLR.0b013e31828dbb19>
- 16 Rocca, W. A., Boyd, C. M., Grossardt, B. R., Bobo, W. V., Finney Rutten, L. J., Roger, V. L., Ebbert, J. O., Therneau, T. M., Yawn, B. P., & St Sauver, J. L. (2014). Prevalence of multimorbidity in a geographically defined American population: patterns by age, sex, and race/ethnicity. *Mayo Clinic proceedings*, 89(10), 1336–1349. <https://doi.org/10.1016/j.mayocp.2014.07.010>
- 17 St Sauver, J. L., Boyd, C. M., Grossardt, B. R., Bobo, W. V., Finney Rutten, L. J., Roger, V. L., Ebbert, J. O., Therneau, T. M., Yawn, B. P., & Rocca, W. A. (2015). Risk of developing multimorbidity across all ages in an historical cohort study: differences by sex and ethnicity. *BMJ open*, 5(2), e006413. <https://doi.org/10.1136/bmjopen-2014-006413>
- 18 Johnson-Lawrence, V., Zajacova, A., & Snead, R. (2017). Education, race/ethnicity, and multimorbidity among adults aged 30-64 in the National Health Interview Survey. *SSM - population health*, 3, 366–372. <https://doi.org/10.1016/j.ssmph.2017.03.007>
- 19 Quiñones, A. R., Botoseneanu, A., Markwardt, S., Nagel, C. L., Newsom, J. T., Dorr, D. A., & Allore, H. G. (2019). Racial/ethnic differences in multimorbidity development and chronic disease accumulation for middle-aged adults. *PloS one*, 14(6), e0218462. <https://doi.org/10.1371/journal.pone.0218462>
- 20 Lewis, T. T., Guo, H., Lunos, S., Mendes de Leon, C. F., Skarupski, K. A., Evans, D. A., & Everson-Rose, S. A. (2011). Depressive symptoms and cardiovascular mortality in older black and white adults: evidence for a differential association by race. *Circulation. Cardiovascular quality and outcomes*, 4(3), 293–299. <https://doi.org/10.1161/CIRCOUTCOMES.110.957548>
- 21 González, H. M., & Tarraf, W. (2013). Comorbid cardiovascular disease and major depression among ethnic and racial groups in the United States. *International psychogeriatrics*, 25(5), 833–841. <https://doi.org/10.1017/S1041610212002062>
- 22 Johnson-Lawrence, V., Griffith, D. M., & Watkins, D. C. (2013). The effects of race, ethnicity, and mood/anxiety disorders on the chronic physical health conditions of men from a national sample. *American journal of men's health*, 7(4 Suppl), 58S–67S. <https://doi.org/10.1177/1557988313484960>
- 23 Watkins, D. C., Assari, S., & Johnson-Lawrence, V. (2015). Race and Ethnic Group Differences in Comorbid Major Depressive Disorder, Generalized Anxiety Disorder, and Chronic Medical Conditions. *Journal of racial and ethnic health disparities*, 2(3), 385–394. <https://doi.org/10.1007/s40615-015-0085-z>
- 24 Gornick M.E. (2008). A Decade of Research on Disparities in Medicare Utilization: Lessons for the Health and Health Care of Vulnerable Men. *American Journal of Public Health* 98, S162_S168. https://doi.org/10.2105/AJPH.98.Supplement_1.S162

significantly less likely to receive preventive services, including influenza vaccine, colorectal and breast cancer screening.²⁵ Possible factors including systemic racial inequity, poverty, community environments, awareness of health, etc. are identified to explain racial disparity in aging population with chronic conditions.²⁶

In Ohio State, chronic disease is the leading cause of death and have higher rate of prevalence compared with the United States.²⁷ It is reported that 77.2 percent of adults 65 years and older had at least one chronic disease or condition and 43.7 percent had two or more chronic diseases or condition in 2017.²⁸ The most common chronic disease or condition among Ohio adults was arthritis (29.1 percent), followed by diabetes (11.3 percent) and current asthma (9.9 percent). In addition to physical chronic diseases, a large proportion of elder Ohioans suffer from mental diseases including depression, cognitive decline, dementia, Alzheimer's disease, etc.²⁹ While all Ohioans are a risk of having chronic diseases, rates of hypertension, diabetes, asthma, depression, are higher among blacks, along with higher consumption of cigarettes.^{30,31}

25 Chen, J. Y., Diamant, A., Pourat, N., & Kagawa-Singer, M. (2005). Racial/ethnic disparities in the use of preventive services among the elderly. *American journal of preventive medicine*, 29(5), 388–395. <https://doi.org/10.1016/j.amepre.2005.08.006>

26 Ellis, R. E. (2020, September 16). Minorities and Chronic Disease: Obstacles to Care. WebMD. <https://www.webmd.com/diabetes/features/minority-chronic-condition-burden>

27 The Impact of Chronic Disease in Ohio: 2015. Chronic Disease Epidemiology and Evaluation Section, Bureau of Health Promotion, Ohio Department of Health, 2015.

28 Ohio 2017 BRFSS Annual Report. Chronic Disease Epidemiology and Evaluation Section, Bureau of Health Promotion, Ohio Department of Health, 2017.

29 Cognitive Decline and Dementia in Ohio. Ohio Department of Health, October 2020.

30 Ohio 2017 BRFSS Annual Report. Chronic Disease Epidemiology and Evaluation Section, Bureau of Health Promotion, Ohio Department of Health, 2017.

31 Ohio's Plan to Prevent and Reduce Chronic Disease: 2014-2018. Ohio Department of Health.

Appendix E

Ten Chronic Conditions and Corresponding Diagnosis Codes

Ten Chronic Conditions	ICD-10CM Diagnosis Codes
Alzheimer's Disease	G30
Arthritis	M00; M05; M06; M13
Asthma	J45; J82.83
Cancer¹	Breast cancer: C50; D05; Z85.3; Z80.3 Prostate cancer: C61; D07.5; Z85.46; Z80.3 Colon cancer: C18; C19; C20; C7A.02; D01.0; Z85.038; Z80.0 Lung cancer: C34; C46.5; D02.2; Z85.118; Z80.1 Bladder cancer: C67; D09.0; Z85.118; Z80.1
Dementia	F01; F02; F03; G31; F05; G94; R41.81; R54
Depression	F32; F33; F31.3; F31.4; F31.5; F31; F43.21; F43.23
Diabetes	E08; E09; E10; E11; E13
Heart Disease	I05; I06; I07; I08; I09; I11; I20; I21; I22; I23; I24; I25; I26; I27; I28; I30; I31; I32; I33; I34; I35; I36; I37; I38; I39; I40; I41; I42; I43; I44; I45; I46; I47; I48; I49; I50; I51; I52; I5A
Hypertension	I10; I12; I13; I15
Substance Abuse Disorder	F10; F11; F12; F13; F14; F15; F16; F17; F18; F19

Table 4 Ten Chronic Conditions and Corresponding Diagnosis Codes

¹ Only codes of breast cancer, prostate cancer, colon cancer, lung cancer, and bladder cancer, which are the most common cancers in older adults (<https://www.webmd.com/healthy-aging/the-most-common-cancers-in-older-adults#1>)



Towards equitable investments for addressing challenges and needs of older African Americans in the State of Ohio

