

A Study in Contrasts: Why Life Expectancy Varies In Northern Virginia

A Report by the Center on Society and Health
Virginia Commonwealth University

Supported by the Northern Virginia
Health Foundation

Steven H. Woolf, MD, MPH

Derek A. Chapman, PhD

Jong Hyung Lee, MS

Lauren Kelley, MPH

Steven A. Cohen, DrPH, MPH



Center on Society and Health



Northern Virginia
Health Foundation

JUNE 2016

Introduction

Northern Virginia is among the healthiest places in the United States. Arlington County, Fairfax County, Loudoun County, Prince William County, and the cities they surround — the area of focus for this report—rank among the healthiest areas in the Commonwealth of Virginia, and in the United States (table 1). But a closer look at the region paints a more nuanced picture. The health of residents of Northern Virginia is not uniform. County or city averages do not describe how greatly health varies across neighborhoods. **Life expectancy at birth—the number of years an average newborn can expect to live—varies by as many as 13 years across Northern Virginia, and the same is true for other measures of health for children and adults in this area.**

Why Neighborhoods Matter

What explains the large inconsistencies in health across Northern Virginia? Why are babies born in some neighborhoods—separated by only two or three miles—facing shorter lifespans than newborns in other areas? Five factors that matter most are: health care, individual behaviors, socioeconomic circumstances, the environment, and public policies and spending.

Health Care and Individual Behaviors

Everyone knows that health is affected by health care, but did you know that the care we receive from doctors and hospitals accounts for only about 10 to 20 percent of health outcomes?¹ Far more important are our individual behaviors, such as whether we smoke or exercise. Our health habits account for about 30 to 40 percent of health outcomes.¹

But our ability to obtain good health care or maintain healthy habits are not always matters of personal choice. Even with the best intentions to lose weight or exercise, success often depends on factors outside our control, such as socioeconomic circumstances and the environment.

Socioeconomic Circumstances

In today's world and especially in Northern Virginia, people without a college education are at a disadvantage in finding good jobs and earning salaries to meet living expenses, let alone care for their health. Workers without a high school diploma fare even worse; their families often struggle to pay for housing, transportation, and child care.

Throughout the United States, tightening economic conditions have created pockets of poverty in suburbs that were

1. <http://www.county-healthrankings.org/sites/default/files/differentPerspectivesForAssessingWeightsToDetermineHealth.pdf>

once considered affluent, and Northern Virginia is no exception. People with small paychecks and multiple jobs find it difficult to stay healthy. Copayments and medication may cost too much. Cheap calorie-dense foods fit tight budgets better than expensive fresh produce. There is too little money for gym memberships and too little time for exercise. Economic pressures can incite stress, family turmoil, depression, substance abuse, and even violence. The stresses can affect anyone, but the economic pressures are greatest for people of color (e.g., African Americans and Hispanic Americans) and the many immigrants in the region.

The Environment

As the maps in this report show, place matters greatly to our health. It's not just the education or finances in our households but the conditions in our neighborhoods that shape our health. In Northern Virginia—a suburb designed for cars and not for walking or cycling to work or school—physical activity was not initially considered. Motorists sit immobile for long hours on congested highways. Northern Virginia has excellent bike paths and beautiful parks, but not everyone in the area can enjoy them. Children in low-income areas may lack access to a playground or even a sidewalk. It can be unsafe for parents to let children play outside. Fast food outlets can

Location	2012	2013	2014	2015	2016
Arlington County	2	3	3	1	3
Fairfax County	1	1	2	3	2
Loudoun County	3	2	1	4	1
Prince William County	11	10	8	11	9

Source: County Health Rankings, Robert Wood Johnson Foundation

Methods

This analysis, conducted by the Center on Society and Health at Virginia Commonwealth University, examined life expectancy at the census tract² level for each of four counties (Arlington, Fairfax, Loudoun, and Prince William) and for the cities in the region (Alexandria, Falls Church, Fairfax, Manassas, and Manassas Park). To accurately calculate life expectancy, the researchers pooled mortality data over 14 years (2000-2013), obtained from the Virginia Department of Health, and population estimates for five years (2004-2009), obtained from the U.S. Census Bureau's American Community Survey. The data in this report about demographics, income, and other socioeconomic variables are not the most recently available; this was intentional so as to align the socioeconomic data with the midpoint of the years for which the life expectancy estimates were derived. Most of the deaths were geocoded by the Virginia Department of Health based on year 2000 Census boundaries. For consistency, we applied year 2000 boundaries (rather than year 2010) for more recent deaths. Further details on the methods, including a summary of how life expectancy is calculated, are available in the appendix. The appendix also includes full-page maps that depict the range in life expectancy for the region, along with maps on race-ethnicity, education, and income. Individual maps for each city and county are available online at novahealthfdn.org.

2. We use census tracts in this report, which are generally smaller than zip codes, to "zoom in" on differences across neighborhoods separated by short distances. A census tract is a relatively small statistical subdivision of a county that is defined by the U.S. Census Bureau and updated before each decennial census.

outnumber supermarkets. In low-income communities where property taxes are low, social services are limited and local schools lack the sports facilities and turf fields that well-funded schools enjoy.

3. Pietila A. *Not in My Neighborhood: How Bigotry Shaped an American City*. Chicago: Ivan R. Dee, 2010.

People of color and the region's immigrants often feel socially isolated, and the experience of residential segregation and discrimination can independently affect health.

Public Policy and Spending

The above conditions did not come about by chance; they are the consequences of past and present public policy and spending decisions. For example, "redlining" decisions and housing covenants that began in the 1930s restricted home loans to African Americans and served to segregate people of color in certain areas, thereby setting off a cycle

of disinvestment by government and business and persistent poverty that gave rise to today's "bad neighborhoods."³ Today's elected officials and business leaders choose whether to perpetuate or break this cycle by deciding whether to bring economic development into low-income communities and by how they set county and city budgets for social services, Community Services Boards, and education. Businesses create job opportunities by choosing where to locate. Decisions by Metro and other transit agencies affect whether low-income residents can reach good jobs, doctors, and child care.

An Example

4. Arlington County, Profile 2013. <https://arlingtonva.s3.amazonaws.com/wp-content/uploads/sites/31/2014/03/Arlington-Profile-2013.pdf>

Arlington County is one of the nation's wealthiest counties. In 2009, the year for this analysis, median household income was \$93,806 in Arlington County, compared to \$51,425 for the United States. Arlington County boasts one of the most educated populations in the country.⁴ But even here, certain neighborhoods stand out for their disadvantages, where residents do not enjoy the wellbeing and economic vitality for which Northern Virginia is known. Some neighborhoods have suffered for generations from cycles of poverty perpetuated by policies of disinvestment. Their residents and their health have been affected by urban planning decisions, such as routing highways through neighborhoods to improve traffic

flow to help Federal workers commute more easily to distant suburbs, and the construction of high-end condominiums to attract well-paid government officials to live close to the urban core. Alongside such gentrification comes pockets of poverty, where the demographic profile of residents and the economic health of the neighborhood differ starkly from those of the county overall.

Consider Columbia Heights, a neighborhood in Arlington County. In census tract 1022, situated just north of the intersection of Columbia Pike and Carlin Springs Road and northeast of Bailey's Crossroads (figure 1), residents are largely Hispanic



Figure 1. Census Tract 1022 in Columbia Heights, Arlington County

(67.5%). Non-Hispanic whites represent only 15.1% of this census tract. Spanish is spoken in 51.1% of households. Many residents have South American (20.3%) or Sub-Saharan African (9.8%) ancestry, more than in nearly any other area of the nation. Fully 13.5% of residents (age 5 and older) speak African languages.⁵

In this census tract only four miles from the Pentagon, the poverty rate is 23.9%. Median household income is \$49,743. A stunning 42.5% of children and teens below age 18 live in poverty. They are residents of a very highly educated county, yet only 65.8% of adults in this census tract have graduated from high school. Living in a county with an unemployment rate of 3.3%, 8.6% of residents in this census tract are unemployed. Those who are employed are more likely to work in sales/service (30.2%)

and manufacturing/labor (26.5%) than higher-wage fields.⁵ Almost one household out of every four (23.8%) is headed by a single female. The housing stock is generally older, built between 1940 and 1969. The neighborhood is dominated by big apartment buildings and high-rise complexes, making it more densely populated than 95.7% of neighborhoods in the U.S. (22,623 people per square mile⁵). Home ownership is beyond the means of many residents; 13.2% of homes are vacant.

Neighborhoods like these exist across Northern Virginia. There are census tracts in Alexandria where more than 20% of homes are vacant. Throughout the United States, suburbs are witnessing a resurgence in poverty, brought about by shifting demographics in an economy that has not favored the middle class, and a delayed recovery from the 2007 recession.⁶

5. Neighborhood Scout. Arlington, VA (Columbia Heights/Parkglenn) (website). Accessed 5-11-16 at <http://www.neighborhoodscout.com/va/arlington/columbia-heights/>

6. Kneebone E., Berube A. *Confronting Suburban Poverty in America*. Washington, DC: Brookings Institution, 2014.

The Effect On Health

7. Evans BF, Zimmerman E, Woolf SH, Haley AD. *Social Determinants of Health and Crime in Post-Katrina Orleans Parish*. Virginia Commonwealth University Center on Human Needs, 2012.

The economic and social marginalization of the people and neighborhoods in our area have great implications for the health of all Northern Virginia residents and their children. Mirroring the growing income inequality in the region, health is not shared equally across neighborhoods. The maps at the

end of this report (see appendix) depict stark differences in the region's counties and cities. Although life expectancy for the overall region is generally good (84 years)—much higher than in the core of many U.S. cities, where life expectancy often falls below 70 years⁷—life expectancy is not favorable for everyone.

The bottom line? Our children's health depends on our address. Babies born in one part of Northern Virginia experience shorter lives than those born a short distance away.

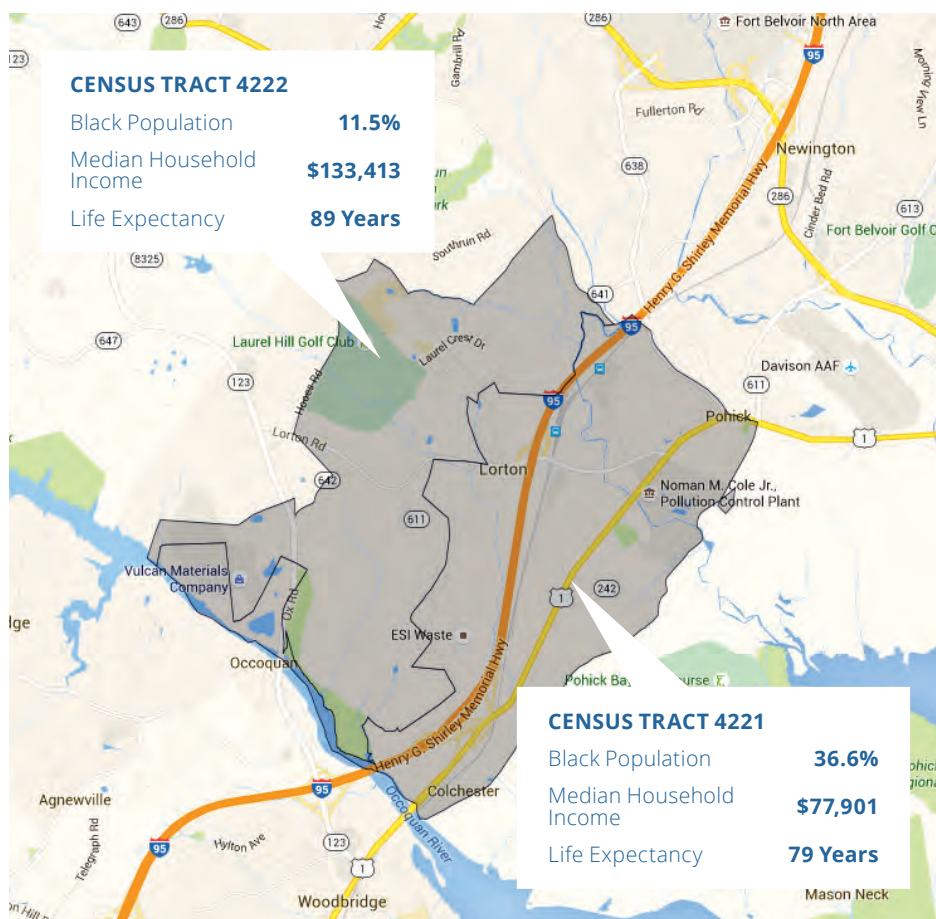


Figure 2. Western Lorton (census tract 4222) and Eastern Lorton (census tract 4221) in Fairfax County, VA

Source: U.S. Census Bureau; American Community Survey, 2009 American Community Survey 5-Year Estimates, generated using American FactFinder; <<http://factfinder2.census.gov>>.

Demographics and family economics matter

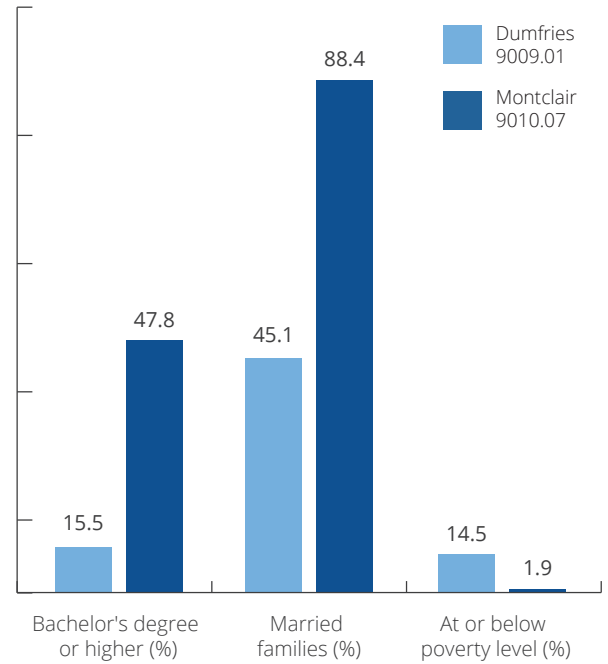
Motorists on northbound Interstate 95 who enter Fairfax County from Prince William County encounter a 10-year gap in life expectancy at their first exit. Babies born a few miles off the highway, in census tract 4222 in western Lorton, can expect to live an average of 89 years. Babies born closer to the highway, in census tract 4221 in eastern Lorton, can expect to live only 79 years (figure 2). Babies born in Manassas can expect even 13 fewer years; their life expectancy is 76 years. These large differences in life chances mirror geographic disparities in socioeconomic status and often reflect the presence of minorities with poorer access to economic and health care opportunities. In census tract 4222 in western Lorton, median household income is \$133,413 per year and blacks account for only 11.5% of the population, whereas blacks represent 36.6% of the population in census tract 4221 in eastern Lorton and median household income is only \$77,901 per year.

Figure 3. Dumfries (census tract 9009.01) and Montclair (census tract 9010.07) in Prince William County

Source: U.S. Census Bureau; American Community Survey, 2009 American Community Survey 5-Year Estimates, generated using American FactFinder; <http://factfinder2.census.gov>.



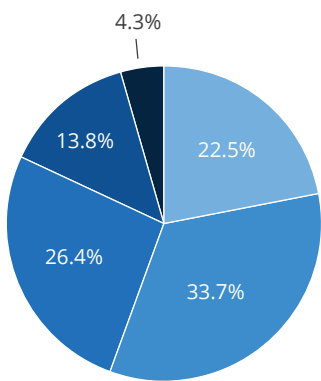
DEMOGRAPHIC CHARACTERISTICS



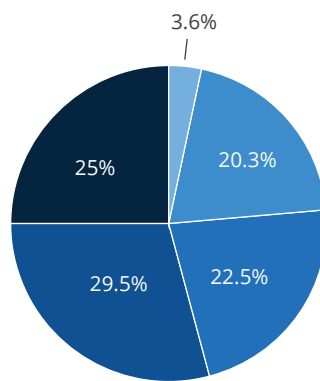
LIFE EXPECTANCY



EDUCATIONAL ATTAINMENT



Dumfries 9009.01



Montclair 9010.07

- Less than high school
- High school
- Some college, no degree
- Associate or bachelor's degree
- Graduate or professional degree

Not surprisingly, these differences extend well beyond differences in income.

Poverty rates differ, as do the percentage of adults with a college education, but the differences extend to family structure and the ability of parents to launch their children on a path for success. In Prince William County, life expectancy is 77 years in census tract 9009.01 (Dumfries) but seven years longer for babies born on the west side of Interstate 95 in census tract 9010.07 (Montclair). As shown in figure 3, the percentage of families headed by married couples is almost twice as high in the healthier census tract, and the percentage of adults with a Bachelor's degree or higher education is more than three times as high. A variety of economic factors and societal trends have contributed to the growth in single-parent households,⁸ but the economic pressures to make ends meet are enormous, especially amid the high cost of living in Northern Virginia, and more middle class

families are falling into poverty. In census tract 9009.01, where life expectancy is seven years shorter, the poverty rate is seven times higher than in tract 9010.07.

Immigration matters

Recent decades have witnessed a dramatic influx of immigrants that has changed the demographic profile of Northern Virginia.⁹ Many areas with concentrated immigrant populations are facing difficult economic challenges and poorer health, sometimes only blocks away from more established, affluent neighborhoods.

Consider the contrasts that exist on opposite sides of Exit 4 on Interstate 395 (Shirley Highway) in Alexandria (figure 4). Life expectancy in two census tracts (2002.02 and 2001.05) differs by five years (84 versus 79 years). In the healthier census tract in Seminary Hill, south of Exit 4, households earn an average of \$186,705 per year. Only 9.6% of residents are foreign-born, and even fewer (4.5%) are black. To the north of Exit 4 is census tract 2001.05 in Beauregard, where the median household income is only a quarter that of the other tract (\$44,624) and the percentage of adults with no education beyond high school is more than five times higher (28.4%). Here, more than half (51.2%) of residents are foreign-born, and the black population is almost 12 times higher (52.8%). Paradoxically, some immigrant neighborhoods enjoy relatively good health despite these higher risks (see box to the left).

9. Bello M, Overberg P. Growing pains: multicultural explosion rattles residents. Rapid growth in ethnic mix outside D.C. is a trend that's sweeping the country. *USA Today*, 2014.

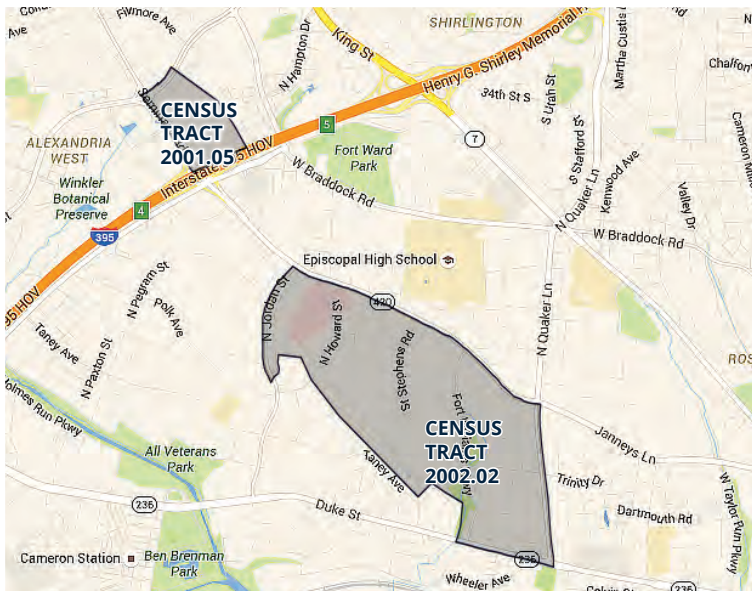
8. Cherlin AJ. *Labor's Love Lost: The Rise and Fall of the Working-Class Family in America*. New York: Russell Sage, 2014.

The Immigrant Paradox

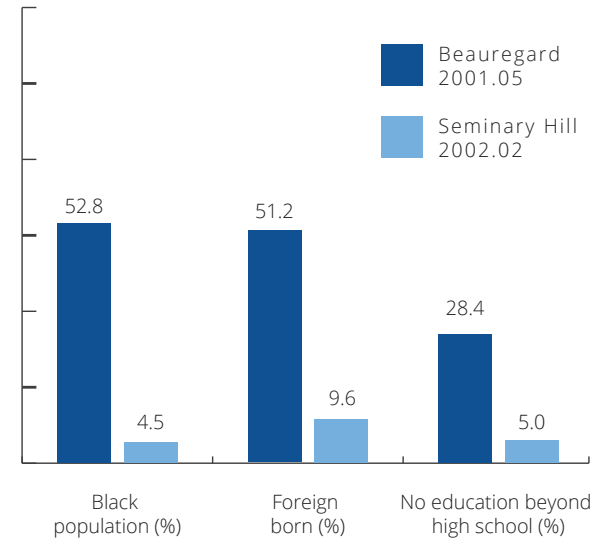
Recent immigrants (e.g., those having entered the country in the last 10 years) often enjoy better health than second- and third-generation immigrants and people born in the United States. There are a variety of reasons, including the possibility that new immigrants may not yet have adopted unhealthy American habits. In what is described as the Hispanic Paradox, Hispanic and Latino Americans often have poor educational status and lower incomes but higher life expectancy and lower rates of certain diseases than non-Hispanic persons. This phenomenon also occurs in Northern Virginia. For example, Columbia Heights census tract 1022, featured in figure 1, is one of the poorest areas of Arlington County but has one of the highest life expectancies in the county (83 years). More than two out of three (67.5%) residents are Hispanic, and 45.8% are foreign-born.

Figure 4. Seminary Hill (census tract 2002.02) and Beauregard (census tract 2001.05) in Alexandria

Source: U.S. Census Bureau; American Community Survey, 2009 American Community Survey 5-Year Estimates, generated using American FactFinder; <<http://factfinder2.census.gov>>.



DEMOGRAPHIC CHARACTERISTICS



LIFE EXPECTANCY



MEDIAN HOUSEHOLD INCOME



Place matters

A growing body of research shows that place matters greatly to our health. Local context helps explain why babies born just a few miles apart can face vastly different chances of living a long and healthy life. In a pattern seen across America—in big cities, small towns, and rural areas—health varies because of conditions in our neighborhoods:

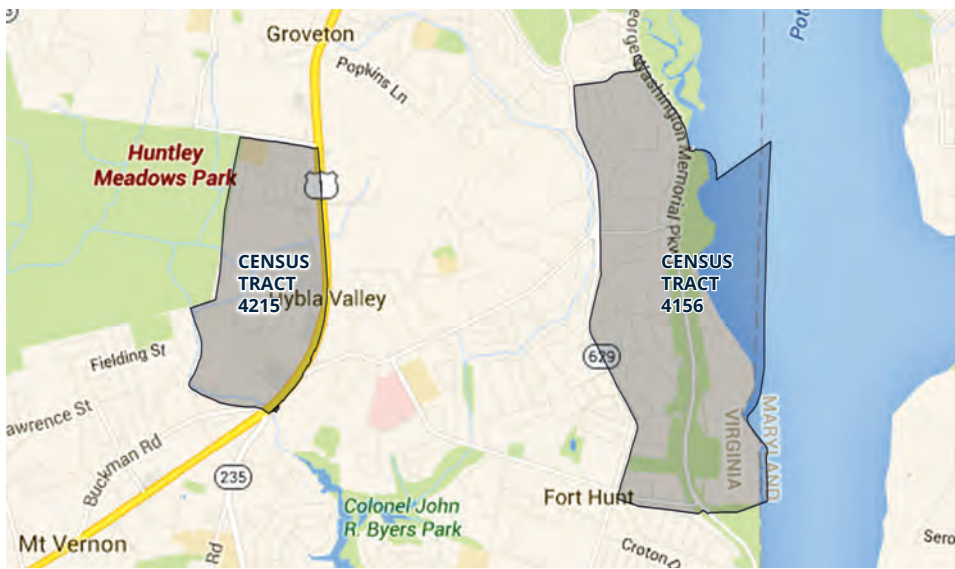
- **Education and income** are directly linked to health; communities with weak tax bases cannot support high-quality

schools and jobs are often scarce in neighborhoods with struggling economies.

- **Unsafe or unhealthy housing** exposes residents to allergens and other hazards like overcrowding.
- **Stores and restaurants selling unhealthy food** may outnumber markets with fresh produce or restaurants with nutritious food.
- **Opportunities for residents to exercise, walk, or cycle** may be limited and some neighborhoods are unsafe for children to play outside.

- **Proximity to highways, factories, or other sources of toxic agents** expose residents to pollutants.
- **Access to primary care doctors and good hospitals** may be limited.
- **Unreliable or expensive public transit** can isolate residents from good jobs, health and child care, and social services.
- **Residential segregation and features that isolate communities** (e.g., highways) can limit social cohesion, stifle economic growth, and perpetuate cycles of poverty.

Figure 5. Hybla Valley (census tract 4215) and Fort Hunt (census tract 4156) in Fairfax County



Census Tract Number		4215	4156
Life Expectancy (years)		78	84
CHARACTERISTICS OF PERSONS			
Race / ethnicity	White (%)	18.2	95.7
	Black (%)	24.3	0
	Hispanic (%)	46.1	1.1
Immigration status	Foreign born (%)	44.2	10.7
	Citizenship since 2000 (%)	39.2	27.1
Education	No more than high school (%)	26.6	5.8
	High school or higher (%)	70.7	97
	Bachelors' degree or higher (%)	22.1	79.4
CHARACTERISTICS OF HOUSEHOLDS			
Heads of household	Married couple (%)	70.6	95.1
	Female-headed household (%)	24.2	3.7
Economic status	Median household income (\$)	45,572	163,750
	Below poverty level (%)	18.6	0
	Below poverty level, under age 18 (%)	26	0
CHARACTERISTICS OF NEIGHBORHOODS			
Local housing	Median home value (\$)	238,200	796,200
	Vacant homes (%)	5.8	0.9
Crime	Total arrests (Apr 1, 2015 - Apr 1, 2016)	520	35
	Assaults	97	1
	Sex offenses	9	1
	Robbery, burglary, larceny	315	9

Source: U.S. Census Bureau; American Community Survey, 2009 American Community Survey 5-Year Estimates, generated using American FactFinder; <<http://factfinder2.census.gov>>. Fairfax County Police (<http://www.fairfaxcounty.gov/policeevents/>)

In Northern Virginia, neighborhoods with poor health tend to be places with acute social needs. These are places where policy and smart urban planning can make a difference, where elected officials, community leaders, businesses, and residents have the chance to improve not only health but overall wellbeing by improving access to good schools, desirable jobs, affordable housing, transportation, green space, child and health care, and opportunities for social mobility so that parents can prepare their children for a better life.

Residents of depressed areas need not travel far in Northern Virginia to find places that have it all. For example, places like the Williamsburg Village area of McLean (census tract 4709), which boasts a life expectancy of 87 years, is a affluent town with overabundant social and economic resources.

Figure 5 shows how scarce such resources can be in places like the Hybla Valley area of Fairfax County. Residents of census tract 4215, west of Route 1 (Richmond Highway), include more people of color, immigrants, single parents, and adults who lack education and income than do those living only two miles away in census tract 4156 in the Arcturus neighborhood of Fort Hunt, where waterfront homes look out on the Potomac River and the median housing value is \$796,200. These two census tracts vary not only in the socioeconomic status of residents and their households

but also in the environmental features of their neighborhoods, which can affect their health. For example, census tract 4215 in Hybla Valley lacks access to healthy foods.¹⁰ Neighborhood crime and violence affect the physical and emotional health of residents, especially children. Research shows that the trauma of chronic exposure to violence affects children's brain development and physiology as well as their likelihood of

adopting risky adolescent behaviors to cope with stress (e.g., smoking, alcohol and drug use, sexual activity) and of developing diabetes, heart disease, and other ailments later in life.¹¹ Children in low-income communities like this one have greater exposure to violent crime. Figure 5 shows that arrests for assaults differed nearly 100-fold across census tracts 4215 and 4156 between April 2015 and 2016.

10. Defined by the U.S. Department of Agriculture as a census tract in which at least 500 people or 33% of the population live at least one-half of a mile from a supermarket, supercenter or large grocery store. <http://www.ers.usda.gov/data-products/food-environment-atlas/go-to-the-atlas.aspx>

The gap in life expectancy and other health outcomes in Northern Virginia, and elsewhere in the country, is only partly solved by wellness initiatives such as improving neighborhood resources for healthy eating and physical activity (such as access to fresh produce and pedestrian walkways) and tobacco control policies that discourage smoking. These efforts are essential, but real progress in addressing health inequities requires attention to the economic and social wellbeing of residents and their communities. Meaningful change to the statistics in this report requires policies to improve early childhood education, enhance educational outcomes in secondary school, and make upward mobility (such as a post-secondary education) more accessible and affordable across social classes. Education and economic policies are health policies. Health is shaped by job training and other solutions to address unemployment

and fiscal instability for the area's families and by ensuring adequate mental health resources to help distressed families cope with stress, depression, and drug (e.g., opioid) addiction. Health is shaped by environmental policy and transportation infrastructure, access to affordable housing, land use and zoning decisions, and resources for the region's growing immigrant population.

None of these issues are new topics in Northern Virginia. Elected officials campaign on proposed solutions, and our local governments and businesses regularly debate strategies and budgets to address social and economic needs, transportation policy, and support for schools. The message conveyed in this report and depicted on these maps is that local decisions about social and economic policy and urban planning affect not only our pocketbooks, property values, and commuting time but also how long we live, how long our children

The Policy Implications

11. Felitti VJ, Anda RF, Nordenberg D, Williamson DF, Spitz AM, Edwards V, Koss MP, Marks JS. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: the Adverse Childhood Experiences (ACE) study. *American Journal of Preventive Medicine* 1998;14:245-58.

will live, our health and quality of life, and what employers and government must pay for health care.

These policies tend to be focused on in silos by local governments and interest groups, but recognition is growing that meaningful change requires coordinated solutions across sectors and that a variety of stakeholders can share in the return on investment. The economic implications of poor health are a good example. The diseases that are driving up our health care costs are caused by the conditions discussed in this report. And escalating health care costs are a major drain on our economy—driving up entitlement spending by the Federal government, forcing states to slash spending on education and other sectors to offset Medicaid costs, and generating enormous costs for employers, corporations, and their shareholders.¹²

This report focuses on life expectancy, but lifespan is only one measure of health; we all want to live long lives but we also want to do so in *good health*, free of ailments and disability. Life expectancy is used here as a proxy for other health measures because what shapes life expectancy tends to also shape our risk of diseases, such as heart disease and diabetes; the health of infants, children, and teens; and even our risk of fatal injuries, from car accidents to homicides. Across the spectrum

of health, the wellbeing of everyone in Northern Virginia depends on the policy decisions we make, especially those affecting the neighborhoods of greatest need identified in this report.

We live in a time of growing unrest about social and economic inequality.¹³ There is greater concern about the gaps in opportunity available to people of color and the poor, and the stark reality that the American dream is inaccessible to some Americans. The maps in this report show that these problems exist in our own back yard. A different future awaits children born blocks apart in Northern Virginia. Metro stops and interstate exits separate the haves and the have nots of our region. The pockets of poor health and economic marginalization in our midst are a threat not only to social justice but to the economic vitality of the region.

12. Johnson T. *Healthcare Costs and U.S. Competitiveness*. New York: Council on Foreign Relations, 2012.

13. Piketty T. *The Economics of Inequality*. Paris: Belknap Press, 2015.

Appendix

Methods

Data Sources

Virginia Department of Health (VDH) mortality data for resident deaths occurring between January 1, 2000 and December 31, 2013 were geocoded based on the decedent's residence, and provided by the VDH Division of Policy and Evaluation, Office of Family Health Services. Fourteen years of deaths were used in order to minimize the number of tracts for which there were insufficient data to compute life expectancy.

U.S. Census Bureau population data (SF1, 100% data) from 2000 and 2010 were generated using American FactFinder (<http://factfinder2.census.gov>).

This project analyzed and reported all census tract data based on the 2000 vintage tract boundaries. Population estimates and death counts from newly created tracts in the 2010 census were converted back to their original tract boundary in the 2000 census (see

<https://www.census.gov/geo/maps-data/data/relationship.html> for the crosswalk file). This conversion retroactively to year 2000 census tract boundaries was necessary because some mortality data were coded using 2000 boundaries, while others were coded using 2010 boundaries. Data privacy concerns precluded our access to street addresses to geocode the data consistently, and we therefore used year 2000 boundaries for consistency.

Life Expectancy Methodology

Life expectancy was calculated by census tract for Alexandria City, Arlington County, Fairfax City, Fairfax County, Falls Church City, Loudoun County, Manassas City, Manassas Park City, and Prince William County. Population data were calculated using a weighted average of 2000 and 2010 data obtained from the U.S. Census Bureau. The most recently available years (2000 to 2013) of geocoded mortality data from VDH were aggregated into 19 age groups (see list to the right) by decedent's residential census tract. The average number of deaths across the 14 years was computed in order to match the single year of population data (weighted average of 2000 and 2010) used. Death counts

and population data were then entered into abridged life tables using the Chiang methodology.¹⁴ The death and population counts for age groups in a census tract with zero deaths were replaced with the corresponding death and population counts for the locality that contained that census tract. The following tracts were excluded from the analysis and marked as "insufficient data": census tracts with ten or more missing age categories; small population tracts (less than 5,000 people in either 2000 or 2010) having greater than 40% population change between 2000 and 2010; or tracts with greater than 40% population growth living in group quarters (e.g., nursing home, college dormitory, prison, etc.)

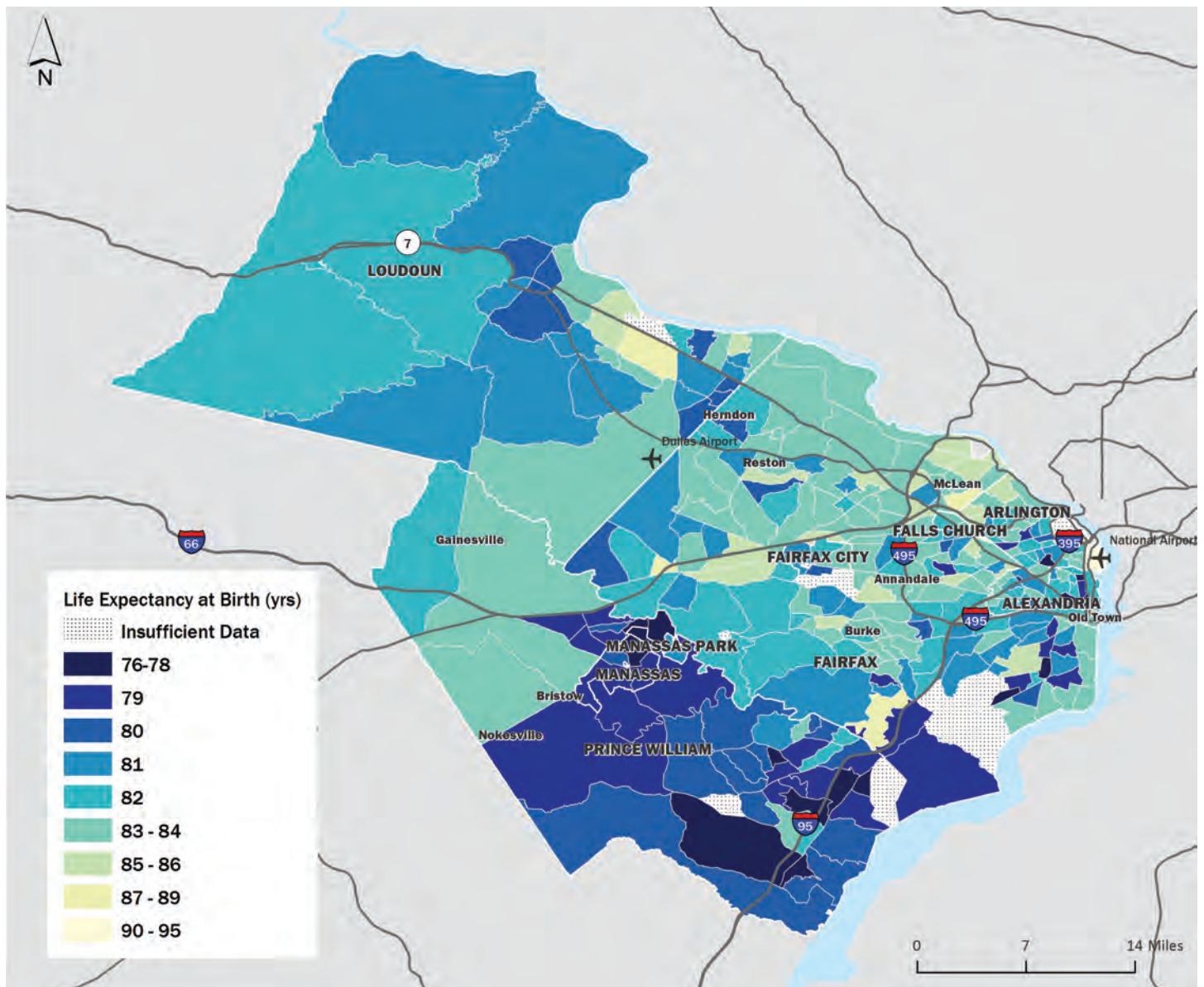
Life table age groups:

Less than 1 year
1 to 4 years
5 to 9 years
10 to 14 years
15 to 19 years
20 to 24 years
25 to 29 years
30 to 34 years
35 to 39 years
40 to 44 years
45 to 49 years
50 to 54 years
55 to 59 years
60 to 64 years
65 to 69 years
70 to 74 years
75 to 79 years
80 to 84 years
85 years and older

14. Chiang, CL. *The Life Table and Its Applications*. Malabar, Florida: Robert E. Krieger Publishing Company, 1984.

Appendix Maps

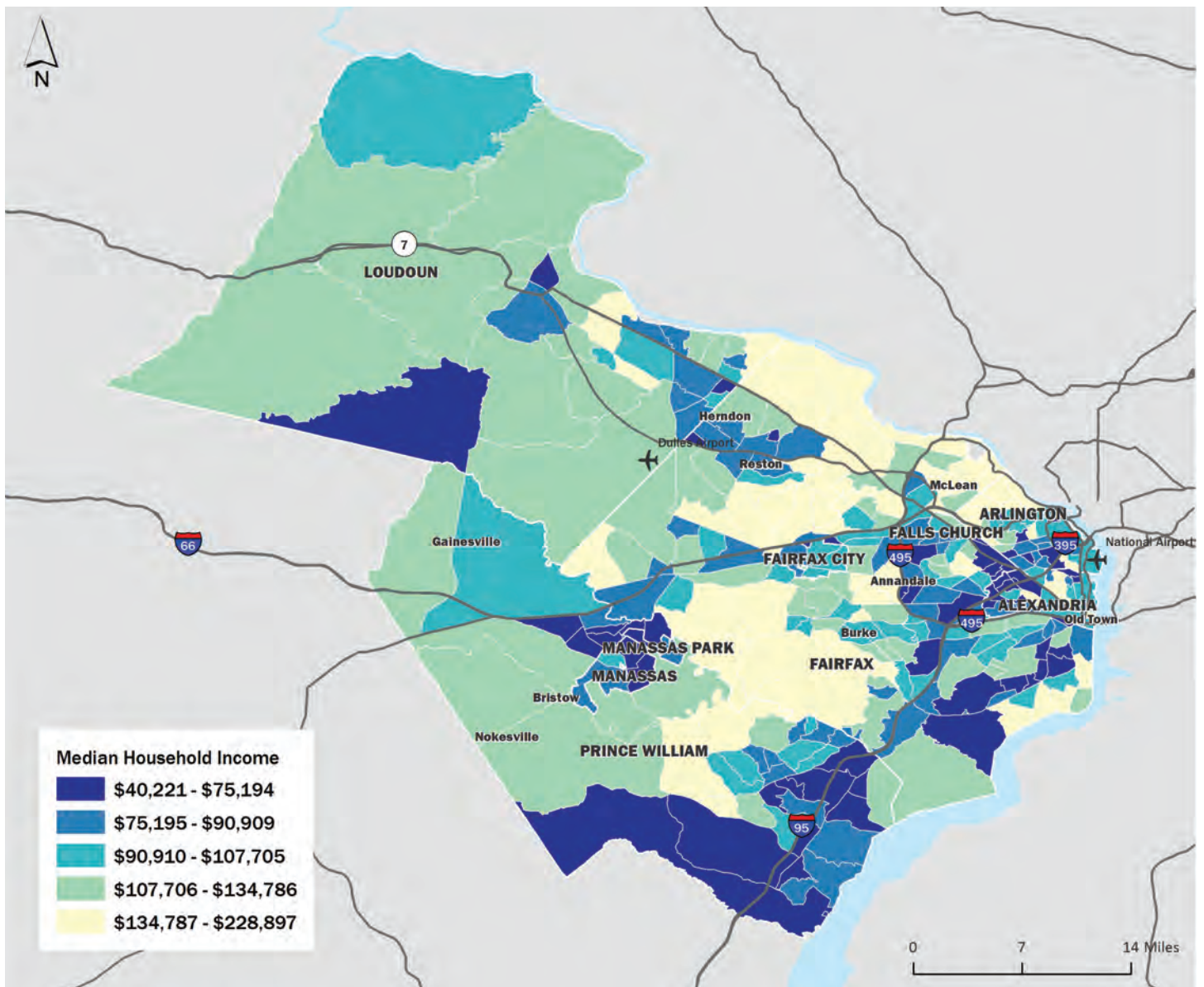
Life Expectancy at Birth (years)



Appendix

Maps

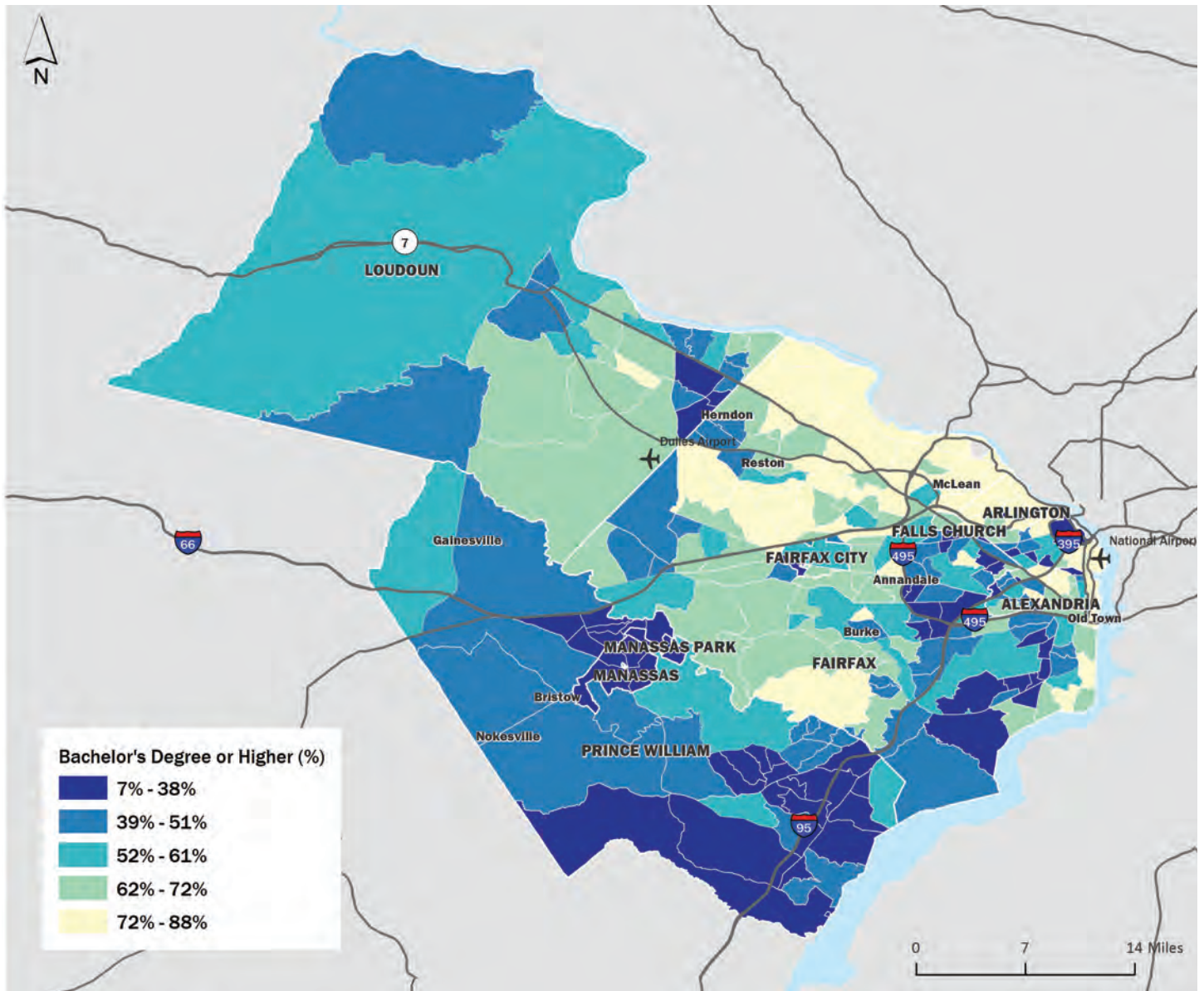
Median Household Income



Appendix

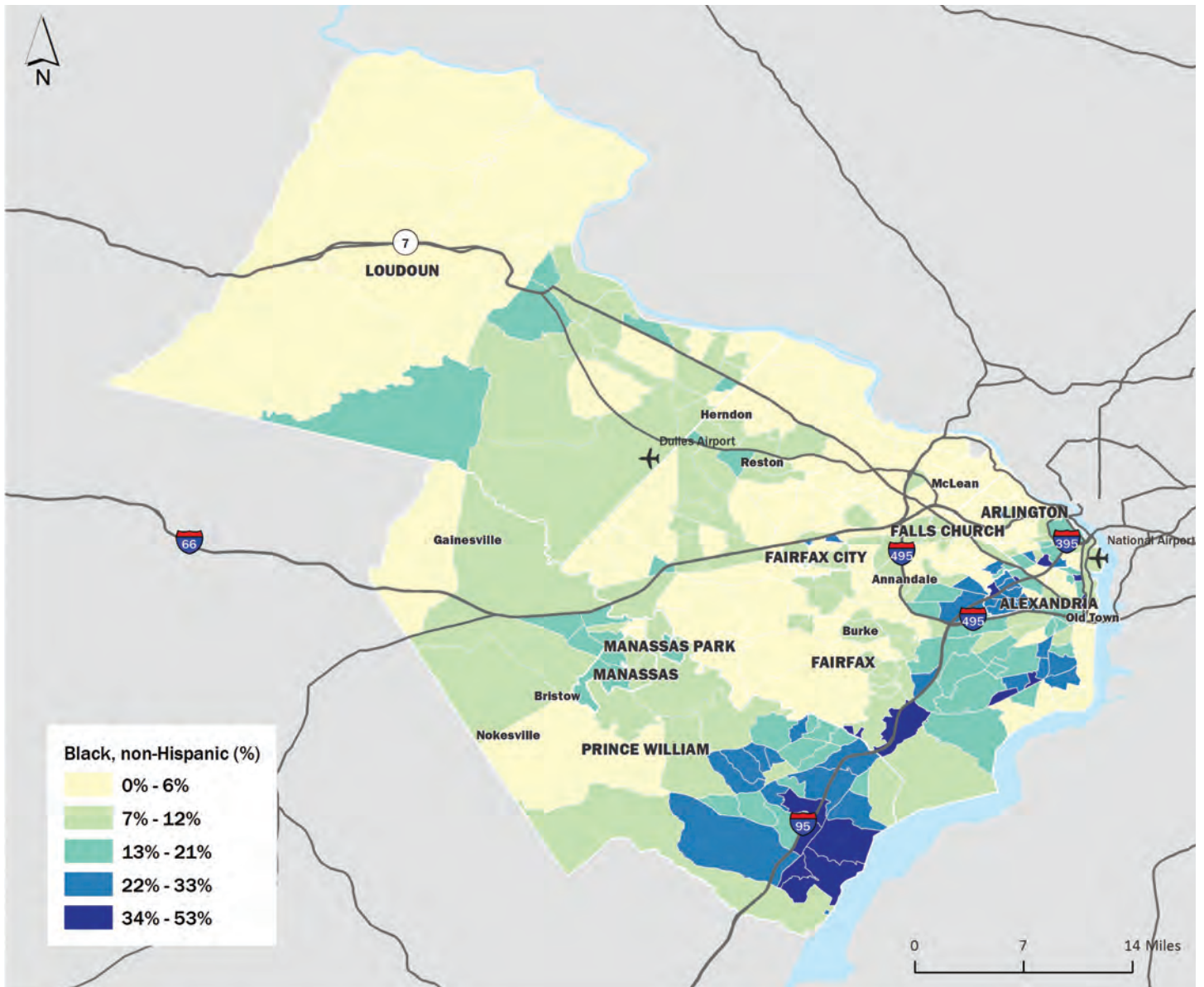
Maps

Population with Bachelor's Degree or Higher (%)



Appendix Maps

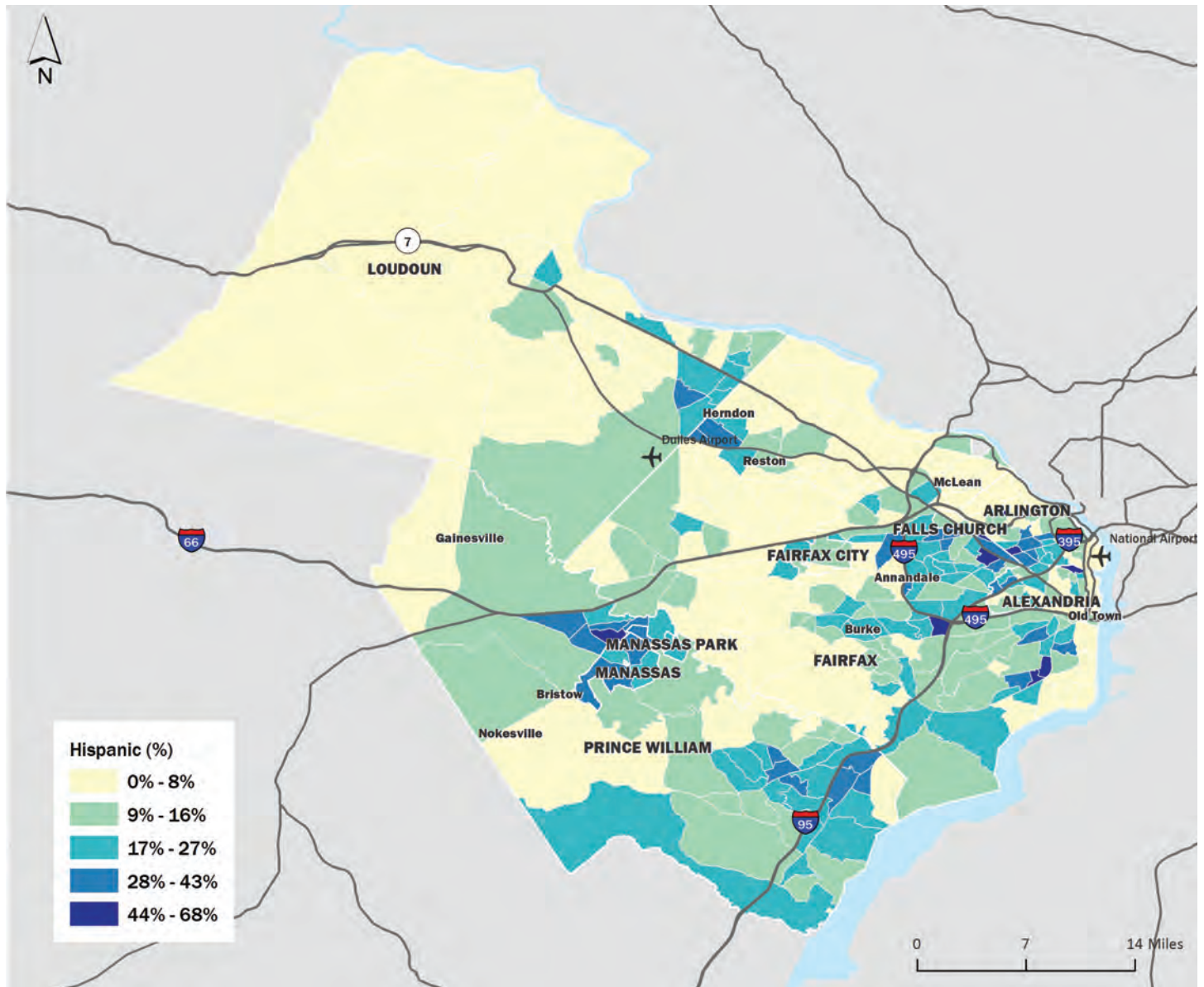
Black, non-Hispanic Population (%)



Appendix

Maps

Hispanic Population (%)



Produced by The Center on Society and Health
with the support of The Northern Virginia Health Foundation