Introduction to Sentara Lake Ridge Ambulatory Surgery Center
Community Health Needs Assessment

Improving Healthcare in our community is a core activity of Lake Ridge Surgery Center. However, we are resource constrained and don't have the expertise to address all the needs of the community. As an outpatient surgery center we do not deliver primary care but do work closely with our medical staff of surgeons, anesthesia and our partner Sentara to help our patients reach their full potential by providing timely, effective, coordinated healthcare.

Because our hospital partner, Sentara leads the planning effort for our community related to needs assessment, we have collaborated with them in preparing our community health assessment based on data collected and the attached 2013 Sentara Northern Virginia Medical Center Community Health Needs Assessment. The assessment is used as our foundation for the implementation strategy to address the priority needs of our surgery patients. This provides us with an overview of the health status of the residents in our community. It also provides us with information about health related problems that may impact our decision making process in evaluating which patients are appropriate for outpatient procedures at our ambulatory surgery center as well as which co-morbidities our selected patients are likely to have.

Because we deliver outpatient surgery care, we focus on ASA classifications related to factors such as obesity, hypertension, chronic pain, arthritis, cardiac history, diabetes, drug and alcohol abuse, smoking and other key factors. In addition a review of the population we serve includes age, educational level, and racial and ethnic composition which may affect their health status.

Our patient selection begins at our physician offices and also includes pre-assessment by our anesthesia providers as well as a pre-operative nurse phone assessment that looks at risk factors identified by the patient, the physician's history and physical documentation and the assessment of our patient population globally.

In addition we work closely with Sentara and the State of Virginia to provide healthcare for uninsured or underinsured patients; we actively work with the medical staff to ensure that we continue to provide at least 4.7% of our revenue to charity eligible patients in our area.

The collaboration of Lake Ridge Ambulatory Surgery Center with partners such as our physician offices, Sentara, the Virginia Department of Health, the Center for Disease Control, local public health agencies and local charity agencies including The Prince William Area Free Clinic help us to improve the health of the community we serve.

A Community Health Needs Assessment
Prepared for the Sentara Northern Virginia Medical Center
### By Community Health Solutions
August 2013

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Executive Summary

The mission of the Sentara Northern Virginia Medical Center (SNVMC) is "to improve health every day." With this mission in mind, SNVMC commissioned Community Health Solutions to conduct this community health needs assessment.

The study focuses on the SNVMC service area of 11 zip codes, most of which fall within parts of Fairfax, Prince William and Stafford counties. The study region is shown in the map below. The results of the study include two primary components: a 'community insight profile' based on qualitative analysis of a survey of community stakeholders, and a 'community indicator profile' based on quantitative analysis of community health status indicators. This Executive Summary outlines major findings, and details are provided in the body of the report.
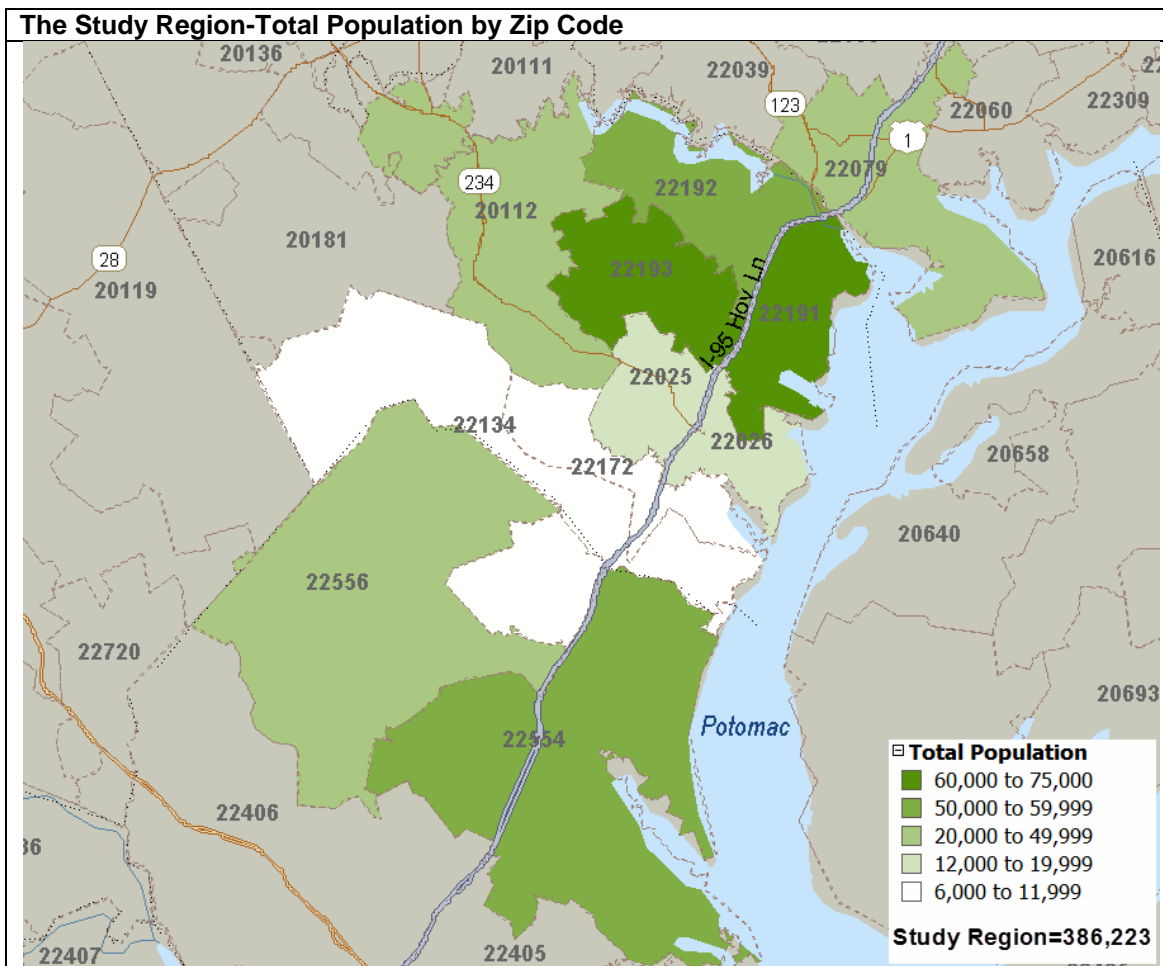
The Study Region-Total Population by Zip Code

Part I. Community Insight Profile

In an effort to generate community input for the study, a Community Insight Survey was conducted with a group of community stakeholders identified by SNVMC. The survey participants were asked to provide their viewpoints on:

- Important health concerns in the community;
- Significant service gaps in the community; and
- Additional ideas or suggestions for improving community health.

The survey was sent to a group of 139 community stakeholders identified by SNVMC. A total of 79 (57%) submitted a response (although not every respondent answered every question). The respondents provided rich insights about community health in the study region. To summarize:

- The respondents identified over 20 important health concerns such as obesity, chronic disease, mental health conditions, adult dental care/oral health, and more.

- The respondents reported more than two dozen specific community services in need of strengthening. Commonly identified services included behavioral health services, health care services for the uninsured/underinsured, adult dental care/oral health services, homeless services, aging services and more.

Forty respondents offered open-ended responses with additional ideas and suggestions for improving community health. These responses are listed in *Appendix B* on page 37.

Part II. Community Indicator Profile

The community indicator profile in Part II presents a wide array of quantitative community health indicators for the study region. To produce the profile, Community Health Solutions analyzed data from multiple sources. By design, the analysis does not include every possible indicator of community health. The analysis is focused on a set of indicators that provide broad insight into community health, and for which there were readily available data sources. To summarize:

- *Demographic Profile.* As of 2012, the study region included an estimated 386,223 people. The population is expected to increase to 416,312 by 2017. Compared to the Commonwealth of Virginia as a whole, the study region is more densely populated, has (proportionally) more children age 0-17, less seniors age 65+, and has more racial and Hispanic ethnicity diversity. The study region also has higher income levels than Virginia as a whole.

- *Mortality Profile.* The study region had 1,252 total deaths in 2011. The leading causes of death were malignant neoplasms (cancer), heart disease, and unintentional injury. The study region death rate per 100,000 population was lower than the statewide rate for all age groups.

- *Maternal and Infant Health Profile.* The study region had 5,677 total live births in 2011. Compared to Virginia as a whole, the study region had a lower rate of non-marital births, and a higher rate of births without early prenatal care. In 2011, the teen pregnancy rate was lower than the statewide rate for all three counties that included the study region (Fairfax, Prince William and Stafford counties). The five-year infant mortality rate for Stafford County was higher than the statewide rate.

- *Preventable Hospitalization Discharge Profile.* The Agency for Healthcare Research and Quality (AHRQ) identifies a defined set of conditions (called Prevention Quality Indicators, or 'PQIs') for which hospitalization should be avoidable with proper outpatient health care. High rates of hospitalization for these conditions indicate potential gaps in access to quality outpatient services for community residents. Residents of the study region had 2,491 PQI hospital discharges from Virginia hospitals in 2011. The study region PQI discharge rate per 100,000 population was higher than the statewide rate for seniors age 65+.

- *Behavioral Health Hospitalization Discharge Profile.* Behavioral Health (BH) hospitalizations provide another important indicator of community health status. Residents of the study region had 2,099 hospital discharges from Virginia hospitals for behavioral health conditions in 2011.[1] The leading diagnoses for these discharges were affective psychoses, general symptoms and schizophrenic disorders. The study region behavioral health hospitalization discharge rate per 100,000 population was lower than the statewide rate for all age groups.

- *Adult and Youth Health Risk Profiles.* The profiles contain a set of estimates of adult and youth health risk. The local estimates indicate that substantial numbers of adults (age 18+) and youth (age 14-19) in the study region may have health risks related to nutrition, physical activity, weight, tobacco, and alcohol.

- *Uninsured Profile.* An estimated 51,473 (14%) nonelderly residents of the study region were uninsured at any given time in 2012. This included an estimated 8,420 children and 43,053 adults.

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[1] Data include discharges for Virginia residents from Virginia community hospitals reporting to Virginia Health Information, Inc. These data do not include discharges from state behavioral health facilities or federal (military) facilities. Data reported are based on the primary diagnosis.

- *Medically Underserved Profile.* Medically Underserved Areas (MUAs) and Medically Underserved Populations (MUPs) are designated by the U.S. Health Resources and Services Administration as being at risk for health care access problems. The designations are based on several factors including primary care provider supply, infant mortality, prevalence of poverty, and the prevalence of seniors age 65+. All three localities included in the study region (Fairfax, Prince William and Stafford counties) are fully or partially designated as a MUA/MUP.

Accompanying File of Zip Code Level Indicators

This report includes community health indicators for the study region as a whole. A separate Microsoft Excel file contains indicators for each zip code within the study region.

Appendix A: Zip Code Level Maps

Appendix A provides a set of thematically colored maps displaying variation in selected community health indicators by zip code. The underlying data for these maps are provided in a separate Microsoft Excel file. *Please read the important note about zip code level data in the introduction to Appendix A.*

Appendix B: Community Insight Profile-Additional Ideas and Suggestions for Improving Community Health

Forty survey respondents offered open-ended responses with additional ideas and suggestions for improving community health. These responses are listed in *Appendix B* on page 37.

Appendix C: Data Sources

Appendix C provides a list of the data sources used to produce this report.

Part I. Community Insight Profile

In an effort to generate community input for the study, a Community Insight Survey was conducted with a group of community stakeholders identified by SNVMC. The survey participants were asked to provide their viewpoints on:

- Important health concerns in the community;
- Significant service gaps in the community; and
- Additional ideas and suggestions for improving community health.

The survey was sent to a group of 139 community stakeholders identified by SNVMC. A total of 79 (57%) submitted a response (although not every respondent answered every question). The respondents provided rich insights about community health in the study region. The results are summarized in the remainder of this section.

1. Survey Respondents

Exhibit I-1 below lists the organizational affiliations of the survey respondents.

Exhibit I-1
Reported Organization Affiliation of Survey Respondents

1-800-SENTARA/Sentara Healthcare	Prince William Area Agency on Aging
Action in Community through Service	Prince William Area Free Clinic
Apple Federal Credit Union	Prince William Chamber of Commerce
CASA Children's Intervention Services	Prince William County
Catholic Charities of the Diocese of Arlington, St. Margaret of	Prince William County Community Services Board *(2)*
Christ Our Lord Anglican	Prince William County Department of Fire and Rescue
Confidence Realty	Prince William County Department of Social Services
Dominion Virginia Power	Prince William County Head Start
Fredericksburg Counseling Services, Free Mental Health	Prince William County Police Department
George Mason University *(2)*	Prince William County Public Schools *(4)*
Girl Scout Council of the Nation's Capital	Prince William County Schools Education Foundation
Greater Prince William Community Health Center *(2)*	Prince William Health Partnership
Hilda Barg Homeless Prevention Center	Prince William Soccer Inc.
Hispanic Institute for Blindness Prevention	Providing Access to Healthcare for the Deaf Community
INOVA Health System	PRTC
Kaiser Permanente	Q Integrative Healthcare LLC Consulting
Lake Ridge Lions Club	Retired-Healthcare Executive
Lake Ridge Rotary	SAI Engineering
Lloyd F. Moss Free Clinic *(2)*	Sentara Community Health & Prevention
Lorton Community Action Center	Sentara Northern Virginia Medical Center *(7)*
Management Training Consultants	Sentara Northern Virginia Medical Center Family Health Connection Mobile Clinic
Manassas Midwifery	SIDS Mid-Atlantic
Minnieland	Sorensen Construction
National Coalition of 100 Black Women PWCC	St Francis Of Assisi Parish-St. Francis House
Northern Virginia Community College *(2)*	St. Francis of Assisi Parish
Northern Virginia Family Service-SERVE site	Trillium Drop-In Center, Inc.
Northern Virginia Family Service *(2)*	Virginia Cooperative Extension
NOVA-Woodbridge	Virginia Department of Health
Phoenix Family Counseling & Play Therapy Center, PLLC	Westminster at Lake Ridge
Pitkin's Home Center	Williamsburg Square Family Practice
Potomac Health Foundation *(2)*	*Unknown Organization*
Potomac Wall Agency	

2. Community Health Concerns

Survey respondents were asked to review a list of common community health issues. The list of issues draws from the topics in *Healthy People 2020* with some refinements. The survey asked respondents to identify from the list what they view as important health concerns in the community. Respondents were also invited to identify additional issues not already defined on the list. *Exhibit I-2* summarizes the results, including open-ended responses.

Exhibit I-2.
Important Community Health Concerns Identified by Survey Respondents

Answer Options	Response Percent[2]	Response Count
Adult Obesity	78%	60
Childhood Obesity	70%	54
Diabetes	69%	53
High Blood Pressure	64%	49
Mental Health Conditions (other than depression)	62%	48
Dental Care/Oral Health-Adult	56%	43
Depression	52%	40
Cancer	49%	38
Prenatal & Pregnancy Care	46%	35
Alcohol Use	42%	32
Tobacco Use	40%	31
Infant and Child Health	39%	30
Dental Care/Oral Health-Pediatric	38%	29
Heart Disease	38%	29
Asthma	36%	28
Domestic Violence	35%	27
Substance Abuse - Illegal Drugs	35%	27
Chronic Pain	34%	26
Substance Abuse - Prescription Drugs	34%	26
Intellectual/Developmental Disabilities	29%	22
Teen Pregnancy	27%	21
Alzheimer's Disease	26%	20
Injuries	26%	20
Stroke	26%	20
Autism	23%	18
Physical Disabilities	23%	18
Arthritis	18%	14
Neurological Disorders (seizures, multiple sclerosis)	18%	14
Infectious Diseases	17%	13
Orthopedic Problems	16%	12
Environmental Quality	13%	10
HIV/AIDS	13%	10
Renal (kidney) Disease	13%	10
Respiratory Diseases (other than asthma)	13%	10
Sexually Transmitted Diseases	13%	10
Other Health Problems (list in box below)	*19%*	*15*

Note: When interpreting the survey results, please note that although the relative number of responses received for each item is instructive, it is not a definitive measure of the relative importance of one issue compared to another.

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[2] *Seventy-seven (77) of the 79 survey respondents answered this question.*

Exhibit I-2. (continued)

Open-Ended Responses
• Eye care and hearing deficit problems
• Few mental health services seem to be available.
• General behavioral health problems that impact positive lifestyle choices. If most of the chronic conditions are preventable and due to poor lifestyle choices and behavior involving nutrition, physical activity, stress management and restorative sleep; then behavior health support may provide the counseling required to positively impact chronic root causes. Root problems are sometimes issues around fear and feelings of inadequacies and once these root problems are determined then the patient can actively work through and progress in their life, with their choices and sustaining positive changes.
• Health equity issues are particularly important to address with cancer, obesity, pregnancy. I am not sure how aware people are regarding oral health and the connection to overall health. Certainly health plans do not emphasize this connection.
• 1) Health services in native language of the patient. 2) Cultural competency of health care staff. 3) Affordability of health care services (primary and specialty).
• Hearing loss
• Identifying vision problems in youth and especially in elementary school and pre-school aged children.
• Multiple conditions - it may be heart disease, diabetes and something else – complexity.
• My agency focuses on mental health care. But, each of the above items checked are chronic care medical issues which tends to bring out depression and anxiety issues for the person. My mental health clinic works closely with the medical free clinic and we share numerous clients. Mental health and chronic medical problems co-exist creating the need for our intervention.
• Organ Donation and Transplants
• 1) Shingles, whooping cough, chicken pox (i.e., the cost and hassle of updating shots seems to be quite an issue--the free flu vaccination offers at McCoart last fall, for instance, had 2 hour waits). 2) Driving under the influence of marijuana I believe is also an issue, more so than the actual use.
• Specifically child abuse which is on the rise in this community and all of the associated health ramifications both short and long term.
• Uninsured children - how to get health care for them
• We have a serious shortage of services and resources in Northern Virginia for emergency and residential care for children and youth facing a mental health crisis. Dominion Hospital in Falls Church is frequently full, resulting in Northern Virginia children being sent to DC or Petersburg for care. We can do better than that for our children and their families. I am forming a task force to work to bring a state of the art facility to Northern Virginia for our youth. We cannot afford to lose any more of our youth to depression and suicide. With statistics showing 1 in 5 children have a mental health diagnosis, we have to act.
• We see many clients with obesity related chronic issues.

3. Community Service Gaps

Survey respondents were asked to review a list of community services that are typically important for addressing the health needs of a community. Respondents were asked to identify from the list any services they think need strengthening in terms of availability, access, or quality. Respondents were also invited to identify additional service gaps not already defined on the list. *Exhibit I-3* summarizes the results, including open-ended responses.

Exhibit I-3.
Important Community Service Gaps Identified by Survey Respondents

Answer Options	Response Percent[3]	Response Count
Behavioral Health Services (including mental health, substance use and intellectual disability)	84%	65
Health Care Services for the Uninsured and Underinsured	66%	51
Dental Care/Oral Health Services-Adult	58%	45
Homeless Services	56%	43
Aging Services	51%	39
Early Intervention Services for Children	46%	35
Health Care Insurance Coverage (private and government)	42%	32
Job/Vocational Retraining	42%	32
Transportation	42%	32
Dental Care/Oral Health Services-Pediatric	40%	31
Food Safety Net (food bank, community gardens)	38%	29
Patient Self Management Services(e.g. nutrition, exercise, taking medications)	34%	26
Public Health Service	33%	25
Social Services	33%	25
Health Promotion and Prevention Services	31%	24
Primary Health Care Services	31%	24
Cancer Services (screening, diagnosis, treatment)	29%	22
Maternal, Infant & Child Health Services	29%	22
Chronic Pain Management Services	27%	21
Chronic Disease Services (including screening and early detection)	26%	20
Domestic Violence Services	26%	20
Long Term Care Services	25%	19
Family Planning Services	22%	17
Specialty Medical Care (e.g. cardiologists, oncologists, etc.)	20%	15
Home Health Services	18%	14
Pharmacy Services	13%	10
Physical Rehabilitation	13%	10
School Health Services	13%	10
Environmental Health Services	12%	9
Workplace Health and Safety Services	12%	9
Hospice Services	10%	8
Hospital Services (including emergency, inpatient and outpatient)	7%	5
Other Community Health Services	*17%*	*13*

Note: When interpreting the survey results, please note that although the relative number of responses received for each item is instructive, it is not a definitive measure of the relative importance of one issue compared to another.

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[3] *Seventy-seven (77) of the 79 survey respondents answered this question.*

Sentara Northern Virginia Medical Center
Community Health Needs Assessment

Exhibit I-3. (continued)

Open-Ended Responses
• Availability of specialty services [such as] orthopedics, dermatology and perinatology.
• Care for sports-related concussions
• Each of the above [health service gaps] come with needs for expansion and improvement. Each of those agencies do the best they can with what they have, but rarely is that enough. Many of these areas are under-represented, under-funded, and under-staffed.
• Elderly care services are imperative
• 1) Geriatric assessment services 2) Adult Day Care
• Guardianship; community based services for long term services and supports - I didn't check "long term care services" because I wasn't sure if it meant residential services; we need more home and community based long term services and supports that are not residential.
• Health Department does not provide pediatric physicals.
• 1) I am a little confused by this survey. We have many of these services and people with good insurance have lots of options, so I feel our biggest issue is access. 2) I also believe we are an aging community and may need more services in that area.
• 1) I think that a lot of doctors/specialists are hesitant to locate in this county because they can garner higher wages in neighboring counties; plus old reputations die hard such as that of Potomac. 2) Mental/disability disorder support services seem to be severely lacking in this state more so than others. 3) I know some organizations have stepped up to help with dental needs that are critical to overall health but I worry about sustainability; we have wonderful community non-profits that take up the slack but are so volunteer-dependent on small businesses that don't have necessary resources to prop their businesses and them up as well, but do a great job. There are others, especially religious facilities, which do not. They should be more engaged as they are tax-exempt.
• I think we need to strengthen our local health coalitions because I do not think organizations or agencies that typically do not view themselves as part of the health systems have been engaged in health issues. An example would be community planning, public safety, schools, transportation planning to include public transportation organizations, housing, and vocational schools to name a few.
• More services for senior types to age in place with some assistance.
• Services and resources for the developmentally disabled (autism spectrum, developmental problems that have resulted in serious deficits).
• Services for people that are deaf, hard of hearing and deaf blind.

Part II. Community Indicator Profile

This section of the report provides a quantitative profile of the study region based on a wide array of community health indicators. To produce the profile, Community Health Solutions analyzed data from multiple sources. By design, the analysis does not include every possible indicator of community health. The analysis is focused on a set of indicators that provide broad insight into community health, and for which there were readily available data sources.

The results of this profile can be used to evaluate community health status compared to the Commonwealth of Virginia overall. The results can also be helpful for determining the number of people affected by specific health concerns. In addition, the results can be used alongside the Community Insight Survey results and the zip code level maps to help inform action plans for community health improvement. This section includes ten profiles as follows:

1. Health Demographic Trend Profile
2. Health Demographic Snapshot
3. Mortality Profile
4. Maternal and Infant Health Profile
5. Preventable Hospitalization Discharge Profile
6. Behavioral Health Hospitalization Discharge Profile
7. Adult Health Risk Factor Profile
8. Youth Health Risk Factor Profile
9. Uninsured Profile
10. Medically Underserved Profile

1. Health Demographic Trend Profile

Trends in health-related demographics are instructive for anticipating changes in community health status. Changes in the size of the population, age of the population, racial/ethnic mix of the population, income status and education status can have a significant impact on overall health status, health needs and demand for local services.

As shown in *Exhibit II-1*, as of 2012, the study region included an estimated 386,223 people. The population is expected to increase to 416,312 by 2017. It is projected that population growth will occur in all age groups, including a 10% increase in adults age 45-64 and a 24% increase in seniors age 65+. Focusing on racial background, growth is projected for all populations, including a 12% increase in the Asian population. The Hispanic population is also expected to grow by 7%.

Exhibit II-1.
Health Demographic Trend, 2010-2017

Indicator	2010 Census	2012 Estimate	2017 Projection	% Change 2012-2017
Total Population	368,399	386,223	416,312	8%
Population Density (per Sq Mile)	1,085.5	1,138.0	1,226.6	8%
Total Households	119,740	122,241	132,140	8%
Population by Age				
Children Age 0-17	105,497	107,228	112,791	5%
Adults Age 18-29	60,336	63,029	67,399	7%
Adults Age 30-44	84,411	85,853	89,078	4%
Adults Age 45-64	95,760	104,108	114,749	10%
Seniors Age 65+	22,395	25,999	32,295	24%
Population by Race/Ethnicity				
Asian	26,229	27,945	31,205	12%
Black/African American	86,704	91,803	100,132	9%
White	206,364	215,100	230,280	7%
Other or Multi-Race	49,104	51,378	54,694	6%
Hispanic Ethnicity[4]	67,012	70,773	75,485	7%

Source: Community Health Solutions analysis of US Census data and estimates from Alteryx, Inc.

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[4] Classification of ethnicity; therefore, Hispanic individuals are also included in the race categories.

2. Health Demographic Snapshot

Community health is driven in part by community demographics. The age, sex, race, ethnicity, income and education status of a population are strong predictors of community health status and community health needs. *Exhibit II-2* presents a snapshot of key health-related demographics of the study region. As of 2012, the study region included an estimated 386,223 people. Compared to the Commonwealth of Virginia as a whole, the study region is more densely populated, has (proportionally) more children age 0-17, less seniors age 65+, and has more racial and Hispanic ethnicity diversity. The study region also has higher income levels than Virginia as a whole. *Note: Maps 1-13 in Appendix A show the geographic distribution of the population by zip code.*

Exhibit II-2.
Health Demographic Snapshot, 2012

Indicator	Study Region	Virginia
Population Counts		
Population	386,223	8,154,815
Children Age 0-17	107,228	1,857,225
Adults Age 18-29	63,029	1,375,674
Adults Age 30-44	85,853	1,642,637
Adults Age 45-64	104,108	2,233,940
Seniors Age 65+	25,999	1,045,339
Female	194,472	4,148,680
Male	191,753	4,006,135
Asian	27,945	459,660
Black/African American	91,803	1,579,659
White	215,100	5,573,480
Other or Multi-Race	51,378	542,016
Hispanic Ethnicity[5]	70,773	655,986
Low Income Households (Households with Income < $25,000)	8,368	553,382
Population Age 25+ Without a High School Diploma	23,649	675,228
Population Rates		
Population Density (pop. per sq. mile)	1,138.0	202.2
Children Age 0-17 pct. of Total Pop.	28%	23%
Adults Age 18-29 pct. of Total Pop.	16%	17%
Adults Age 30-44 pct. of Total Pop.	22%	20%
Adults Age 45-64 pct. of Total Pop.	27%	27%
Seniors Age 65+ pct. of Total Pop.	7%	13%
Female pct. of Total Pop.	50%	51%
Male pct. of Total Pop.	50%	49%
Asian pct. of Total Pop.	7%	6%
Black/African American pct. of Total Pop.	24%	19%
White pct. of Total Pop.	56%	68%
Other or Multi-Race pct. of Total Pop.	13%	7%
Hispanic Ethnicity pct. of Total Pop.	18%	8%
Per Capita Income	$37,628	$34,307
Median Household Income	$93,945	$64,118
Low Income Households (Households with Income < $25,000) pct. of Total Households	7%	18%
Pop. Age 25+ Without a High School Diploma pct. of Total Pop. Age 25+	10%	12%

Source: Community Health Solutions analysis of estimates from Alteryx, Inc.

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[5] Classification of ethnicity; therefore, Hispanic individuals are also included in the race categories.

3. Mortality Profile

Mortality is traditionally one of the most important indicators of community health status. As shown in *Exhibit II-3*, the study region had 1,252 total deaths in 2011. The leading causes of death were malignant neoplasms (cancer) (360), heart disease (253), and unintentional injury (69). The study region death rate per 100,000 population was lower than the statewide rate for all age groups.[6] *Note: Maps 14-17 in Appendix A show the geographic distribution of deaths by zip code.*

Exhibit II-3.
Mortality Profile, 2011

Indicator	Study Region	Virginia
Total Deaths		
Total Deaths by All Causes	1,252	60,325
Deaths by Top 14 Causes		
Malignant Neoplasms Deaths	360	14,261
Heart Disease Deaths	253	13,201
Unintentional Injury Deaths	69	2,726
Chronic Lower Respiratory Diseases Deaths	55	3,097
Cerebrovascular Diseases Deaths	51	3,327
Diabetes Mellitus Deaths	45	1,628
Septicemia Deaths	31	1,372
Suicide Deaths	23	1,052
Influenza and Pneumonia Deaths	22	1,404
Nephritis and Nephrosis Deaths	18	1,425
Chronic Liver Disease Deaths	13	725
Alzheimer's Disease Deaths	11	1,800
Primary Hypertension and Renal Disease Deaths	8	569
Pneumonitis Deaths	6	560
Deaths by Age Group		
Deaths Age 0-17	44	1,024
Deaths Age 18-29	29	1,080
Deaths Age 30-44	80	2,121
Deaths Age 45-64	335	12,338
Deaths Age 65+	764	43,758
Death Rates by Age Group		
Deaths per 100,000 pop. All Ages	328.8	742.9
Deaths per 100,000 pop. Age 0-17	40.3	53.6
Deaths per 100,000 pop. Age 18-29	--	79.0
Deaths per 100,000 pop. Age 30-44	91.6	125.7
Deaths per 100,000 pop. Age 45-64	338.8	576.8
Deaths per 100,000 pop. Age 65+	3,331.9	4,314.5

Source: Community Health Solutions analysis of data from the Virginia Department of Health.
-- Rates are not calculated where n<30

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[6] Age adjusted death rates were not calculated for this study because the study region is defined by zip codes, and available data are not structured to support calculation of age adjusted death rates at the zip code level. Age group death rates are used as an alternative.

4. Maternal and Infant Health Profile

Along with mortality, maternal and infant health is another traditionally important indicator of community health status. As shown in *Exhibit II-4A,* the study region had 5,677 total live births in 2011. Compared to Virginia as a whole, the study region had a lower rate non-marital births, and a higher rate of births without early prenatal care. *Note: Maps 18-21 in Appendix A show the geographic distribution of births by zip code.*

Exhibit II-4A.
Maternal and Infant Health Profile, 2011

Indicator	Study Region	Virginia
Counts		
Total Live Births	5,677	102,525
Low Weight Births (under 2,500 grams / 5 lb. 8 oz.)	443	8,204
Births Without Early Prenatal Care (No Prenatal Care in First 13 Weeks)	1,005	13,500
Non-Marital Births	1,725	36,390
Live Births to Teens Age 10-19	281	6,572
Live Births to Teens Age 18-19	204	4,807
Live Births to Teens Age 15-17	77	1,708
Live Births to Teens Age <15	0	57
Rates		
Live Birth Rate per 1,000 Population	14.9	12.7
Low Weight Births pct. of Total Live Births	8%	8%
Births Without Early Prenatal Care (No Prenatal Care in First 13 Weeks) pct. of Total Live Births	18%	13%
Non-Marital Births pct. of Total Live Births	30%	35%

Source: Community Health Solutions analysis of data from the Virginia Department of Health.

Exhibit II-4B below provides counts and rates of teen pregnancy and infant mortality for the three localities that include the study region (Fairfax, Prince William and Stafford counties). [7] In 2011, the teen pregnancy rate was lower than the statewide rate for all three counties that included the study region (Fairfax, Prince William and Stafford counties). The five-year infant mortality rate for Stafford County was higher than the statewide rate.

Exhibit II-4B.
Teen Pregnancy and Infant Mortality, 2011

Indicator	Fairfax County	Prince William	Stafford County	Virginia
Teen Pregnancy Counts and Rates				
Total Teenage Pregnancies Age 10-19 (2011)	595	459	130	9,630
Total Pregnancies per 1,000 Female Population Age 10-19 (2011)	8.6	15.4	12.0	18.6
Infant Mortality Counts and Rates				
Total Infant Deaths (2011)	81	40	11	685
Five-Year Average Infant Mortality Rate per 1,000 Live Births (2007-2011)	4.9	6.3	7.9	7.0

Source: Community Health Solutions analysis of data from the Virginia Department of Health.

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[7] Indicators are shown at the city and county level because teen pregnancy and five year average infant mortality data are not available at the zip code level.

5. Preventable Hospitalization Discharge Profile

Preventable hospitalization is a community health indicator that is receiving increasing interest as the health system focuses on patient-centered care and avoidance of unnecessary hospitalization. The Agency for Healthcare Research and Quality (AHRQ) identifies a defined set of conditions (called Prevention Quality Indicators, or 'PQIs') for which hospitalization should be avoidable with proper outpatient health care.[8] High rates of hospitalization for these conditions indicate potential gaps in access to quality outpatient services for community residents.

As shown in *Exhibit II-5*, residents of the study region had 2,491 PQI hospital discharges from Virginia hospitals in 2011.[9] The leading diagnoses for these discharges were congestive heart failure (472), bacterial pneumonia (442), and diabetes (368). The study region PQI discharge rate per 100,000 population was higher than the statewide rate for seniors age 65+. *Note: Map 22 in Appendix A shows the geographic distribution of PQI discharges by zip code.*

Exhibit II-5.
Prevention Quality Indicator (PQI) Hospital Discharges, 2011

Indicator	Study Region	Virginia
PQI Discharges by Age Group		
All Ages	2,491	83,392
Total PQI Discharges-Age 0-17	18	335
Total PQI Discharges-Age 18-29	158	3,639
Total PQI Discharges-Age 30-44	313	7,190
Total PQI Discharges-Age 45-64	772	24,359
Total PQI Discharges-Age 65+	1,230	47,869
PQI Discharges by Diagnosis		
Congestive Heart Failure	472	18,990
Bacterial Pneumonia	442	16,221
Diabetes	368	11,326
Urinary Tract Infection	360	10,496
Adult Asthma	287	6,419
Chronic Obstructive Pulmonary Disease (COPD)	266	11,439
Dehydration	116	3,401
Hypertension	89	2,898
Perforated Appendix	65	1,487
Angina	26	715
PQI Discharge Rates by Age Group		
PQI Discharges per 100,000 pop. All Ages	654.3	1,027.0
PQI Discharges per 100,000 pop. Age 0-17	--	17.5
PQI Discharges per 100,000 pop. Age 18-29	252.9	266.1
PQI Discharges per 100,000 pop. Age 30-44	358.3	426.0
PQI Discharges per 100,000 pop. Age 45-64	780.7	1,138.7
PQI Discharges per 100,000 pop. Age 65+	5,364.2	4,719.8

Source: Community Health Solutions analysis of hospital discharge data from Virginia Health Information, Inc.
-- Rates are not calculated where n<30

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[8] The PQI definitions are detailed in their specification of ICD-9 diagnosis codes and procedure codes. Not every hospital admission for congestive heart failure, bacterial pneumonia, etc. is included in the PQI definition; only those meeting the detailed specifications. Low birth weight is one of the PQI indicators, but for the purpose of this report, low birth weight is included in the Maternal and Infant Health Profile. Also, there are three diabetes-related PQI indicators which have been combined into one for the report. For more information, visit the AHRQ website at www.qualityindicators.ahrq.gov/pqi_overview.htm
[9] Data include discharges for Virginia residents from Virginia community hospitals reporting to Virginia Health Information, Inc. These data do not include discharges from state behavioral health facilities or federal (military) facilities. Data reported are based on the primary diagnosis.

6. Behavioral Health Hospitalization Discharge Profile

Behavioral Health (BH) hospitalizations provide another important indicator of community health status. *Exhibit II-6* shows behavioral health hospital discharges for study region residents in 2011. Residents of the study region had 2,099 hospital discharges from Virginia hospitals for behavioral health conditions in 2011.[10] The leading diagnoses for these discharges were affective psychoses (1,017), general symptoms (334) and schizophrenic disorders (180). The study region behavioral health hospitalization discharge rate per 100,000 population was lower than the statewide rate for all age groups. *Note: Map 23 in Appendix A shows the geographic distribution of BH discharges by zip code.*

Exhibit II-6.
Behavioral Health Hospital Discharges, 2011

Indicator	Study Region	Virginia
BH Discharges by Age Group		
All Ages	2,099	64,892
Total BH Discharges-Age 0-17	416	7,996
Total BH Discharges-Age 18-29	524	12,297
Total BH Discharges-Age 30-44	460	15,063
Total BH Discharges-Age 45-64	509	19,677
Total BH Discharges-Age 65+	190	9,859
BH Discharges by Diagnosis		
Affective Psychoses [11]	1,017	27,277
General Symptoms [12]	334	11,135
Schizophrenic Disorders	180	8,042
Alcoholic Psychoses	172	3,283
Other Nonorganic Psychoses	110	2,148
Depressive Disorder, Not Elsewhere Classified	62	2,785
Alcoholic Dependence Syndrome	42	2,161
Adjustment Reaction	38	2,123
Drug Psychoses	36	1,321
Neurotic Disorders	34	1,351
BH Discharge Rates by Age Group		
BH Discharges per 100,000 pop. All Ages	551.3	799.2
BH Discharges per 100,000 pop. Age 0-17	381.4	418.4
BH Discharges per 100,000 pop. Age 18-29	838.7	899.0
BH Discharges per 100,000 pop. Age 30-44	526.6	892.4
BH Discharges per 100,000 pop. Age 45-64	514.8	919.8
BH Discharges per 100,000 pop. Age 65+	828.6	972.1

Source: Community Health Solutions analysis of hospital discharge data from Virginia Health Information, Inc.

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[10] Data include discharges for Virginia residents from Virginia community hospitals reporting to Virginia Health Information, Inc. These data do not include discharges from state behavioral health facilities or federal (military) facilities. Data reported are based on the primary diagnosis.
[11] Includes major depressive, bipolar affective and manic depressive disorders.
[12] This diagnosis includes symptoms, signs, abnormal results of laboratory or other investigative procedures, and ill-defined conditions regarding which no diagnosis classifiable elsewhere is recorded.

7. Adult Health Risk Factor Profile

This section examines health risks for adults age 18+. Prevalence estimates of health risks, chronic disease and health status can be useful in developing prevention and improvement efforts. *Exhibit II-7* shows estimates indicating that substantial numbers of adults in the study region have health risks related to nutrition, physical inactivity, weight, tobacco and alcohol. In addition, substantial numbers of adults may have chronic conditions such as high blood pressure, arthritis, high cholesterol, diabetes and asthma. *Note: Maps 24-27 in Appendix A show the geographic distribution of selected adult health risks by zip code.*

Exhibit II-7.
Adult Health Risk Factors (Estimates), 2012

Indicator	Study Region Estimates (Count)	Study Region Estimates (Percent)
Estimated Adults age 18+	278,989	100%
Risk Factors		
Less than Five Servings of Fruits and Vegetables Per Day*	217,713	78%
Overweight or Obese[13]	161,098	58%
Not Meeting Recommendations for Physical Activity in the Past 30 Days	138,128	50%
At Risk for Binge Drinking (males having five or more drinks on one occasion, females having four or more drinks on one occasion)	63,731	23%
Smoker*	59,386	21%
Chronic Conditions		
High Cholesterol (was checked, and told by a doctor or other health professional it was high)*	98,787	35%
High Blood Pressure (told by a doctor or other health professional)*	76,944	28%
Arthritis (told by a doctor or other health professional)*	58,995	21%
Asthma (told by a doctor or other health professional)*	27,867	10%
Diabetes (told by a doctor or other health professional)*	26,440	9%
General Health Status		
Limited in any Activities because of Physical, Mental or Emotional Problems*	47,944	17%
Fair or Poor Health Status*	45,932	16%

* Self-report only survey item. The other survey items are calculated/classified measures based on self-reported items.
Source: Community Health Solutions estimates based on secondary sources. See Appendix C for details

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[13] According to the CDC, for adults 20 years old and older, BMI is interpreted using standard weight status categories that are the same for all ages and for both men and women. Overweight is defined as a BMI between 25.0 and 29.9. Obesity is defined as a BMI 30.0 and above. For more information: http://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html#Interpreted

8. Youth Health Risk Factor Profile

This section examines selected health risks for youth age 14-19. These risks have received increasing attention as the population of American children have become more sedentary, more prone to unhealthy eating and more likely to develop unhealthy body weight. The long-term implications of these trends are serious, as these factors place children at higher risk for chronic disease both now and in adulthood.

Exhibit II-8 shows estimates indicating that substantial numbers of youth in the study region have health risks related to nutrition, weight, physical activity, tobacco and alcohol. *Note: Maps 28-29 in Appendix A shows the geographic distribution of selected youth health risks by zip code.*

Exhibit II-8.
Youth Health Risk Factors (Estimates), 2012

Indicator	Study Region Estimates (Count)	Study Region Estimates (Percent)
Estimated Youth age 14-19	34,120	100%
Less than the Recommended Intake of Vegetables	29,829	87%
Less than the Recommended Intake of Fruit	29,500	86%
Overweight or Obese[14]	10,266	30%
Have at least One Drink of Alcohol at least One Day in the Past 30 Days*	3,094	28%
Feel Sad or Hopeless (almost every day for two or more weeks in a row so that they stopped doing some usual activities)*	8,739	26%
Used Tobacco in the Past 30 Days*	6,726	20%
Not Meeting Recommendations for Physical Activity in the Past Week*	5,200	15%

* Self-reported survey items. The other survey items are calculated/classified measures based on self-reported items.
Source: Community Health Solutions estimates based on secondary sources. See Appendix C for details

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[14] For children and adolescents (aged 2–19 years), the BMI value is plotted on the CDC growth charts to determine the corresponding BMI-for-age percentile. Overweight is defined as a BMI at or above the 85th percentile and lower than the 95th percentile. Obesity is defined as a BMI at or above the 95th percentile for children of the same age and sex. For more information:
http://www.cdc.gov/healthyweight/assessing/bmi/childrens_BMI/about_childrens_BMI.html

9. Uninsured Profile

Decades of research show that health coverage matters when it comes to overall health status, access to health care, quality of life, school and work productivity, and even mortality. *Exhibit II-9* shows the estimated number of uninsured individuals, by income as a percent of the federal poverty level (FPL), in the study region as of 2012. [15] An estimated 51,473 (14%) nonelderly residents of the study region were uninsured at any given time in 2012. This included an estimated 8,420 children and 43,053 adults. *Note: Maps 30-31 in Appendix A show the geographic distribution of the uninsured population by zip code.*

Exhibit II-9.
Uninsured (Estimates), 2012*

Indicator	Study Region
Estimated Uninsured Counts	
Uninsured Nonelderly Age 0-64	51,473
Uninsured Children Age 0-18	8,420
Uninsured Children Age 0-18 and Income <=200% FPL	4,096
Uninsured Children Age 0-18 and Income <=250% FPL	5,268
Uninsured Children Age 0-18 and Income <=400% FPL	7,052
Uninsured Adults Age 19-64	43,053
Uninsured Adults Age 19-64 and Income <=138% FPL[16]	11,657
Uninsured Adults Age 19-64 and Income <=200% FPL	19,374
Uninsured Adults Age 19-64 and Income <=250% FPL	24,109
Uninsured Adults Age 19-64 and Income <=400% FPL	33,218
Estimated Uninsured Rates	
Uninsured Nonelderly Percent	14%
Uninsured Children Percent	7%
Uninsured Adults Percent	17%

Income categories are cumulative.
Source: Community Health Solutions estimates based on secondary sources. See Appendix C for details

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[15] For more information, please see: http://aspe.hhs.gov/poverty/12poverty.shtml
[16] This income level has been included in the table to provide an estimate of uninsured adults who may be eligible for health coverage under Medicaid expansion.

10. Medically Underserved Profile

Medically Underserved Areas (MUAs) and Medically Underserved Populations (MUPs) are designated by the U.S. Health Resources and Services Administration as being at risk for health care access problems. The designations are based on several factors including primary care provider supply, infant mortality, prevalence of poverty and the prevalence of seniors age 65+.

As shown in *Exhibit II-10*, all three localities included in the study region (Fairfax, Prince William and Stafford counties) are fully or partially designated as a MUA/MUP. For a more detailed description, visit the U.S. Health Resources and Service Administration designation webpage at http://muafind.hrsa.gov/.

Exhibit II-10.
HRSA Medically Underserved Area/Populations

Locality	MUA/MUP Designation	Census Tracts
Fairfax County	Partial*	9 of 258 census tracts
Prince William County	Partial	22 of 83 census tracts
Stafford County	Full	27 of 27 census tracts

*This locality does not have a HRSA MUA/MUP designation; however, it has a Governor MUP designation.
Source: Community Health Solutions analysis of U.S. Health Resources and Services Administration data.

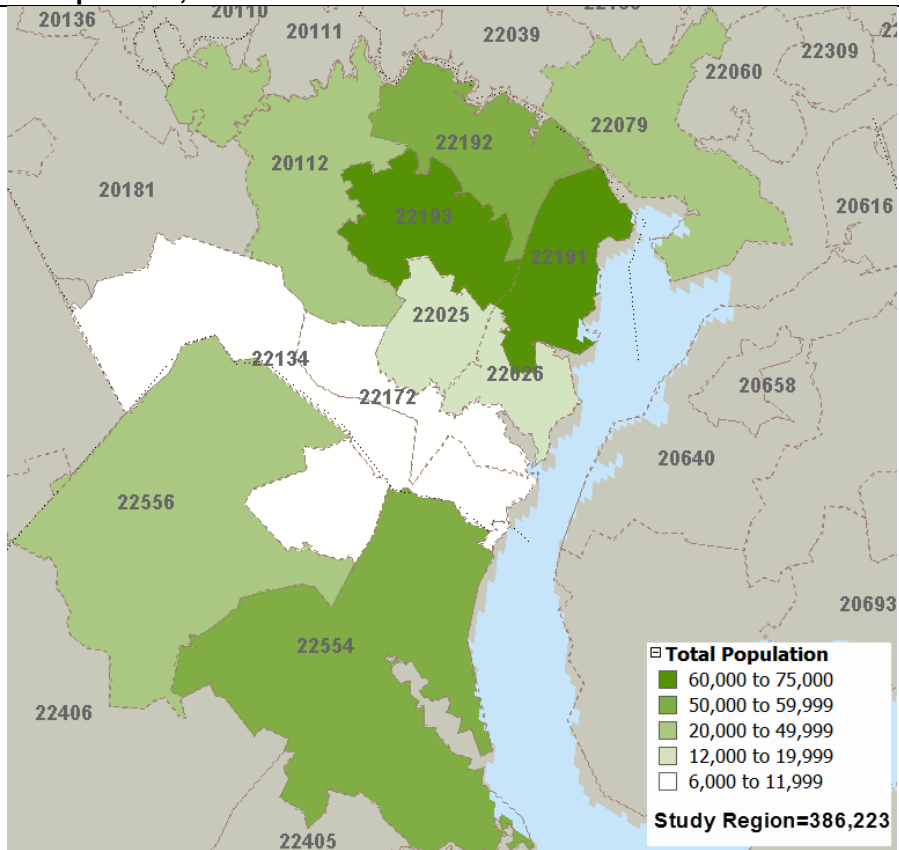# APPENDIX A: Zip Code Level Maps for the Study Region

The maps in this section illustrate the geographic distribution of the study region population on key demographic and health indicators by zip code. The maps can be used alongside the Community Insight Survey (Part I) and the Community Indicator Profile (Part II) to help inform plans for community health initiatives. The underlying data for these maps are provided in a separate Microsoft Excel file. The maps in this section include the following for 2011/2012:

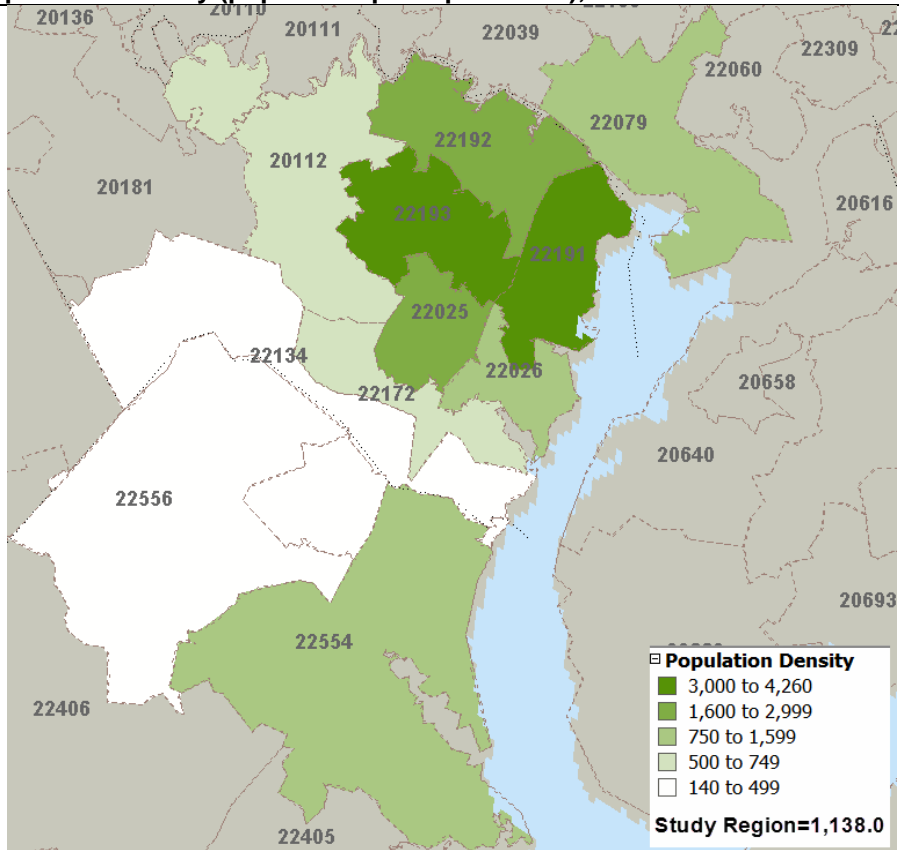|	
1. Total Population, 2012	17. Unintentional Injury Deaths, 2011
2. Population Density (population per square mile), 2012	18. Total Live Births, 2011
3. Child Population Age 0-17, 2012	19. Low Weight Births, 2011
4. Senior Population Age 65+, 2012	20. Births Without Early Prenatal Care (No Prenatal Care in the First 13 Weeks), 2011
5. Asian Population, 2012	21. Births to Teen Mothers Under Age 18, 2011
6. Black/African American Population, 2012	22. Prevention Quality Indicator (PQI) Hospital Discharges, 2011
7. White Population, 2012	23. Behavioral Health (BH) Hospital Discharges, 2011
8. Other or Multi-Race Population, 2012	24. Estimated Adults Age 18+ Overweight or Obese, 2012
9. Hispanic Ethnicity Population, 2012	25. Estimated Adult Age 18+ Smokers, 2012
10. Per Capita Income, 2012	26. Estimated Adults Age 18+ with Diabetes, 2012
11. Median Household Income, 2012	27. Estimated Adults Age 18+ with High Blood Pressure, 2012
12. Low Income Households (Households with Income <$25,000), 2012	28. Estimated Youth Age 14-19 Overweight or Obese, 2012
13. Population Age 25+ Without a High School Diploma, 2012	29. Estimated Youth Age 14-19 Not Meeting Recommendations for Physical Activity in the Past Week, 2012
14. Total Deaths, 2011	30. Estimated Uninsured Children Age 0-18, 2012
15. Malignant Neoplasm (Cancer) Deaths, 2011	31. Estimated Uninsured Adults Age 19-64, 2012
16. Heart Disease Deaths, 2011	

Technical Notes

1. The maps focus on the SNVMC service area of 11 zip codes, most of which fall within Fairfax, Prince William and Stafford counties. Because zip code boundaries do not automatically align with city/county borders, there are some zip codes that extend beyond city/county boundaries.

2. With the exception of population density, per capita income and median household income, the maps show counts rather than rates. Rates are not mapped at the zip code level because in some zip codes the population is too small to support rate-based comparisons.

3. The maps are thematically shaded to show the zip code level indicators in five groupings or 'quintiles'.

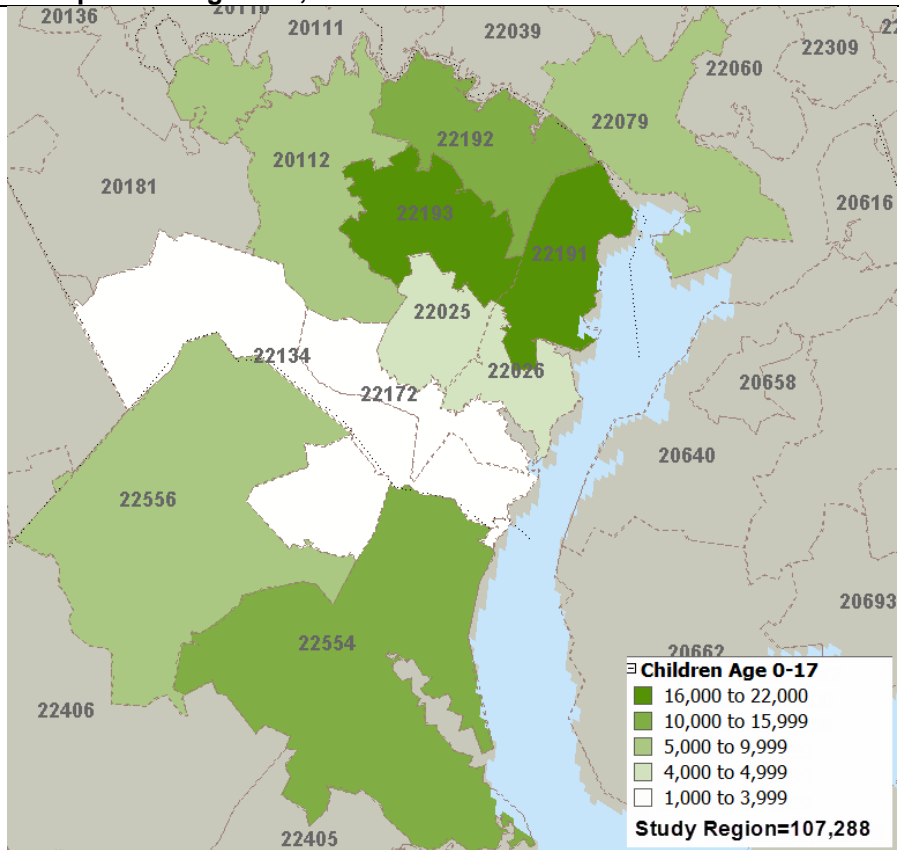4. Zip codes with zero values are not mapped.

Map 1: Total Population, 2012

Total Population
- 60,000 to 75,000
- 50,000 to 59,999
- 20,000 to 49,999
- 12,000 to 19,999
- 6,000 to 11,999

Study Region=386,223

Map 2: Population Density (population per square mile), 2012

Population Density
- 3,000 to 4,260
- 1,600 to 2,999
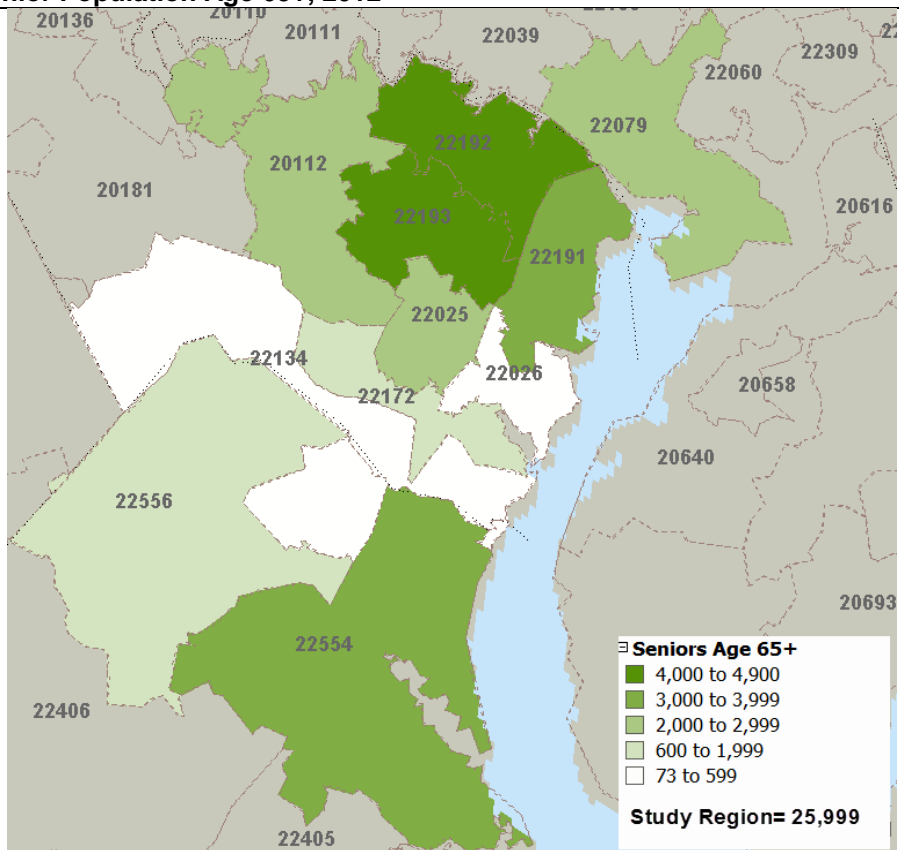- 750 to 1,599
- 500 to 749
- 140 to 499

Study Region=1,138.0

Source: Community Health Solutions analysis of estimates from Alteryx, Inc.

Map 3: Child Population Age 0-17, 2012

Children Age 0-17
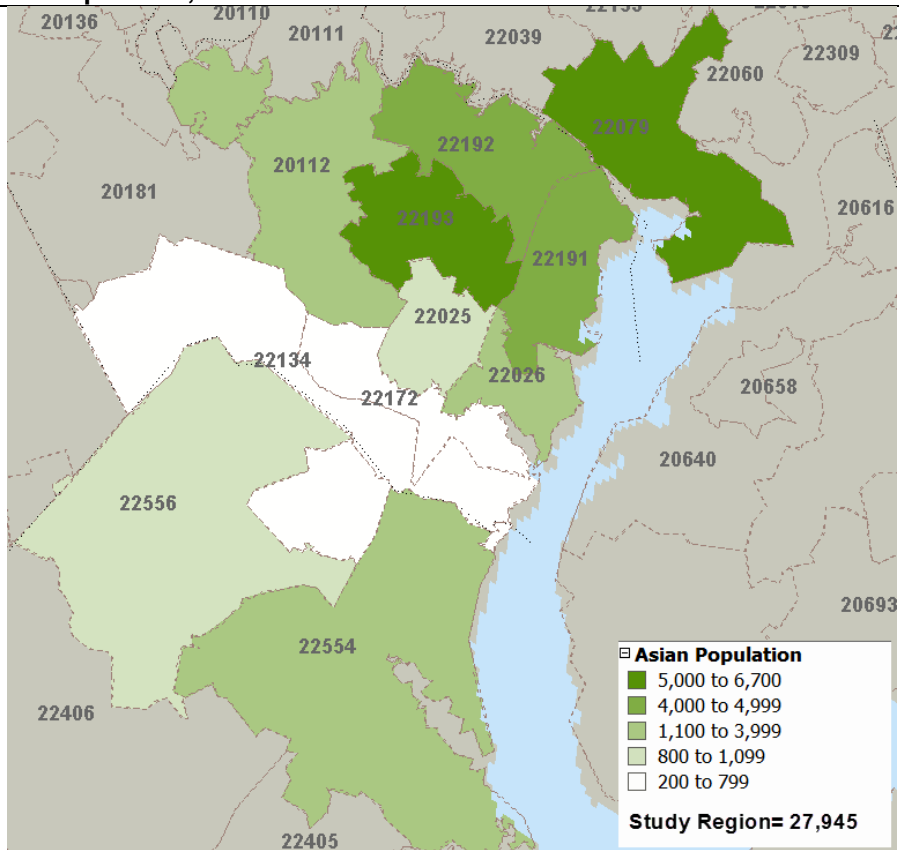- 16,000 to 22,000
- 10,000 to 15,999
- 5,000 to 9,999
- 4,000 to 4,999
- 1,000 to 3,999

Study Region=107,288

Map 4: Senior Population Age 65+, 2012

Seniors Age 65+
- 4,000 to 4,900
- 3,000 to 3,999
- 2,000 to 2,999
- 600 to 1,999
- 73 to 599

Study Region= 25,999

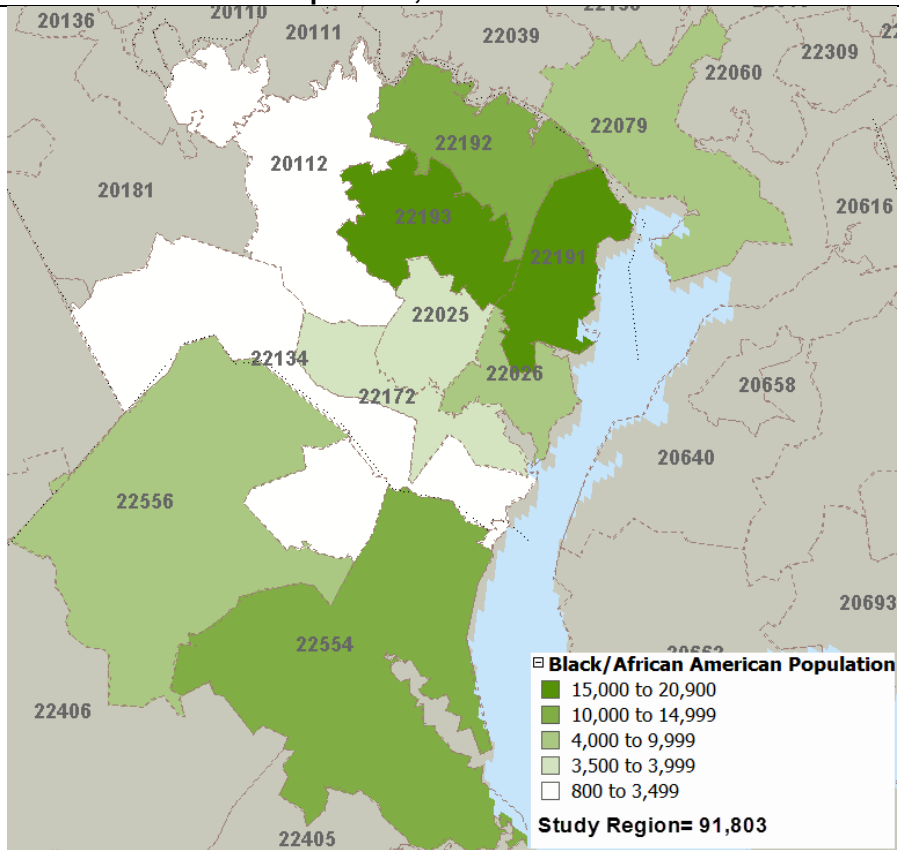*Source: Community Health Solutions analysis of estimates from Alteryx, Inc.*

Map 5: Asian Population, 2012

Asian Population
- 5,000 to 6,700
- 4,000 to 4,999
- 1,100 to 3,999
- 800 to 1,099
- 200 to 799

Study Region= 27,945

Map 6: Black/African American Population, 2012

Black/African American Population
- 15,000 to 20,900
- 10,000 to 14,999
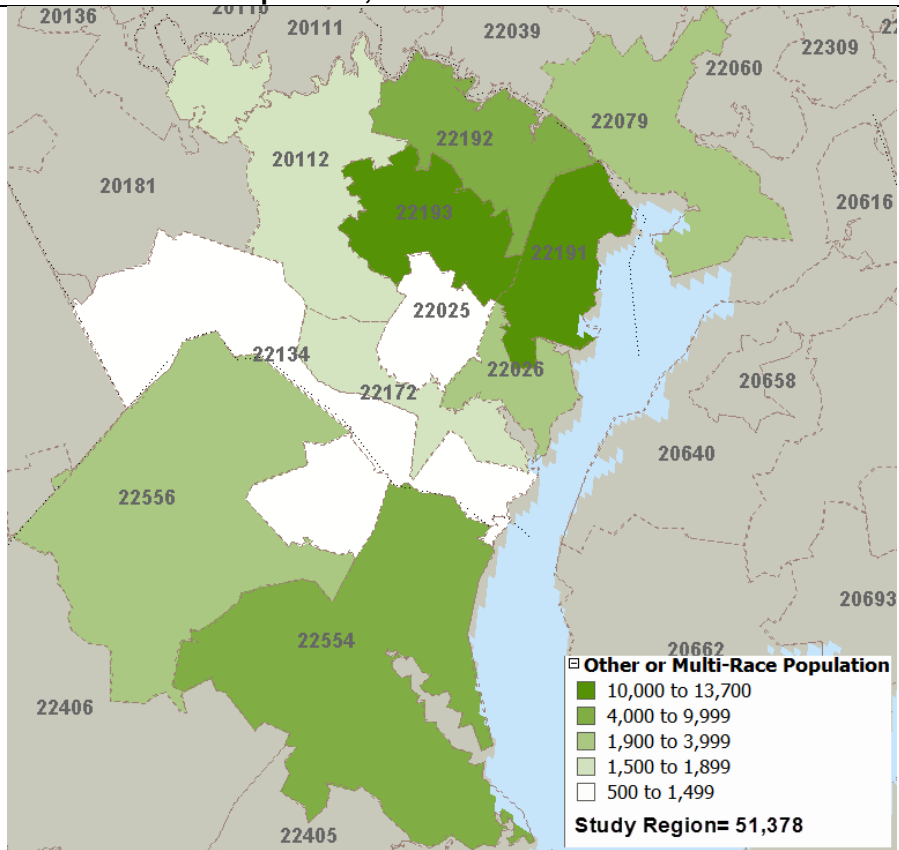- 4,000 to 9,999
- 3,500 to 3,999
- 800 to 3,499

Study Region= 91,803

Source: Community Health Solutions analysis of estimates from Alteryx, Inc.

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Map 7: White Population, 2012
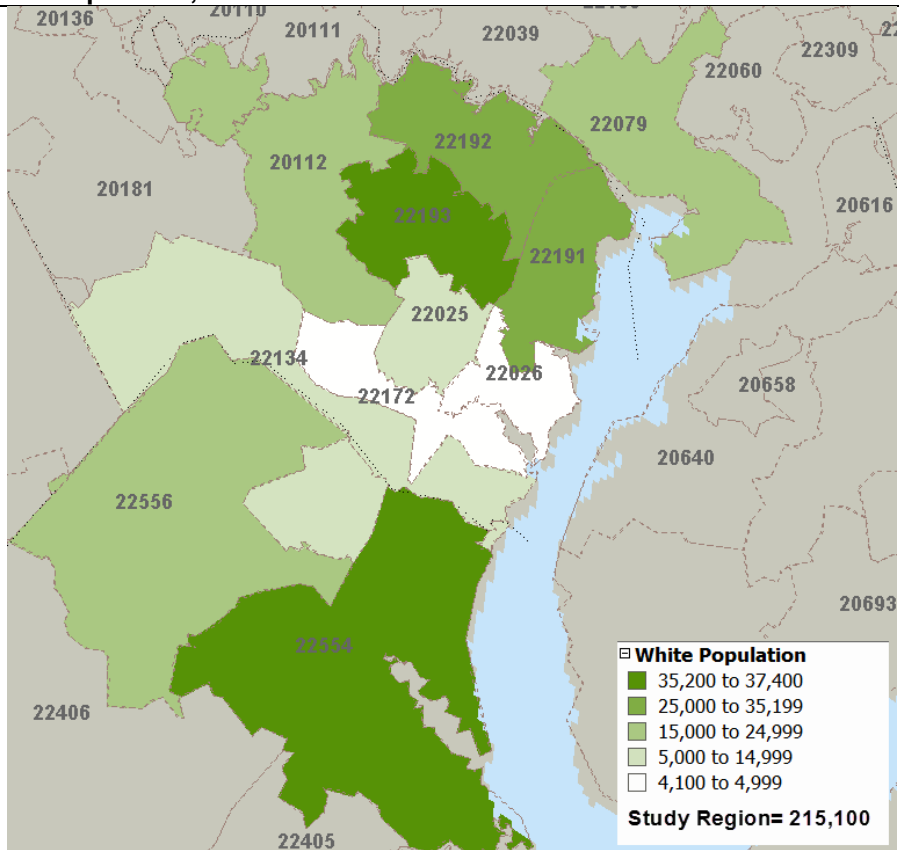
White Population
- 35,200 to 37,400
- 25,000 to 35,199
- 15,000 to 24,999
- 5,000 to 14,999
- 4,100 to 4,999

Study Region= 215,100

Map 8: Other or Multi-Race Population, 2012

Other or Multi-Race Population
- 10,000 to 13,700
- 4,000 to 9,999
- 1,900 to 3,999
- 1,500 to 1,899
- 500 to 1,499

Study Region= 51,378

Source: Community Health Solutions analysis of estimates from Alteryx, Inc.
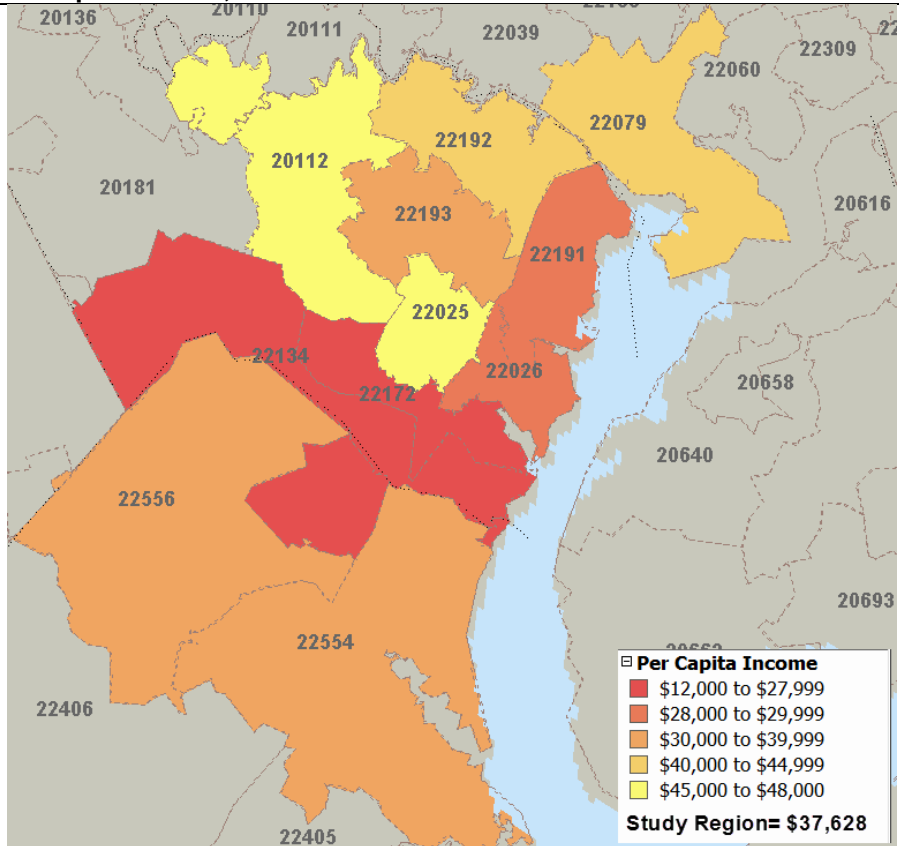
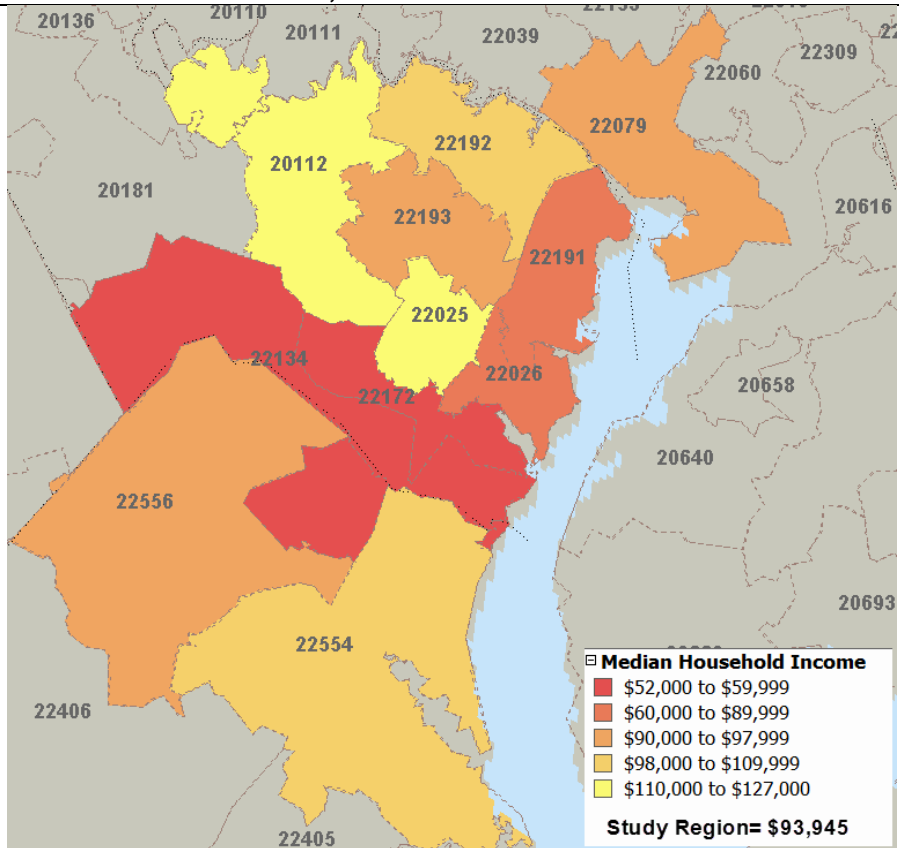**Map 9: Hispanic Ethnicity Population[17], 2012**
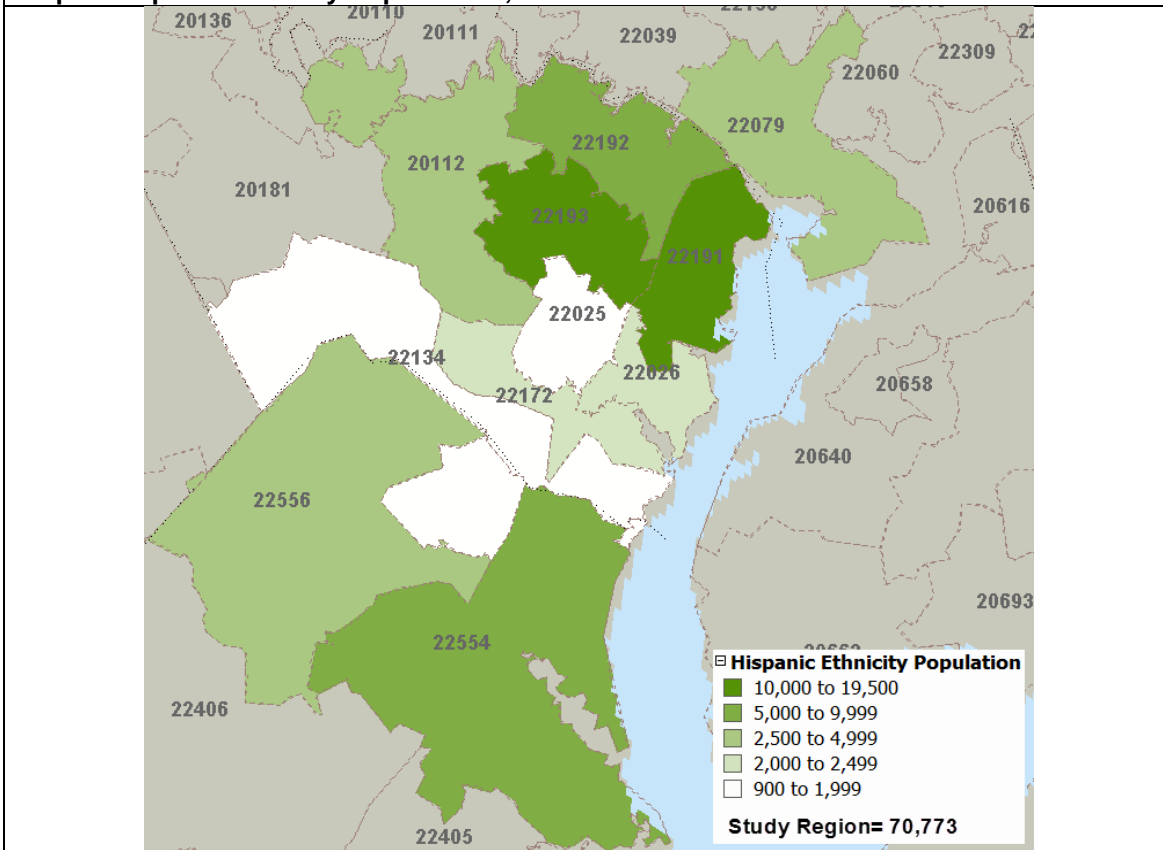
Source: Community Health Solutions analysis of estimates from Alteryx, Inc.

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[17] Classification of ethnicity; therefore, Hispanic individuals are also included in the race categories.
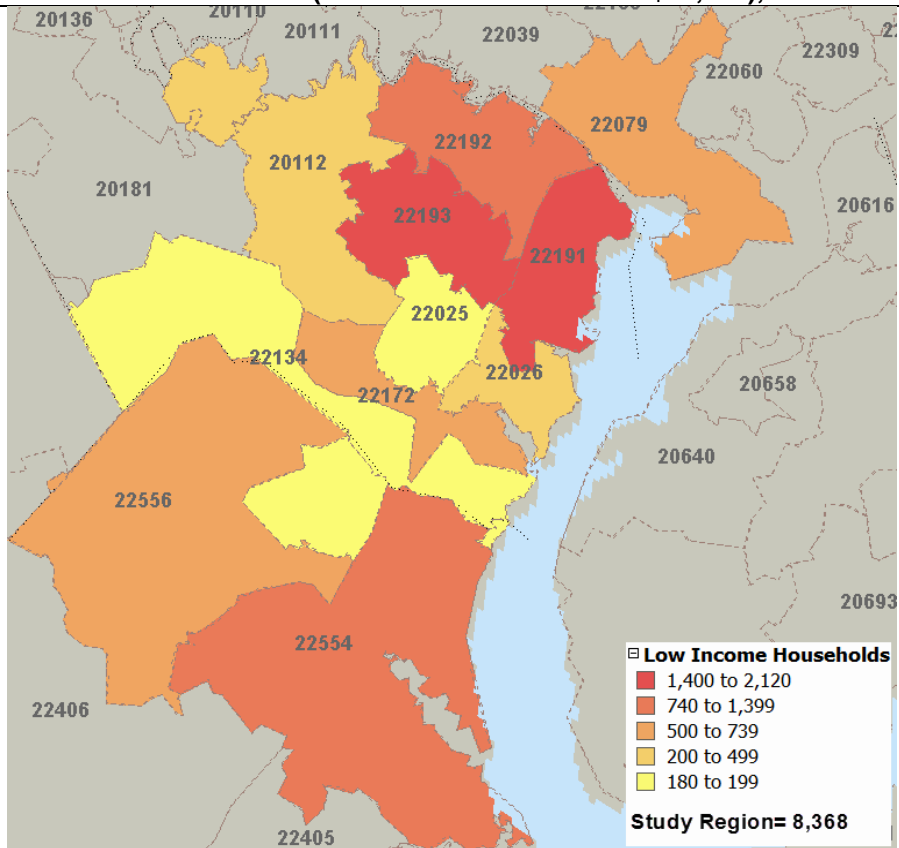
Map 10: Per Capita Income, 2012

Per Capita Income
- $12,000 to $27,999
- $28,000 to $29,999
- $30,000 to $39,999
- $40,000 to $44,999
- $45,000 to $48,000

Study Region= $37,628

Map 11: Median Household Income, 2012

Median Household Income
- $52,000 to $59,999
- $60,000 to $89,999
- $90,000 to $97,999
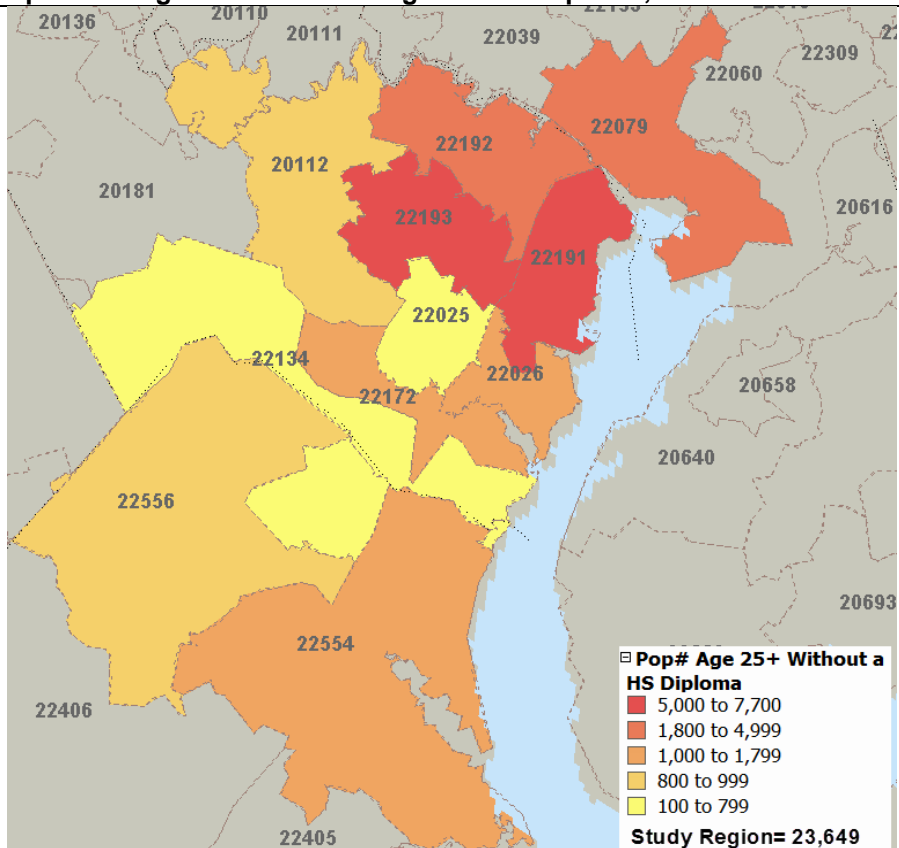- $98,000 to $109,999
- $110,000 to $127,000

Study Region= $93,945

Note: Red indicates an area of higher risk on these maps.
Source: Community Health Solutions analysis of estimates from Alteryx, Inc.

Sentara Northern Virginia Medical Center
Community Health Needs Assessment

Map 12: Low Income Households (Households with Income<$25,000), 2012

Low Income Households
- 1,400 to 2,120
- 740 to 1,399
- 500 to 739
- 200 to 499
- 180 to 199

Study Region= 8,368

Map 13: Population Age 25+ Without a High School Diploma, 2012

Pop# Age 25+ Without a HS Diploma
- 5,000 to 7,700
- 1,800 to 4,999
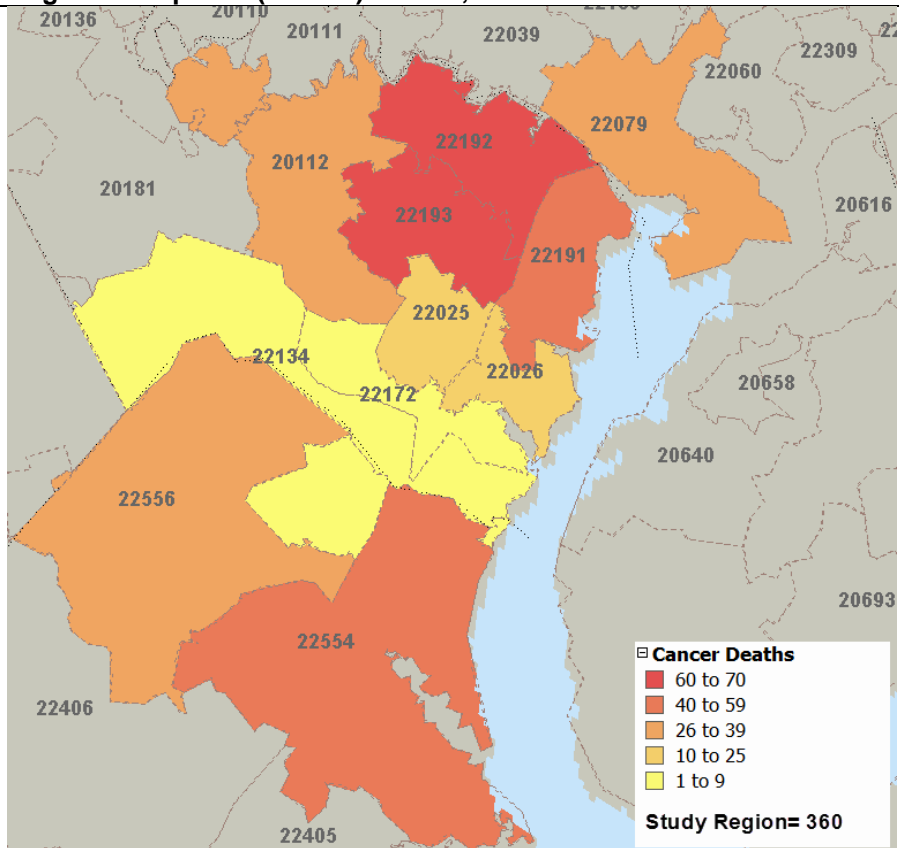- 1,000 to 1,799
- 800 to 999
- 100 to 799

Study Region= 23,649

Note: Red indicates an area of higher risk on these maps.
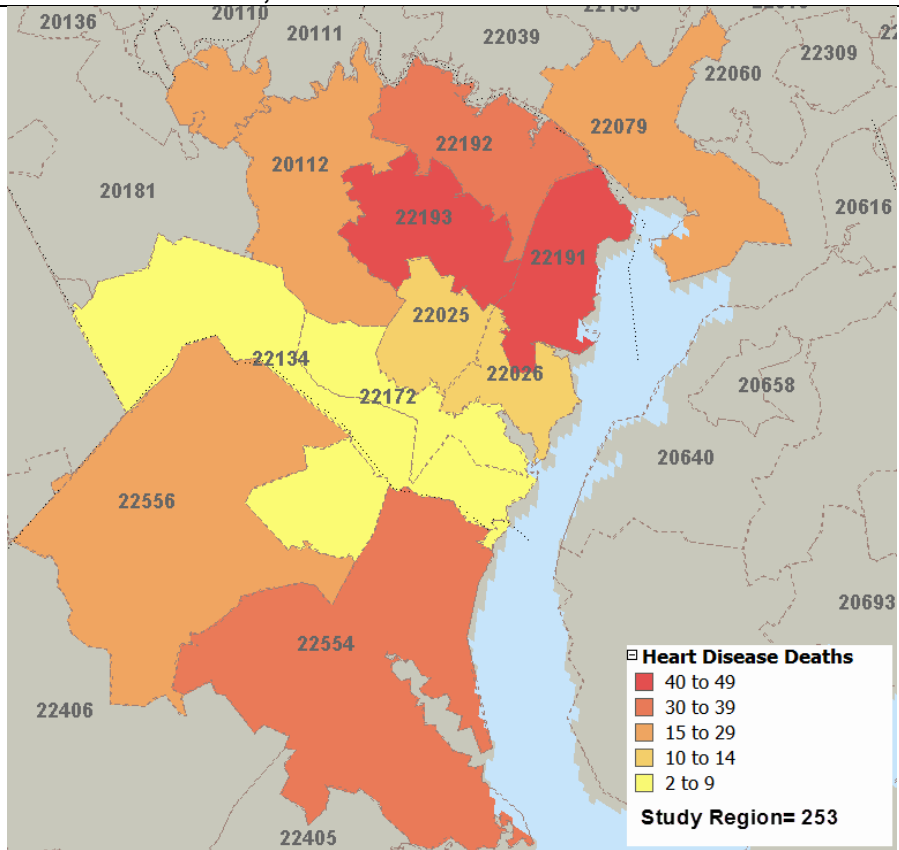*Source: Community Health Solutions analysis of estimates from Alteryx, Inc.*

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Community Health Needs Assessment

Map 14: Total Deaths, 2011

Total Deaths
- 220 to 230
- 100 to 219
- 80 to 99
- 40 to 79
- 10 to 39

Study Region= 1,252

Map 15: Malignant Neoplasm (Cancer) Deaths, 2011

Cancer Deaths
- 60 to 70
- 40 to 59
- 26 to 39
- 10 to 25
- 1 to 9

Study Region= 360

Source: Community Health Solutions analysis of data from the Virginia Department of Health.

Sentara Northern Virginia Medical Center
Community Health Needs Assessment

Map 16: Heart Disease Deaths, 2011

Heart Disease Deaths
- 40 to 49
- 30 to 39
- 15 to 29
- 10 to 14
- 2 to 9

Study Region= 253

Map 17: Unintentional Injury Deaths, 2011

Unintentional Injury Deaths
- 13 to 14
- 7 to 12
- 5 to 6
- 3 to 4
- 1 to 2

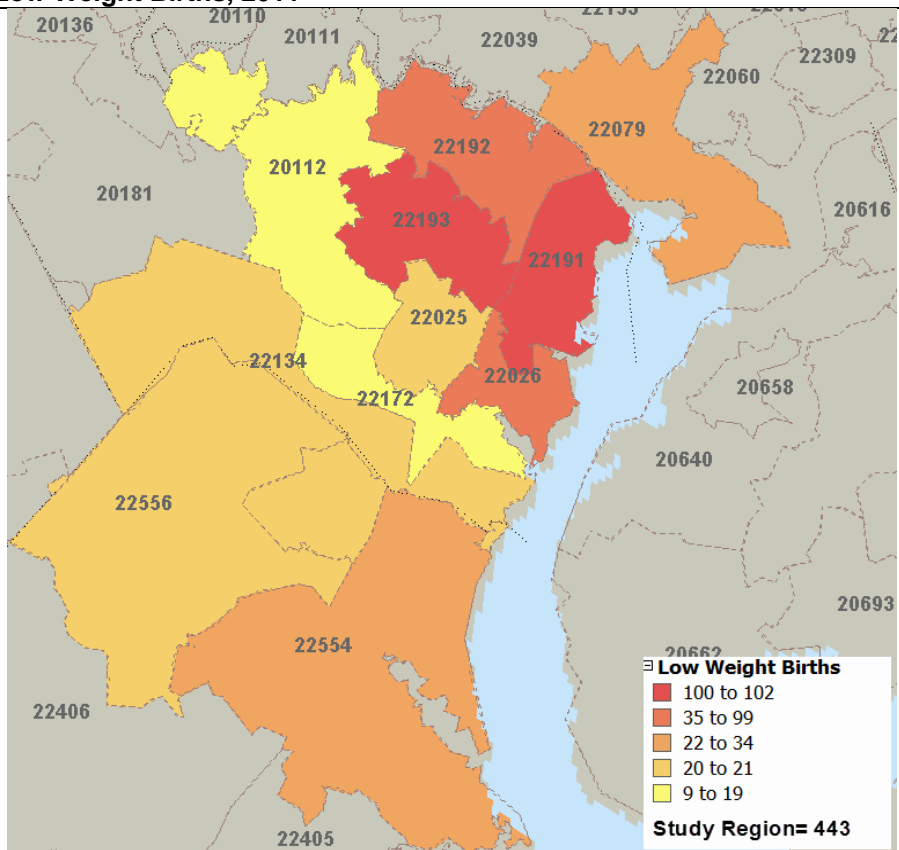Study Region= 69

Source: Community Health Solutions analysis of data from the Virginia Department of Health.

Map 18: Total Live Births, 2011
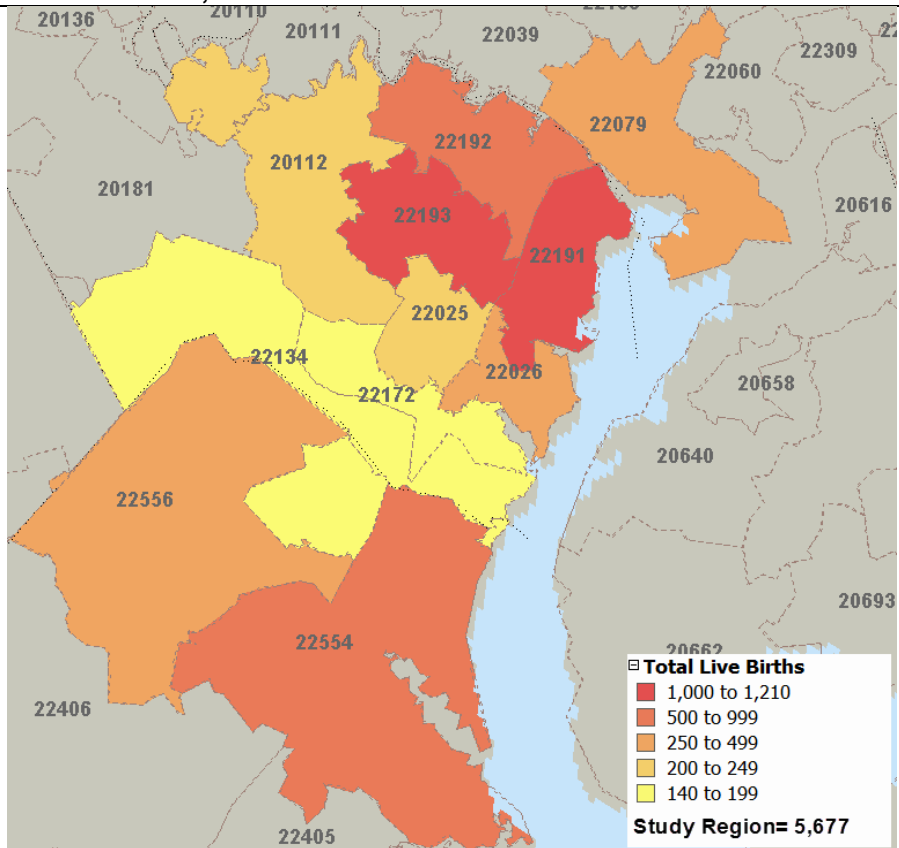
Total Live Births
- 1,000 to 1,210
- 500 to 999
- 250 to 499
- 200 to 249
- 140 to 199

Study Region= 5,677

Map 19: Low Weight Births, 2011

Low Weight Births
- 100 to 102
- 35 to 99
- 22 to 34
- 20 to 21
- 9 to 19

Study Region= 443

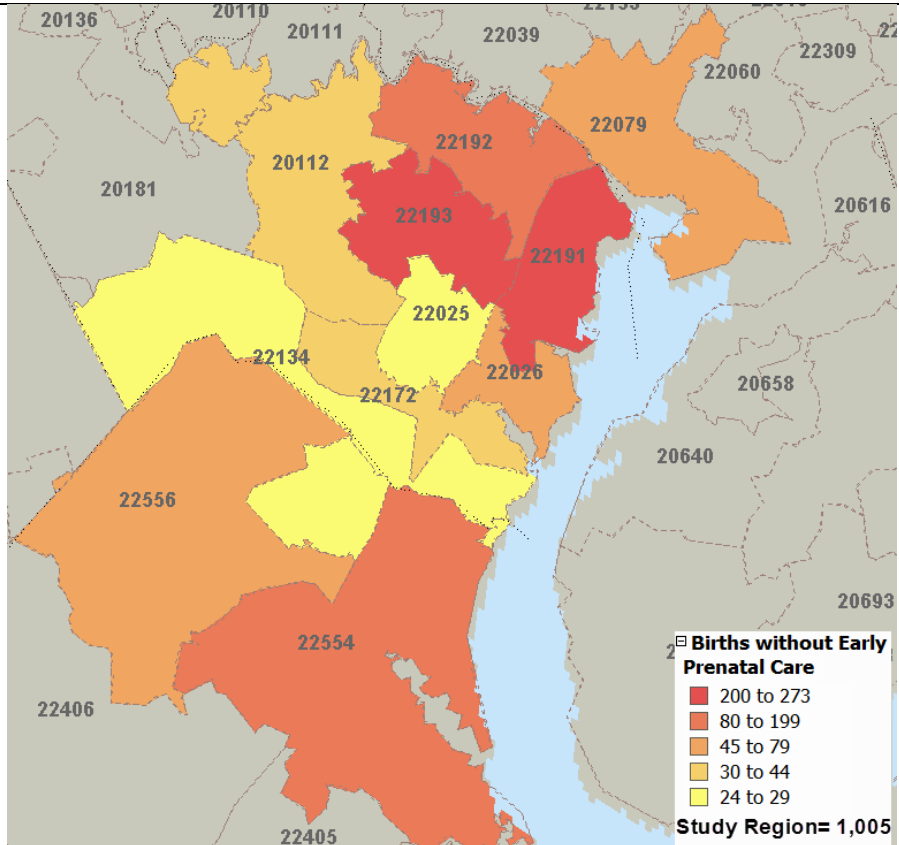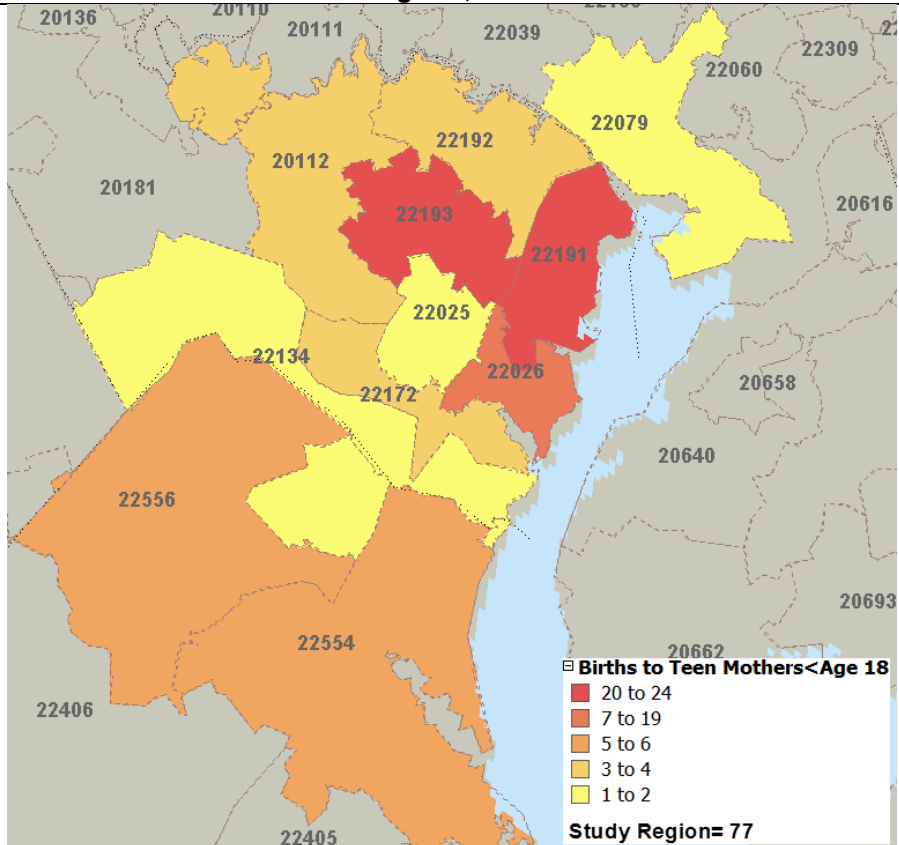*Source: Community Health Solutions analysis of data from the Virginia Department of Health.*

Map 20: Births Without Early Prenatal Care (No Prenatal Care in the First 13 Weeks), 2011

Births without Early Prenatal Care
- 200 to 273
- 80 to 199
- 45 to 79
- 30 to 44
- 24 to 29

Study Region= 1,005

Map 21: Births to Teen Mothers Under Age 18, 2011

Births to Teen Mothers<Age 18
- 20 to 24
- 7 to 19
- 5 to 6
- 3 to 4
- 1 to 2

Study Region= 77

Source: Community Health Solutions analysis of data from the Virginia Department of Health.

Sentara Northern Virginia Medical Center
Community Health Needs Assessment

Map 22: Prevention Quality Indicator (PQI) Hospital Discharges, 2011

PQI Discharges
- 400 to 540
- 300 to 399
- 150 to 299
- 100 to 149
- 10 to 99

Study Region= 2,491

Map 23: Behavioral Health Hospital Discharges, 2011

BH Discharges
- 350 to 380
- 200 to 349
- 115 to 199
- 80 to 114
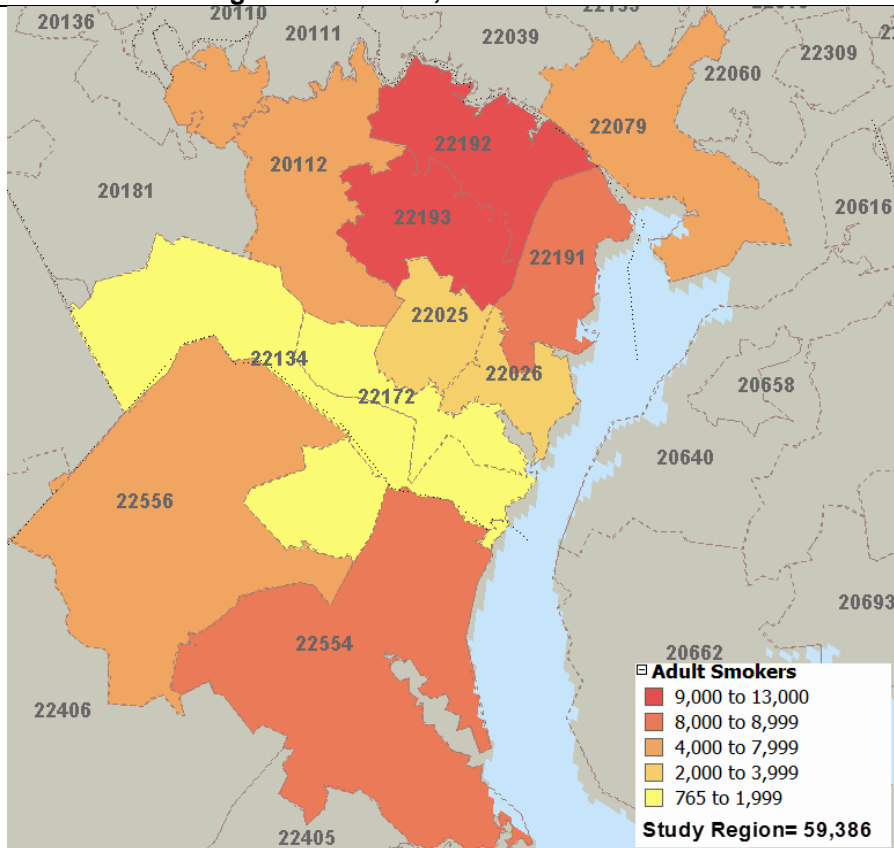- 39 to 79

Study Region= 2,099

Source: Community Health Solutions analysis of hospital discharge data from Virginia Health Information, Inc.

Sentara Northern Virginia Medical Center
Community Health Needs Assessment

Map 24: Estimated Adults Age 18+ Overweight or Obese, 2012

Adults Overweight or Obese
- 25,000 to 31,000
- 20,000 to 24,999
- 10,000 to 19,999
- 5,000 to 9,999
- 2,000 to 4,999

Study Region= 161,098

Map 25: Estimated Adult Age 18+ Smokers, 2012

Adult Smokers
- 9,000 to 13,000
- 8,000 to 8,999
- 4,000 to 7,999
- 2,000 to 3,999
- 765 to 1,999

Study Region= 59,386
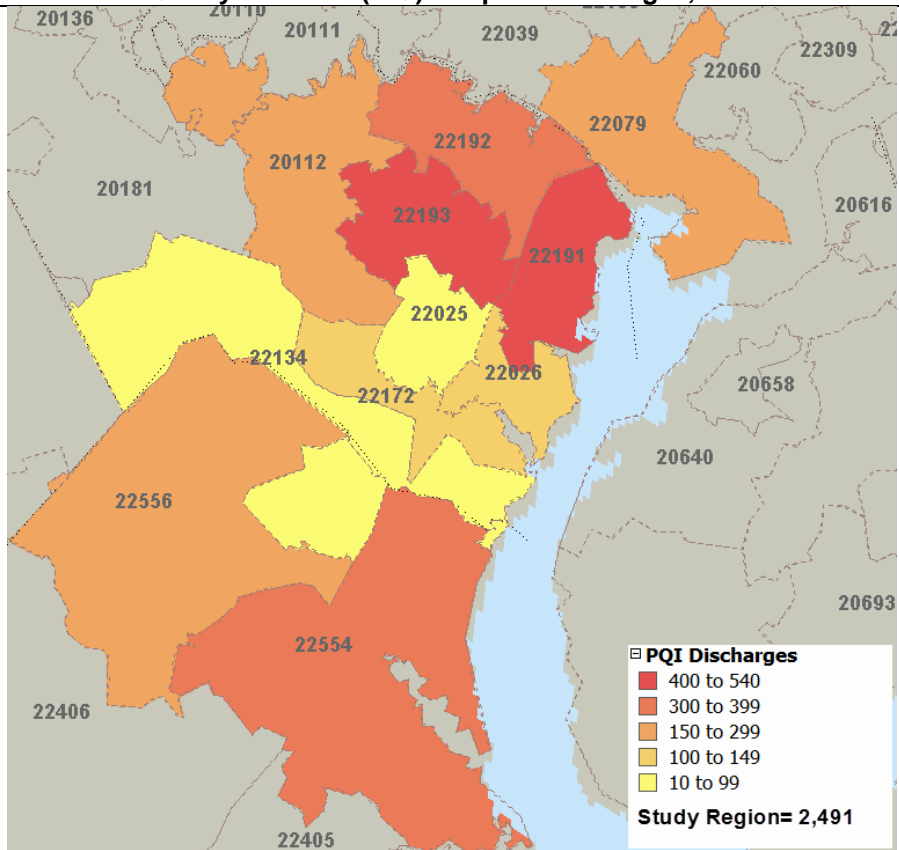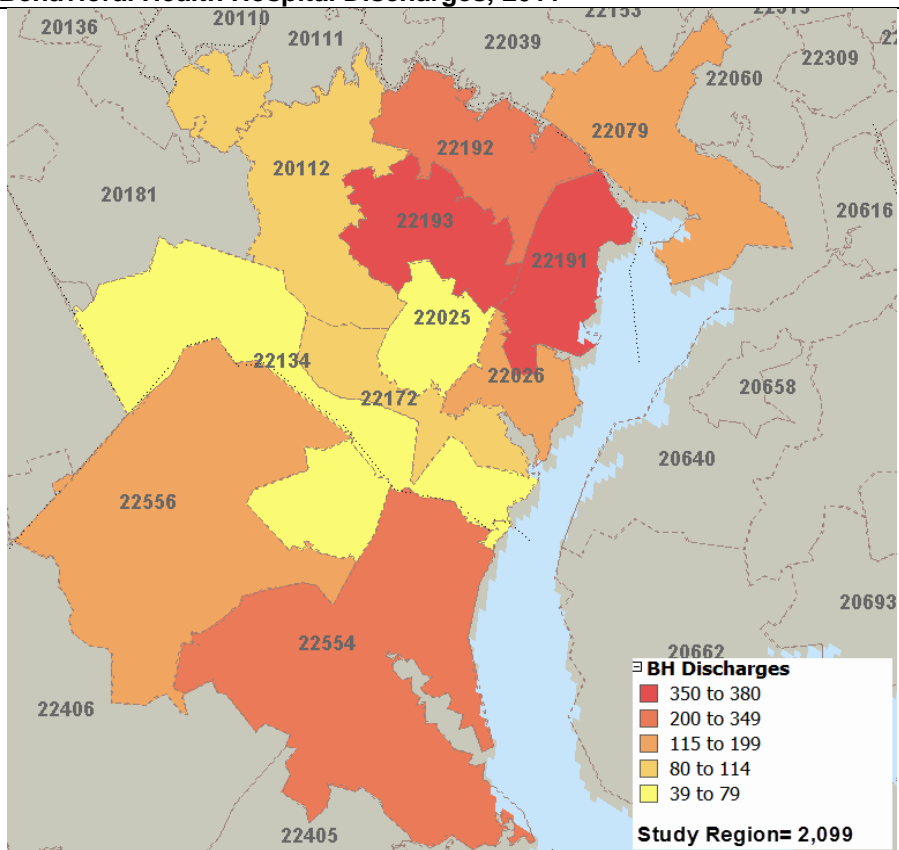
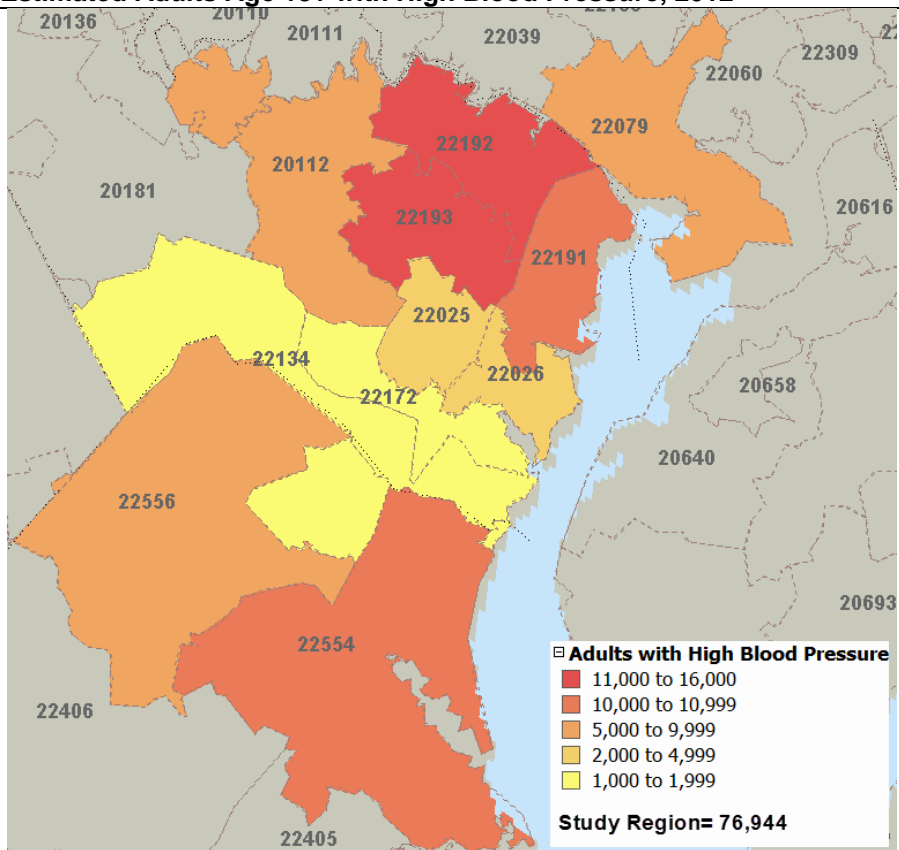*Source: Community Health Solutions estimates based on secondary sources. See Appendix C for details.*

Map 26: Estimated Adults Age 18+ with Diabetes, 2012
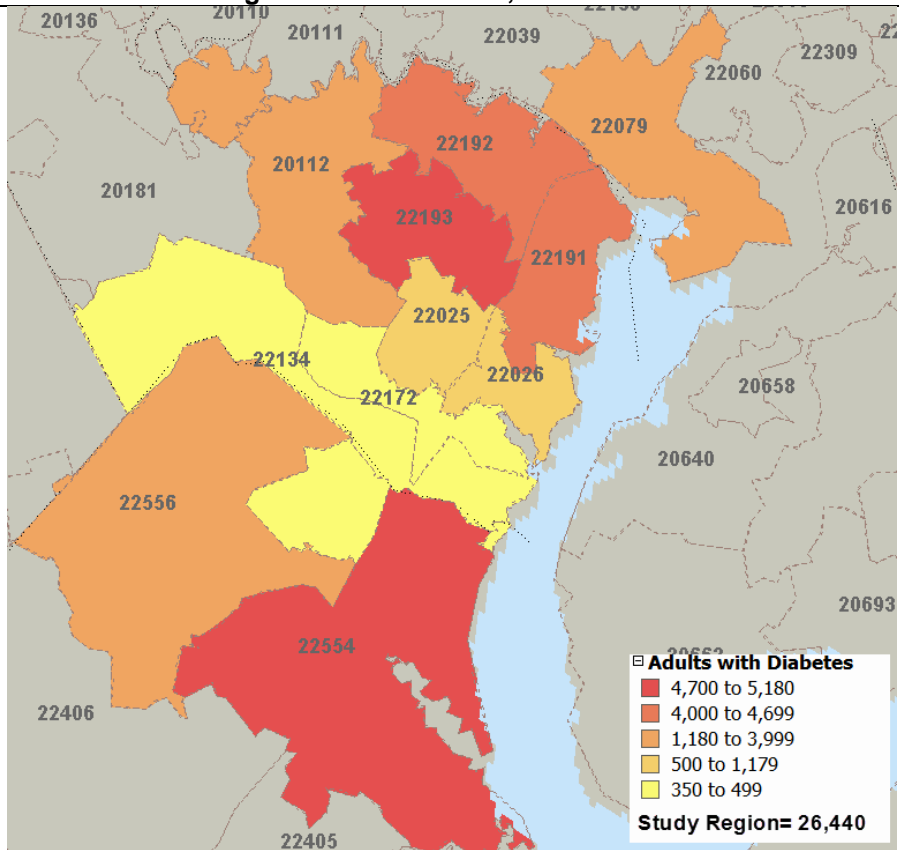
Adults with Diabetes
- 4,700 to 5,180
- 4,000 to 4,699
- 1,180 to 3,999
- 500 to 1,179
- 350 to 499

Study Region= 26,440

Map 27: Estimated Adults Age 18+ with High Blood Pressure, 2012

Adults with High Blood Pressure
- 11,000 to 16,000
- 10,000 to 10,999
- 5,000 to 9,999
- 2,000 to 4,999
- 1,000 to 1,999

Study Region= 76,944

Source: Community Health Solutions estimates based on secondary sources. See Appendix C for details.

Map 28: Estimated Youth Age 14-19 Overweight or Obese, 2012
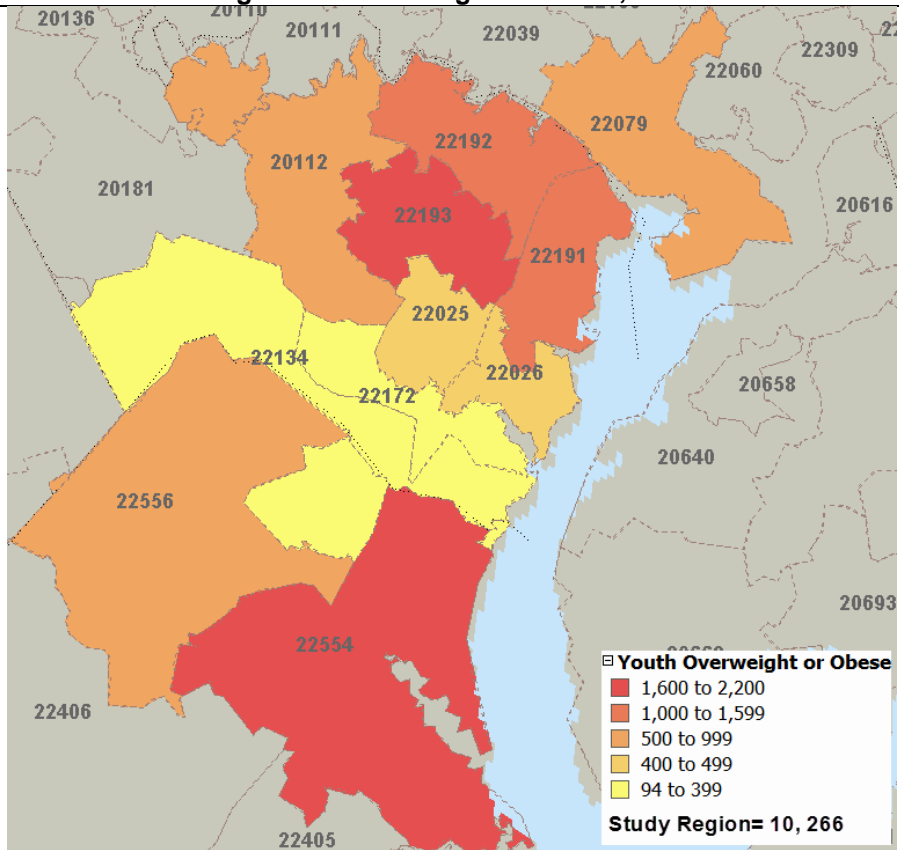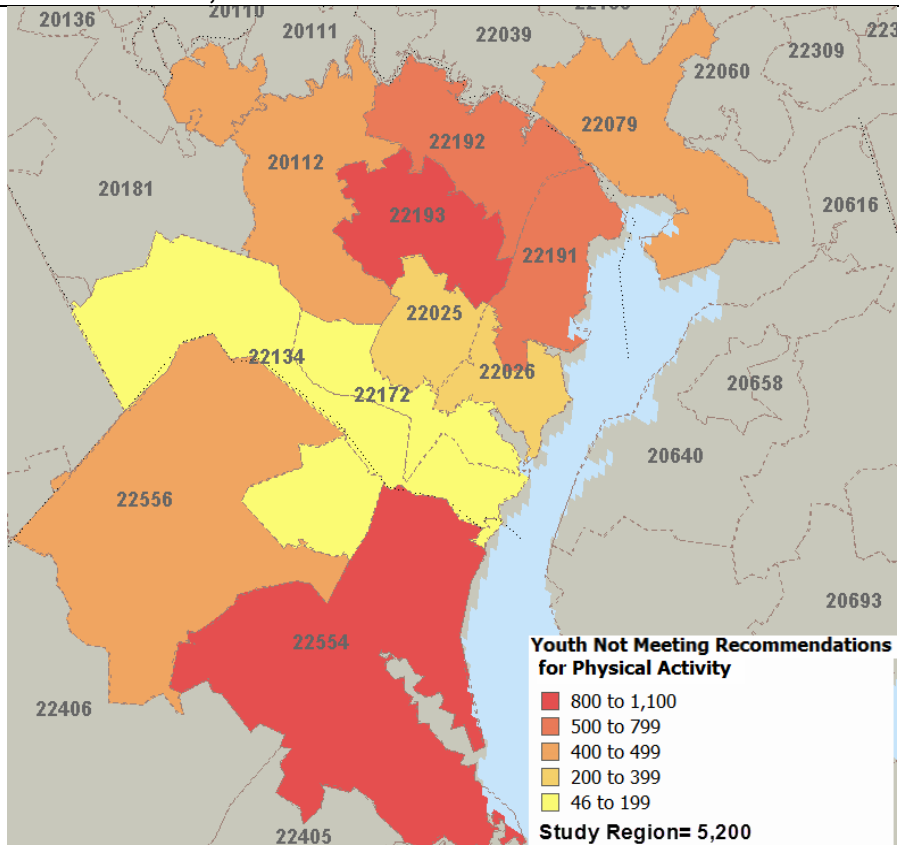

Youth Overweight or Obese
- 1,600 to 2,200
- 1,000 to 1,599
- 500 to 999
- 400 to 499
- 94 to 399

Study Region= 10, 266

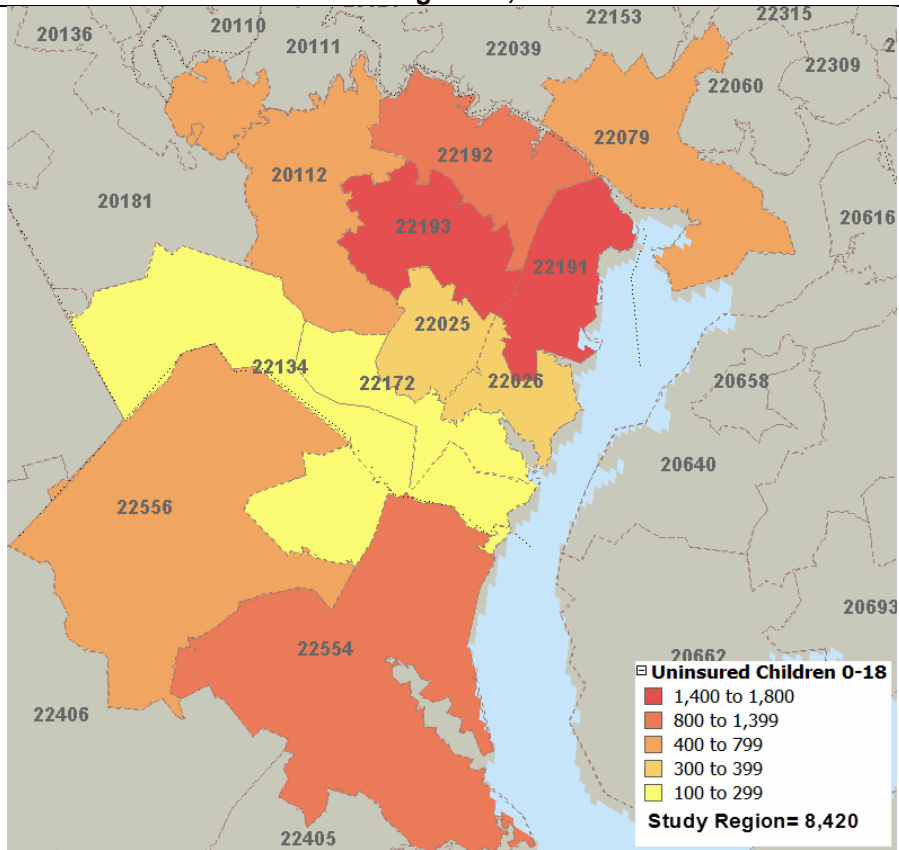**Map 29: Estimated Youth Age 14-19 Not Meeting Recommendations for Physical Activity in the Past Week, 2012**

Youth Not Meeting Recommendations for Physical Activity
- 800 to 1,100
- 500 to 799
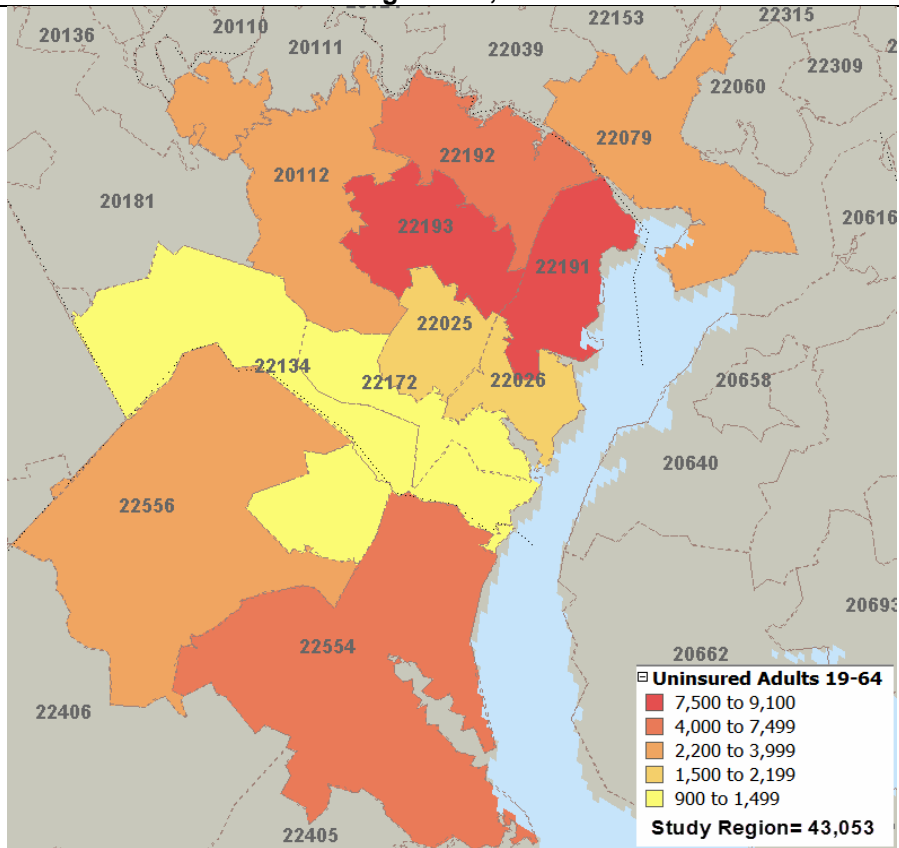- 400 to 499
- 200 to 399
- 46 to 199

Study Region= 5,200

Source: Community Health Solutions estimates based on secondary sources. See Appendix C for details.

Map 30: Estimated Uninsured Children Age 0-18, 2012

Uninsured Children 0-18
- 1,400 to 1,800
- 800 to 1,399
- 400 to 799
- 300 to 399
- 100 to 299

Study Region= 8,420

Map 31: Estimated Uninsured Adults Age 19-64, 2012

Uninsured Adults 19-64
- 7,500 to 9,100
- 4,000 to 7,499
- 2,200 to 3,999
- 1,500 to 2,199
- 900 to 1,499

Study Region= 43,053

Source: Community Health Solutions estimates based on secondary sources. See Appendix C for details.

APPENDIX B: Community Insight Profile-Additional Ideas and Suggestions for Improving Community Health

Survey respondents were given the option to submit additional ideas and suggestions for improving community health. The open-ended responses are listed below.

Additional Ideas and Suggestions for Improving Community Health	
Response	
1	1) Access to behavioral health services to children and adolescents, within immigrant communities, to address issues arising due to acculturation and trauma from the immigration process are a significant problem for a community that has a growing immigrant population from non-Spanish speaking countries as well as for the Spanish speaking communities. 2) Trauma has overwhelming research to indicate the serious long term medical impact of trauma. 3) The expansion of Medicaid is not likely to increase the availability of qualified mental health providers, most especially lack of qualified mental health providers who are bilingual and trained to work with children and their families.
2	Access to specialty care for indigent uninsured patients continues to be an ongoing problem.
3	Being more open and accepting to a variety of cultures, providing translation for families who don't speak English.
4	Continue to provide grants to worthwhile community health services and non-profit organizations that have a history of providing excellent health care to their clients.
5	1) Continued community outreach. 2) Support for the various clinics which are attempting to serve the uninsured/underinsured population while in the transition to the "new" health care system. 3) Call attention to the lack of mental health support.
6	Develop a patient-centered care model.
7	Educating staff and community about the Americans with Disabilities Act and providing accommodations for people with disabilities.
8	Funding option to allow increased care of vulnerable populations for especially those with chronic disease so we can hopefully decrease complications that inevitably end up costing the community more in hospital costs, lost wages, lost tax revenue etc.
9	Have a fitness facility available for patients, former patients, and community.
10	Have Sentara staff at the community meetings and engaging with other programs available to strengthen each other.
11	Honestly, I want desperately to see more regions build on our model as a nonprofit free mental health clinic. The amount of work we do is amazing. As a training site for graduate and post graduate students, our interns provide the mental health care under supervision. We are a staff of 3 part timers. We utilize volunteers from our local university and work with around 14 universities for their graduate and post graduate psychology and social work programs. Last year we worked with 2,500 people through direct counseling, screenings, educational presentations, and groups. The actual budget was around $160,000. Yet our in-kind budget was greater than $460,000. It doesn't get more cost-effective than this. With more funding, we could do even more. If you have an interest in this model, please feel free to contact me.
12	I feel the general population is unaware of what is available to them. They need to understand the direction of heath care with the patient and family assuming responsibility for decisions and non-emergency care. I feel Sentara is headed in the right direction with their emphasis on putting the "health' back in health care. They need to work with the community to gain their cooperation.
13	I would love to speak with someone associated with Sentara if there is interest in my comments concerning a new emergency and residential mental health facility for children and youth in our area. Thank you for your time.
14	I would suggest the mission be expanded to: We improve health every day to all that need services.

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Sentara Northern Virginia Medical Center
Community Health Needs Assessment

15	1) In our community we have a lot of people without insurance who cannot afford to pay for the doctor or prescriptions. 2) The dental problem is also a major issue since we have a lot of clients who need dental work done and don't have the money to have it done.
16	Keep surveying the public. Refocus your information collection to find demand, desire, and needs in the community.
17	1) Local comprehensive health coalition that would involve stakeholders from the public health system to engage in improving the health of the community. 2) Perhaps need to look at and analyze population-based data and approaches to health to get a bigger bang for the buck.
18	Mental health issues are seriously neglected in the community and there are insufficient resources available for those who need assessment and treatment.
19	More facilities where patients with no insurance can be seen by specialist doctors.
20	Motivating people to adopt a healthy lifestyle, and for restaurants to serve healthy food, in the correct portions.
21	Our organization serves homeless families and nutrition is often the last thing on their mind- they are struggling to keep their heads above water. I'd love to know more about how I can help them with nutrition/wellness/mindfulness that will serve to prevent disease. Prevention is a huge piece that will help keep them out of the hospital and working!
22	Partner with the local Head Start program to provide training to families on health literacy. In the nation, 9,240 Head Start families were trained on the health literacy program impact-researchers found that visits to the ER or clinic dropped by 58%. This added up to annual savings to Medicaid of $554 per family. Please contact us. We have the training ready, but need your help. [name of community member]
23	Patients need affordable specialty care, e.g. orthopedics etc.
24	1) Please reach out to existing providers and work together. We all want health to improve every day and would welcome working closer with our hospital. There is plenty of need and plenty of work to do. We can complement each other in service to the community. This is especially true with long term services and supports. 2) Reach out to the Area Agency on Aging.
25	Providing clear, accessible health care options that are affordable for those without insurance and adequate providers for those with Medicaid are a real need in this community.
26	See prior. Thank you to folks like [name of two community members] etc. who make PWC their home and work tirelessly to improve the community.
27	1) Sentara Hospital has already demonstrated great commitment to our community and has established many programs to benefit its members. I believe that working to develop formal organization of the safety net providers in our local community would enhance access to care. 2) I also believe that partnering with training programs (nursing, medical, allied health, mental health) would help ensure sufficient numbers of professionals needed to meet the community's health needs in the future.
28	Sentara should work to bring in a neurologist to help local schools and sports organizations deal with concussions. There should be some way to bring all three groups together to ensure that each athlete's health monitored and made a priority. We love having Sentara as a partner and thank you for all you do for the community!
29	1) Since arriving in Northern Virginia, Sentara has added expanded services to the community with the Heart and Vascular Institute, the Breast Care Center, the Lake Ridge ER and now the LIFENET EMS system. It is obvious that Sentara strives to improve the health of the community every day. 2) I would like to see a unified system of care to the uninsured and low income people of our community, incorporating dental, pediatric, primary care, prenatal care, medication access, specialty services and mental health care services. Mobile clinics could be used to improve access to care. Even with the Affordable Care Act, there will be people needing help navigating the system.
30	Thank you for your interest and involvement in improving the lives of people living in this region!
31	The addition of a 24/7 Sentara ED should help after-hours access for our Lorton community. I would appreciate timely feedback via fax to my office for patients seen in the ED including lab and rads data. I look forward working with Sentara in providing quality care to the Lorton community we have served for over 30 years.

Continued on next page…

32	The Emergency Room service was not good the last time I needed it. We waited hours to be seen and my husband was very ill. I hear it has improved, but we have gone to Prince William Hospital since then. I think this belief that you won't be seen hurts the hospital.
33	The health and quality of life of older individuals could be enhanced if services were readily available to evaluate, make recommendations and treat diseases such as Alzheimer's and other dementias.
34	The tagline does not reflect the language, cultural competency, and affordability barriers that must be overcome before Sentara can begin to improve everyone's health every day.
35	We have a number of corpsman/medics leaving the service and it would be great to utilize them and continue their medical services productivity.
36	1) We have to go outside of our community on a daily basis to find inpatient psychiatric services. Your hospital at one point provided inpatient psychiatric services, but, your unit was closed many years ago. The reason given was that you could not make it financially viable. From our stand point, the real reason was many referrals were turned down because they were not seen as being manageable on your unit. The need in this area is great in this area. It is important to keep people in their community as opposed to sending them to hospitals far away. On a routine basis we are sending individuals to The Pavilion, a new hospital in Williamsburg. With the expertise Sentara has with behavioral health, I was hoping to see the psychiatric unit reopened. 2) Another great need is for psychiatrists who accept Medicaid.
37	What is imperative is that Sentara connects with various ethnic/racial groups to serve as advocates for their community. How to provide global health care?
38	With the incredible changes in the next year as a result of health reform we need to consider managing all the newly insured and develop a plan with social services to streamline eligibility. We will need a strong case management and navigation system to help educate, improve health literacy and health outcomes. Coordination of care is a necessity. Would consider telemedicine with specialties at EVMS and Sentara.
39	Work with local community college system and university system to utilize local skilled workers and continued professional development.
40	Would like to see more public private partnerships developed given shrinking federal/state budgets and budgets within the hospital. Would like to see a community safety net where all stakeholders are incented to contribute to greater good.

APPENDIX C: Data Sources

Section	Source
Part I:Community Insight Profile	
1) Survey Respondents 2) Community Health Concerns 3) Community Service Gaps 4) APPENDIX B: Community Insight Profile-Additional Ideas and Suggestions for Improving Community Health	Community Health Solutions analysis of *Community Insight* survey responses submitted by community stakeholders.
Part II: Community Indicator Profile	
1) Health Demographic Trend Profile 2) Health Demographic Snapshot Profile • Appendix A: Maps 1-13	Community Health Solutions analysis of US Census data and population estimates from Alteryx, Inc. (2012 and 2017). Alteryx, Inc., a commercial vendor of demographic data. Note that demographic estimates may vary from other sources of local demographic indicators.
3) Mortality Profile • Appendix A: Maps 14-17	Community Health Solutions analysis of Virginia Department of Health death record data (2011).
4) Maternal and Infant Health Profile • Appendix A: Maps 18-21	Community Health Solutions analysis of Virginia Department of Health birth record data (2011).

5) Preventable Hospitalization Profile
    • Appendix A: Map 22
6) Behavioral Health Hospitalization Profile
    • Appendix A: Map 23
	Community Health Solutions analysis of hospital discharge data from the Virginia Health Information (VHI) dataset (January 1-December 31, 2011) and demographic data from Alteryx, Inc. (2011). Data include discharges for Virginia residents from Virginia hospitals reporting to Virginia Health Information, Inc. These data do not include discharges from state behavioral health facilities or federal (military) facilities. Data reported are based on the patient's primary diagnosis.
	
	NOTE: Virginia Health Information (VHI) requires the following statement to be included in all reports utilizing its data: VHI has provided non-confidential patient level information used in this report which was compiled in accordance with Virginia law. VHI has no authority to independently verify this data. By accepting this report the requester agrees to assume all risks that may be associated with or arise from the use of inaccurately submitted data. VHI edits data received and is responsible for the accuracy of assembling this information, but does not represent that the subsequent use of this data was appropriate or endorse or support any conclusions or inferences that may be drawn from the use of this data.

7) Adult Health Risk Factor Profile • Appendix A: Maps 24-27	Estimates of chronic disease and risk behaviors for adults 18+ are based on Community Health Solutions analysis of: • A multi-year dataset (2006-2010)from the Virginia Behavioral Risk Factor Surveillance System (BRFSS).For more information on BRFSS visit: http://www.cdc.gov/brfss/about/index.htm • Demographic estimates from Alteryx, Inc. (2012) The indicators are estimates subject to measurement error, and should be used for planning purposes only. Estimates are not provided for the Virginia total. Attempts to contrast local estimates versus state estimates would result in a circular comparison. The statistical model to produce the estimates was developed by Community Health Solutions.

8) Youth Health Risk Factor Profile • Appendix A: Maps 28-29	Estimates of risk behaviors for children age 14-19 are based on Community Health Solutions analysis of: • National and statewide Virginia Youth Risk Behavioral Surveillance Survey from the Centers for Disease Control (2011). For more information on YRBSS visit: http://www.cdc.gov/HealthyYouth/yrbs/index.htm • Demographic estimates from Alteryx, Inc. (2012). Local-level synthetic estimates are based on state-level Virginia data. The indicators are estimates subject to measurement error, and should be used for planning purposes only. Estimates are not provided for the Virginia total. Attempts to contrast local estimates versus state estimates would result in a circular comparison. The statistical model to produce the estimates was developed by Community Health Solutions.
9) Uninsured Profile • Appendix A: Maps 30-31	Estimates of uninsured nonelderly age 0-64 are based on Community Health Solutions analysis of: • Community Health Solutions analysis of U.S. Census Bureau Small Area Health Insurance Estimates 2010. For more information on SAHIE visit: http://www.census.gov/did/www/sahie/data/index.html • Demographic estimates from Alteryx, Inc. (2012) Please note that the overlapping age groupings in the table were defined by the U.S. Census Bureau. Also note that income level is not the only factor that determines eligibility for Medicaid or FAMIS. Detailed information on eligibility for Medicaid and FAMIS can be found at http://www.dss.virginia.gov/benefit/medical_assistance/. Local-level synthetic estimates are based on state-level Virginia data. The indicators are estimates subject to measurement error, and should be used for planning purposes only. Estimates are not provided for the Virginia total. Attempts to contrast local estimates versus state estimates would result in a circular comparison. The statistical model to produce the estimates was developed by Community Health Solutions.
10) Medically Underserved Profile	Community Health Solutions analysis of U.S. Health Resources and Services Administration data. For more information visit: http://muafind.hrsa.gov/.