

Sentara Williamsburg Regional Medical Center Community Health Needs Assessment 2013



Sentara Williamsburg Regional Medical Center

Community Health Needs Assessment

Introduction

Sentara Williamsburg Regional Medical Center has conducted a community health needs assessment of the area that we serve. The assessment provides us with a picture of the health status of the residents in our communities and provides us with information about health and health-related problems that impact health status.

Our assessment includes a review of population characteristics such as age, educational level, and racial and ethnic composition because these factors can impact health. The assessment also looks at risk factors like obesity and smoking and health indicators such as infant mortality and preventable hospitalizations. Community input is important so the assessment also includes survey results from local health departments, the school system, social services, community health centers, free clinics, local governments, and many others. In the following pages, additional information on the assessment process and findings can be found.

The needs assessment identifies numerous health issues that our communities face. While there are many important health matters, we are focusing our efforts on the health issues listed below. Considering factors such as size and scope of the health problem, the intensity and severity of the issue, the potential to effectively address the problem and the availability of community resources, and Sentara's mission "to improve health every day", we have identified these priority health problems in our area:

- Patient self-management
- Healthcare for the uninsured and underinsured
- Obesity
- Behavioral health and substance abuse
- Cancer
- Diabetes
- Senior services

The community health needs assessment was used as the foundation for a hospital implementation strategy to address these priority needs. The assessment and implementation strategy have been adopted by the hospital's governing body. A number of resources are available in the community to address these needs through community partners such as the local health departments, United Way Agencies, and others. Information about these resources is available from sources like 2-1-1 Virginia and Sentara.com. Together, we will work to improve the health of the communities we serve.

Your input is important to us so that we can incorporate your feedback into our assessments. You may use our online feedback form available on the Sentara.com website. Thanks!

A Community Health Needs Assessment
Prepared for the Sentara Williamsburg Regional Medical Center
By Community Health Solutions

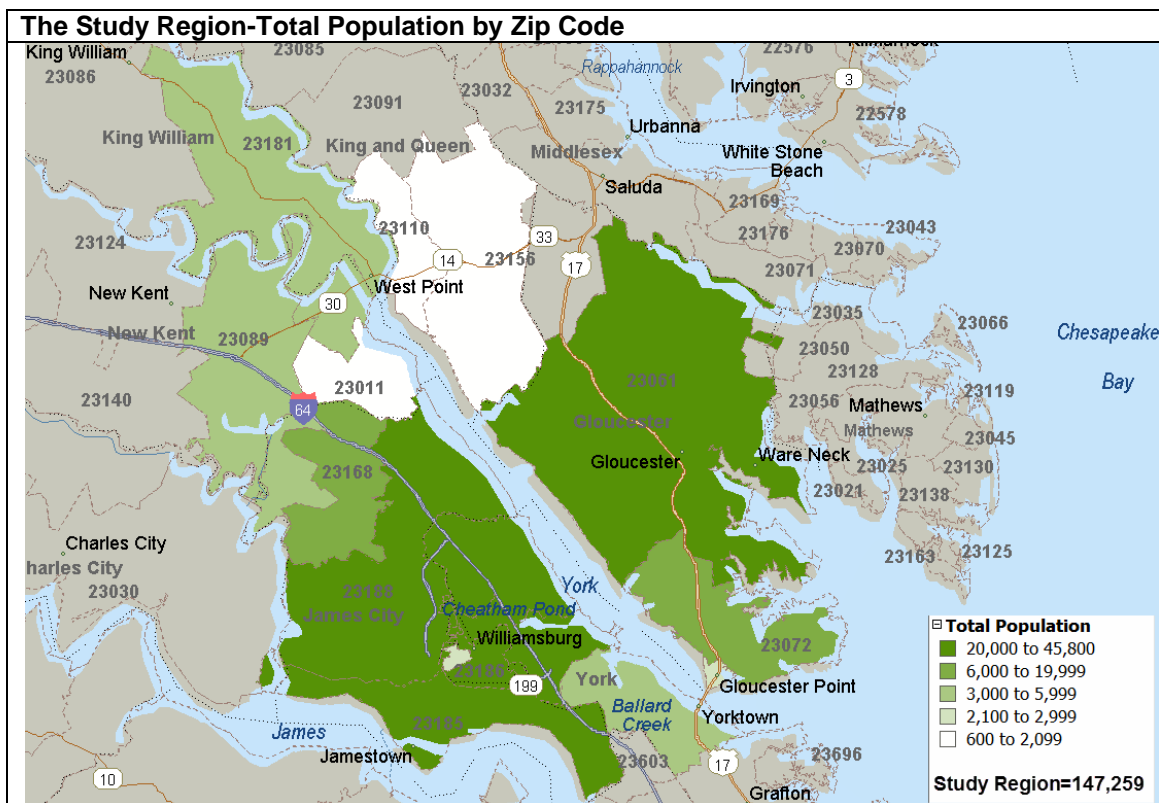
Table of Contents

Section	Page
Executive Summary	1
Part I. Community Insight Profile	4
Item 1. Survey Respondents	4
Item 2. Community Health Concerns	5
Item 3. Community Service Gaps	7
Part II. Community Indicator Profile	9
1. Health Demographic Trend Profile	10
2. Health Demographic Snapshot Profile	11
3. Mortality Profile	12
4. Maternal and Infant Health Profile	13
5. Preventable Hospitalization Discharge Profile	14
6. Behavioral Health Hospitalization Discharge Profile	15
7. Adult Health Risk Factor Profile	16
8. Youth Health Risk Factor Profile	17
9. Uninsured Profile	18
10. Medically Underserved Profile	19
Appendix A: Zip Code Level Maps	20
Appendix B: Community Insight Profile: Additional Ideas and Suggestions for Improving Community Health	37
Appendix C: Data Sources	38

Executive Summary

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

The study focuses on the SWRMC service area of 13 zip codes, most of which fall within the counties of Gloucester, James City, King and Queen, King William, New Kent and York; plus the City of Williamsburg. 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.



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 SWRMC. 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 101 community stakeholders identified by SWRMC. A total of 36 (36%) 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, Alzheimer's disease, depression, tobacco use, 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, long-term care services, patient self-management services, and more.

Fifteen 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 147,259 people. The population is expected to increase to 157,661 by 2017. Focusing on population rates, the study region is more densely populated, older and less racially/ethnically diverse than Virginia as a whole. Income levels are above statewide rates. The study region rate of adults age 25+ without a high school diploma was lower than the Virginia statewide rate.
- *Mortality Profile.* The study region had 1,243 total deaths in 2011. The leading causes of death were malignant neoplasms (cancer), heart disease, and cerebrovascular disease (stroke). Age group death rates were higher than the state rates for the population under 45, but lower for the population age 45+.
- *Maternal and Infant Health Profile.* The study region had 1,359 total live births in 2011. The study region has a lower rate of low weight births and higher rates of births without early prenatal care and non-marital births. The teen pregnancy rate was higher than the statewide rate for two of the seven localities (King and Queen and King William counties) that include the study region. The five-year infant mortality rates for King William County and Williamsburg City were higher than the statewide rate.
- *Preventable Hospitalization Discharge Profile.* The Agency for Healthcare Research and Quality (AHRQ) defines a 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 1,481 PQI hospital discharges from Virginia hospitals in 2011. The leading diagnoses for these discharges were congestive heart failure, bacterial pneumonia, and urinary tract infection. The study region PQI discharge rate per 100,000 population was lower than the statewide rate for all age groups.
- *Behavioral Health Hospitalization Discharge Profile.* Behavioral Health (BH) hospitalizations provide another important indicator of community health status. Residents of the study region had 900 hospital discharges from Virginia hospitals for behavioral health conditions in 2011.¹ The leading diagnoses for these discharges were general symptoms², affective psychoses 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 Health Risk Profile.* Local estimates indicate that substantial numbers of adults (age 18+) in the study region have health risks related to nutrition, physical inactivity, weight, tobacco, and alcohol. In addition, substantial numbers of adults have chronic conditions such as high blood pressure, arthritis, high cholesterol, diabetes and asthma.

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.

² 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.

- *Youth Health Risk Profile.* Local estimates indicate that substantial numbers of youth (age 14-19) in the study region have health risks related to nutrition, physical inactivity, weight, tobacco, alcohol and mental health.
- *Uninsured Profile.* An estimated 13,257 (12%) nonelderly residents of the study region were uninsured at any point in time in 2012. This included an estimated 2,011 children and 11,245 adults.
- *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 seven localities included in the study region are fully or partially designated as MUAs/MUPs.

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 Appendix A.*

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

Fifteen 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 in the analyses for 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 SWRMC. 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 101 community stakeholders identified by SWRMC. A total of 36 (36%) 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

Colonial Behavioral Health
Comfort Keepers
Community Services Coalition Inc.
Gloucester County Health Department
Gloucester-Mathews Free Clinic
Huntington Ingalls
James City County Community Services
Lackey Free Clinic
Olde Towne Medical Center
Optima Health (2)
Peninsula Agency on Aging, Inc. (2)
Peninsula Health Department
Project CARE of the Greater Virginia Peninsula, Inc.
Respite Care of Williamsburg United Methodist Church
Retired (3)
Riverside Center for Excellence in Aging
Sentara Medical Group
Sentara Williamsburg Regional Medical Center
Sentara Williamsburg Regional Medical Center Auxiliary (2)
Thomas Nelson Community College
Williamsburg Community Health Foundation (3)
Williamsburg Hotel Motel Association
Williamsburg Landing
York County
<i>Unknown Organization (5)</i>

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	Response Count
Adult Obesity	81%	29
Diabetes	78%	28
Heart Disease	75%	27
Alzheimer's Disease	67%	24
High Blood Pressure	67%	24
Childhood Obesity	61%	22
Cancer	56%	20
Depression	53%	19
Tobacco Use	50%	18
Dental Care/Oral Health-Adult	44%	16
Mental Health Conditions (other than depression)	44%	16
Alcohol Use	42%	15
Arthritis	42%	15
Chronic Pain	42%	15
Stroke	42%	15
Asthma	39%	14
Prenatal & Pregnancy Care	36%	13
Substance Abuse - Prescription Drugs	36%	13
Substance Abuse - Illegal Drugs	33%	12
Dental Care/Oral Health-Pediatric	31%	11
Orthopedic Problems	25%	9
Renal (kidney) Disease	22%	8
Domestic Violence	19%	7
Intellectual/Developmental Disabilities	19%	7
Neurological Disorders (seizures, multiple sclerosis)	19%	7
Physical Disabilities	19%	7
Respiratory Diseases (other than asthma)	19%	7
Teen Pregnancy	19%	7
Infant and Child Health	17%	6
Infectious Diseases	17%	6
Autism	14%	5
Sexually Transmitted Diseases	14%	5
Injuries	8%	3
HIV/AIDS	6%	2
Environmental Quality	0%	0
<i>Other Health Problems (see next page)</i>	14%	5

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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Exhibit I-2. (continued)

Open-Ended Responses
• Chronic disease management; particularly in the elderly
• Dementia and senior-related issues
• Diabetes - particularly Type II and pre-diabetes
• GEED and Allergies
• 1) Geriatric care 2) Access to low cost medications

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)	61%	22	<i>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.</i>
Health Care Services for the Uninsured and Underinsured	53%	19	
Long Term Care Services	50%	18	
Patient Self Management Services(e.g. nutrition, exercise, taking medications)	47%	17	
Aging Services	44%	16	
Transportation	44%	16	
Health Promotion and Prevention Services	42%	15	
Health Care Insurance Coverage (private and government)	36%	13	
Homeless Services	36%	13	
Cancer Services (screening, diagnosis, treatment)	33%	12	
Chronic Disease Services (including screening and early detection)	33%	12	
Dental Care/Oral Health Services-Adult	33%	12	
Chronic Pain Management Services	31%	11	
Dental Care/Oral Health Services-Pediatric	31%	11	
Food Safety Net (food bank, community gardens)	31%	11	
Home Health Services	28%	10	
Early Intervention Services for Children	25%	9	
Social Services	25%	9	
Job/Vocational Retraining	22%	8	
Primary Health Care Services	22%	8	
Specialty Medical Care (e.g. cardiologists, oncologists, etc.)	22%	8	
Hospice Services	19%	7	
Pharmacy Services	19%	7	
Family Planning Services	17%	6	
Maternal, Infant & Child Health Services	17%	6	
Domestic Violence Services	14%	5	
Public Health Services	14%	5	
School Health Services	8%	3	
Hospital Services (including emergency, inpatient and outpatient)	6%	2	
Physical Rehabilitation	6%	2	
Workplace Health and Safety Services	6%	2	
Environmental Health Services	3%	1	
<i>Other Community Health Services (list in box below)</i>	8%	3	

Continued on next page...

³ *Thirty-five (35) of the 36 survey respondents answered this question.*

Exhibit I-3. (continued)

Open-Ended Responses

- Most [items that I] checked relate to availability and access, especially for folks who receive Medicaid and Medicare, or who have no means for health care coverage.
- Particularly *Health Care Services for the Uninsured and Underinsured* and *Specialty Medical Care (e.g. cardiologists, oncologists, etc.)*
- Tremendous difficulty getting specialist care for uninsured and underinsured.

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, age and racial/ethnic mix of the population 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 147,259 people. The population is expected to increase to 157,661 by 2017. It is projected that population growth will occur in all age groups, including a 12% increase in adults age 18-29 and a 13% increase in seniors age 65+. Focusing on racial background, growth of 7-8% is projected for all groups. The Hispanic population is also expected to grow by 8%.

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

Indicator	2010 Census	2012 Estimate	2017 Projection	% Change 2012-2017
Total Population	144,238	147,259	157,661	7%
Population Density (per Sq Mile)	223.2	227.9	244.0	7%
Total Households	55,573	56,542	60,860	8%
Population by Age				
Children Age 0-17	30,088	29,833	30,991	4%
Adults Age 18-29	23,433	24,077	26,966	12%
Adults Age 30-44	24,560	24,350	25,153	3%
Adults Age 45-64	41,183	42,074	44,029	5%
Seniors Age 65+	24,978	26,916	30,523	13%
Population by Race/Ethnicity				
Asian	3,144	3,250	3,522	8%
Black/African American	20,100	20,506	21,970	7%
White	114,561	116,913	125,103	7%
Other or Multi-Race	6,434	6,592	7,063	7%
Hispanic Ethnicity ⁴	5,973	6,126	6,597	8%

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

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

2. Health Demographic Snapshot Profile

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 147,259 people. Focusing on population rates, the study region is more densely populated, older and less racially/ethnically diverse than Virginia as a whole. Income levels are above statewide rates. The study region rate of adults age 25+ without a high school diploma was lower than the Virginia statewide rate. *Note: Maps 1-13 in Appendix A show the geographic distribution of the population by zip code.*

**Exhibit II-2.
Health Demographic Snapshot Profile, 2012**

Indicator		Study Region	Virginia
Population Counts			
Total	Population	147,259	8,154,815
Age	Children Age 0-17	29,833	1,857,225
	Adults Age 18-29	24,077	1,375,674
	Adults Age 30-44	24,350	1,642,637
	Adults Age 45-64	42,074	2,233,940
	Seniors Age 65+	26,916	1,045,339
Sex	Female	75,779	4,148,680
	Male	71,482	4,006,135
Race	Asian	3,250	459,660
	Black/African American	20,506	1,579,659
	White	116,913	5,573,480
	Other or Multi-Race	6,592	542,016
Ethnicity	Hispanic Ethnicity ⁵	6,126	655,986
Income	Low Income Households (Households with Income < \$25,000)	8,952	553,382
Education	Population Age 25+ Without a High School Diploma	7,596	675,228
Population Rates			
Total	Population Density (pop. per sq. mile)	227.9	202.2
Age	Children Age 0-17 pct. of Total Pop.	20%	23%
	Adults Age 18-29 pct. of Total Pop.	16%	17%
	Adults Age 30-44 pct. of Total Pop.	17%	20%
	Adults Age 45-64 pct. of Total Pop.	29%	27%
	Seniors Age 65+ pct. of Total Pop.	18%	13%
Sex	Female pct. of Total Pop.	51%	51%
	Male pct. of Total Pop.	49%	49%
Race	Asian pct. of Total Pop.	2%	6%
	Black/African American pct. of Total Pop.	14%	19%
	White pct. of Total Pop.	79%	68%
	Other or Multi-Race pct. of Total Pop.	4%	7%
Ethnicity	Hispanic Ethnicity pct. of Total Pop.	4%	8%
Income	Per Capita Income	\$35,417	\$34,307
	Median Household Income	\$68,238	\$64,118
	Low Income Households (Households with Income < \$25,000) pct. of Total Households	16%	18%
Education	Pop. Age 25+ Without a High School Diploma pct. of Total Pop. Age 25+	7%	12%

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

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 1,243 total deaths in 2011. The leading causes of death were malignant neoplasms (cancer) (328), heart disease (269), and cerebrovascular disease (stroke) (67). Age group death rates were higher than the stat rates for the population under 45, but lower for the population age 45+. 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	1,243	60,325
Deaths by Top 14 Causes		
Malignant Neoplasms (Cancer) Deaths	328	14,261
Heart Disease Deaths	269	13,201
Cerebrovascular Diseases (Stroke) Deaths	67	3,327
Unintentional Injury Deaths	64	2,726
Chronic Lower Respiratory Diseases Deaths	56	3,097
Alzheimer's Disease Deaths	48	1,800
Diabetes Mellitus Deaths	33	1,628
Suicide Deaths	28	1,052
Influenza and Pneumonia Deaths	20	1,404
Pneumonitis Deaths	17	560
Septicemia Deaths	17	1,372
Chronic Liver Disease Deaths	15	725
Primary Hypertension and Renal Disease Deaths	14	569
Nephritis and Nephrosis Deaths	12	1,425
Deaths by Age Group		
Deaths Age 0-17	19	1,024
Deaths Age 18-29	22	1,080
Deaths Age 30-44	38	2,121
Deaths Age 45-64	239	12,338
Deaths Age 65+	925	43,758
Death Rates by Age Group⁶		
Total Deaths per 100,000 pop. All Ages	839.6	742.9
Deaths per 100,000 pop. Age 0-29 ⁷	74.7	64.2
Deaths per 100,000 pop. Age 30-44	150.7	125.7
Deaths per 100,000 pop. Age 45-64	566.1	576.8
Deaths per 100,000 pop. Age 65+	3,592.1	4,314.5

Source: Community Health Solutions analysis of data from the Virginia Department of Health and estimates from Alteryx, Inc.

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.

⁷ The 0-17 and 18-29 age groups were combined because the total number of cases in the study region for these age groups were too small to calculate rates for each group individually.

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 1,359 total live births in 2011. Among these were 76 low weight births, 197 births without early prenatal care, 485 non-marital births and 91 births to teens. The study region has a lower rate of low weight births; and higher rates of births without early prenatal care and non-marital births. *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	1,359	102,525
Low Weight Births (under 2,500 grams / 5 lb. 8 oz.)	76	8,204
Births Without Early Prenatal Care (No Prenatal Care in First 13 Weeks)	197	13,500
Non-Marital Births	485	36,390
Live Births to Teens Age 10-19	91	6,572
Live Births to Teens Age 18-19	69	4,807
Live Births to Teens Age 15-17	20	1,708
Live Births to Teens Age <15	2	57
Rates		
Live Birth Rate per 1,000 Population	9.2	12.7
Low Weight Births pct. of Total Live Births	6%	8%
Births Without Early Prenatal Care (No Prenatal Care in First 13 Weeks) pct. of Total Live Births	14%	13%
Non-Marital Births pct. of Total Live Births	36%	35%

Source: Community Health Solutions analysis of data from the Virginia Department of Health and estimates from Alteryx, Inc.

Exhibit II-4B below provides counts and rates of teen pregnancy and infant mortality for the seven localities that include the study region (Gloucester, James City, King and Queen, King William, New Kent and York counties; plus the City of Williamsburg).⁸ In 2011, the teen pregnancy rate was higher than the statewide rate for two of the seven localities (King and Queen and King William counties) that included the study region. The five-year infant mortality rates for King William County and Williamsburg City were higher than the statewide rate.

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

Indicator	Gloucester County	James City County	King and Queen County	King William County	New Kent County	Williamsburg, City of	York County	Virginia
Teen Pregnancy Counts and Rates								
Total Teenage Pregnancies Age 10-19 (2011)	34	49	9	24	19	27	35	9,630
Total Pregnancies per 1,000 Female Population Age 10-19 (2011)	14.7	12.0	24.5	22.3	16.1	17.8	7.0	18.6
Infant Mortality Counts and Rates								
Total Infant Deaths (2011)	1	5	0	2	0	1	2	685
Five-Year Average Infant Mortality Rate per 1,000 Live Births (2007-2011)	4.4	4.9	0.0	9.8	4.5	12.2	4.0	7.0

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

⁸ 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) defines a set of conditions (called Prevention Quality Indicators, or 'PQIs') for which hospitalization should be avoidable with proper outpatient health care.⁹ 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 1,481 PQI hospital discharges from Virginia hospitals in 2011.¹⁰ The leading diagnoses for these discharges were congestive heart failure (371), bacterial pneumonia (297), and urinary tract infection (244). The study region PQI discharge rate per 100,000 population was lower than the statewide rate for all age groups. *Note: Map 22 in Appendix A shows the geographic distribution of PQI discharges by zip code.*

**Exhibit II-5.
Prevention Quality Indicator (PQI) Hospital Discharge Profile, 2011**

Indicator	Study Region	Virginia
PQI Discharges by Age Group⁹		
<i>All Ages</i>	1,481	83,392
Total PQI Discharges-Age 0-17	3	335
Total PQI Discharges-Age 18-29	57	3,639
Total PQI Discharges-Age 30-44	107	7,190
Total PQI Discharges-Age 45-64	353	24,359
Total PQI Discharges-Age 65+	961	47,869
PQI Discharges by Diagnosis		
Congestive Heart Failure	371	18,990
Bacterial Pneumonia	297	16,221
Urinary Tract Infection	244	10,496
Diabetes	180	11,326
Chronic Obstructive Pulmonary Disease (COPD)	179	11,439
Adult Asthma	96	6,419
Dehydration	45	3,401
Hypertension	39	2,898
Perforated Appendix	19	1,487
Angina	11	715
PQI Discharge Rates by Age Group		
PQI Discharges per 100,000 pop. All Ages	1,000.3	1,027.0
PQI Discharges per 100,000 pop. Age 0-17	--	17.5
PQI Discharges per 100,000 pop. Age 18-29	236.8	266.1
PQI Discharges per 100,000 pop. Age 30-44	424.4	426.0
PQI Discharges per 100,000 pop. Age 45-64	836.1	1,138.7
PQI Discharges per 100,000 pop. Age 65+	3,731.9	4,719.8

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

-- Rates are not calculated where n<30

⁹ 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

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.

6. Behavioral Health Hospitalization Discharge Profile

Behavioral Health (BH) hospitalizations provide another important indicator of community health status. As shown in *Exhibit II-6*, residents of the study region had 900 hospital discharges from Virginia hospitals for behavioral health conditions in 2011.¹¹ The leading diagnoses for these discharges were general symptoms (279), affective psychoses (275) and schizophrenic disorders (105). 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 Discharge Profile, 2011**

Indicator	Study Region	Virginia
BH Discharges by Age Group¹⁰		
<i>All Ages</i>	900	64,892
Total BH Discharges-Age 0-17	87	7,996
Total BH Discharges-Age 18-29	160	12,297
Total BH Discharges-Age 30-44	146	15,063
Total BH Discharges-Age 45-64	259	19,677
Total BH Discharges-Age 65+	248	9,859
BH Discharges by Diagnosis		
General Symptoms ¹²	279	11,135
Affective Psychoses ¹³	275	27,277
Schizophrenic Disorders	105	8,042
Alcoholic Psychoses	49	3,283
Depressive Disorder, Not Elsewhere Classified	38	2,785
Drug Psychoses	23	1,321
Neurotic Disorders	22	1,351
Other Nonorganic Psychoses	21	2,148
Alcoholic Dependence Syndrome	20	2,161
Adjustment Reaction	17	2,123
BH Discharge Rates by Age Group		
BH Discharges per 100,000 pop. All Ages	607.9	799.2
BH Discharges per 100,000 pop. Age 0-17	282.4	418.4
BH Discharges per 100,000 pop. Age 18-29	664.8	899.0
BH Discharges per 100,000 pop. Age 30-44	579.1	892.4
BH Discharges per 100,000 pop. Age 45-64	613.5	919.8
BH Discharges per 100,000 pop. Age 65+	963.1	972.1

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

¹¹ 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.

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.

¹³ Includes major depressive, bipolar affective and manic depressive disorders.

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 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 Factor Profile (Estimates), 2012**

Indicator	Study Region Estimates (Count)	Study Region Estimates (Percent)
Estimated Adults age 18+	117,417	100%
Risk Factors		
Less than Five Servings of Fruits and Vegetables Per Day*	93,756	73%
Overweight or Obese ¹⁴	73,396	58%
Not Meeting Recommendations for Physical Activity in the Past 30 Days	56,926	45%
At Risk for Binge Drinking (males having five or more drinks on one occasion, females having four or more drinks on one occasion)	21,587	16%
Smoker*	20,112	15%
Chronic Conditions		
High Cholesterol (was checked, and told by a doctor or other health professional it was high)*	42,187	33%
High Blood Pressure (told by a doctor or other health professional)*	34,391	27%
Arthritis (told by a doctor or other health professional)*	27,461	22%
Diabetes (told by a doctor or other health professional)*	12,167	9%
Asthma (told by a doctor or other health professional)*	9,473	7%
General Health Status		
Limited in any Activities because of Physical, Mental or Emotional Problems*	22,628	18%
Fair or Poor Health Status*	19,125	15%

* Indicators are based on respondents self report. Other indicators are calculated by Centers for Disease Control based on Virginia Behavioral Risk Factor Behavioral Surveillance System results.

Source: Estimates based on Community Health Solutions analysis of Virginia Behavioral Risk Factor Surveillance System data and estimates from Alteryx, Inc.

¹⁴ 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, alcohol and mental health. *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 Factor Profile (Estimates), 2012**

Indicator	Study Region Estimates (Count)	Study Region Estimates (Percent)
Estimated Youth age 14-19	12,319	100%
Less than the Recommended Intake of Vegetables	10,862	88%
Less than the Recommended Intake of Fruit	10,672	87%
Have at least One Drink of Alcohol at least One Day in the Past 30 Days*	3,861	31%
Overweight or Obese ¹⁵	3,256	26%
Feel Sad or Hopeless (almost every day for two or more weeks in a row so that they stopped doing some usual activities)*	3,047	25%
Used Tobacco in the Past 30 Days*	2,657	22%
Not Meeting Recommendations for Physical Activity in the Past Week*	1,793	15%

* Indicators are based on respondents self report. Other indicators are calculated by Centers for Disease Control based on Virginia Youth Risk Behavioral Surveillance System results.

Source: Estimates based on Community Health Solutions analysis of Virginia Youth Risk Behavioral Surveillance System data and estimates from Alteryx, Inc.

¹⁵ 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 2012.¹⁶ An estimated 13,257 (12%) nonelderly residents of the study region were uninsured at any point in time in 2012. This included an estimated 2,011 children and 11,245 adults.¹⁷ *Note: Maps 30-31 in Appendix A show the geographic distribution of the uninsured population by zip code.*

**Exhibit II-9.
Uninsured Profile (Estimates)¹⁶, 2012**

Indicator	Study Region
Estimated Uninsured Counts	
Uninsured Nonelderly Age 0-64	13,257
Uninsured Children Age 0-18	2,011
Uninsured Children <100% FPL	478
Uninsured Children 100-200% FPL	762
Uninsured Children 201-300% FPL	323
Uninsured Children 301%+ FPL	448
Uninsured Adults Age 19-64	11,245
Uninsured Adults <100% FPL	4,210
Uninsured Adults 100-200% FPL	2,871
Uninsured Adults 201-300% FPL	1,946
Uninsured Adults 301%+ FPL	2,219
Uninsured Adults Under 133% FPL ¹⁸	4,512
Estimated Uninsured Rates	
Uninsured Nonelderly Percent	12%
Uninsured Children Percent	7%
Uninsured Adults Percent	13%

Source: Community Health Solutions estimates based on Community Health Solutions analysis of Profile of the Uninsured report produced for Virginia Health Care Foundation by the Urban Institute and estimates from Alteryx, Inc.

¹⁶ For more information, please see: <http://aspe.hhs.gov/poverty/12poverty.shtml>

¹⁷ Two zip codes in the study region were removed from the uninsured analysis because the populations was largely military or college students.

¹⁸ Uninsured Adults Under 133% FPL are included in the <100 and 100-200% FPL income categories. This separate 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 (HRSA) 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 seven localities included in the study region (Gloucester, James City, King and Queen, King William, New Kent and York counties; plus the City of Williamsburg) are fully or partially designated as MUAs/MUPs. For a more detailed description, visit the U.S. Health Resources and Service Administration designation webpage at <http://muafind.hrsa.gov/>.

**Exhibit II-10.
Medically Underserved Area/Populations**

Locality	MUA/MUP Designation ¹⁹	Census Tracts
Gloucester County	Partial	1 of 8 Census Tracts
James City County	Partial	6 of 11 Census Tracts
King and Queen County	Full	2 of 2 Census Tracts
King William County	Full	4 of 4 Census Tracts
New Kent County	Full	3 of 3 Census Tracts
Williamsburg, City of	Partial	3 of 3 Census Tracts
York County	Partial	3 of 14 Census Tracts

Source: Community Health Solutions analysis of U.S. Health Resources and Services Administration data.

¹⁹ James City County and City of Williamsburg designation is an MUP (Medically Underserved Population) designation, indicating that the low income population of specific census tracts is designated as underserved. York County has both an MUP designation for the low income population of specific census tracts and an MUA (Medically Underserved Area) designation for a specific census tract.

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:

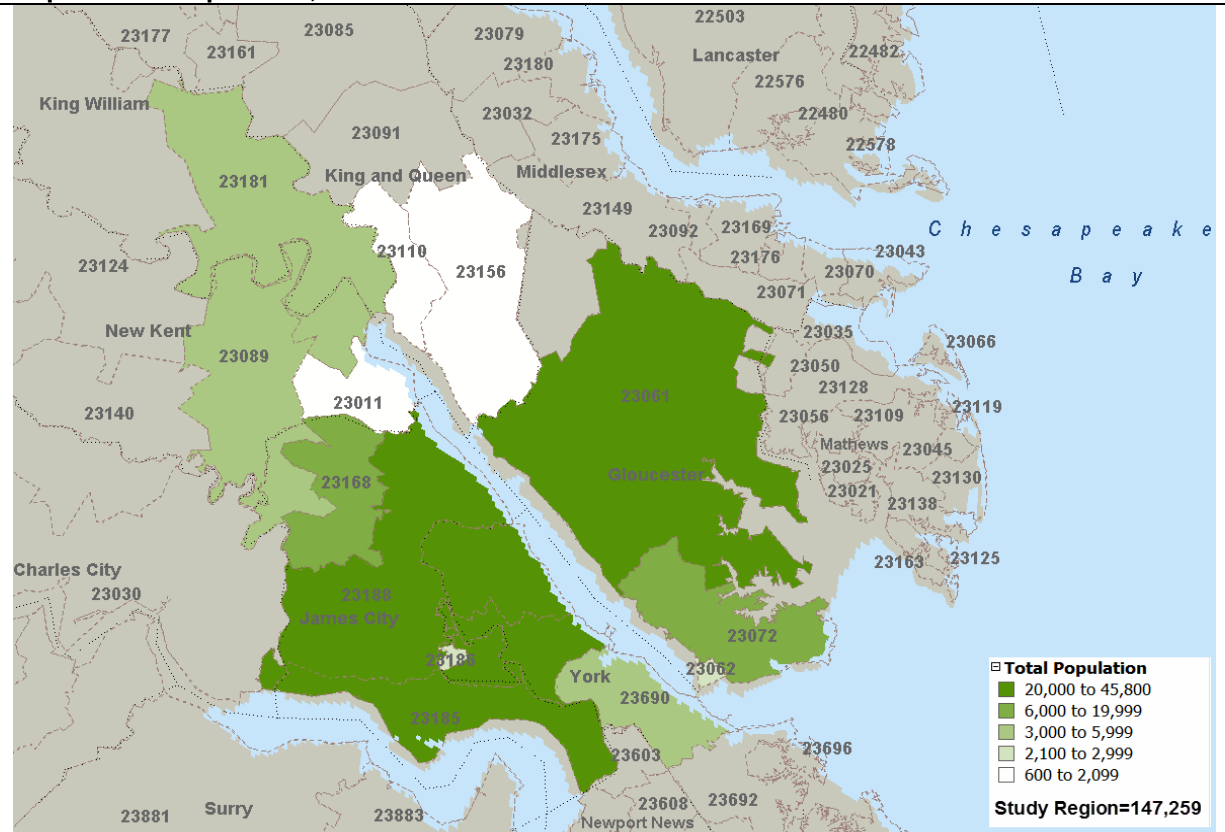
1. Total Population, 2012	17. Cerebrovascular Diseases (Stroke) Deaths, 2011
2. Population Density (population per square mile), 2012	18. Total Live Births, 2011
3. Child Population Age 0-17, 2012	19. Low Weight Births, 2011
4. Senior Population Age 65+, 2012	20. Births Without Early Prenatal Care (No 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

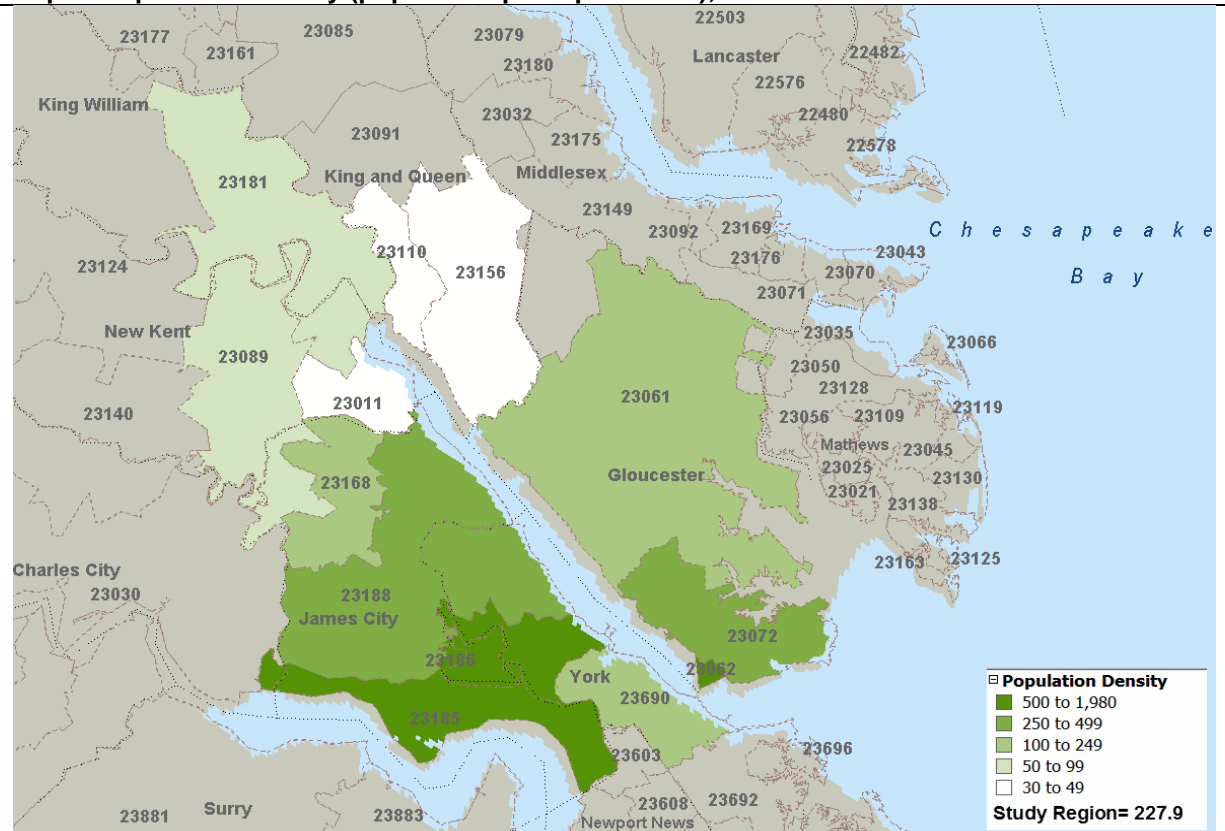
1. The study focuses on the Sentara Williamsburg Regional Medical Center (SWRMC) service area of 13 zip codes, most of which fall within the counties of Gloucester, James City, King and Queen, King William, New Kent and York; plus the City of Williamsburg. Because zip code boundaries do not automatically 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'.²⁰
4. Gray shading indicates either zip codes not included in the SWRMC study region, or zero values for zip codes that are included in the SWRMC study region. SWRMC study region zip codes with zero values are noted.

²⁰Two maps have less than five groupings based on the distribution of the data.

Map 1: Total Population, 2012

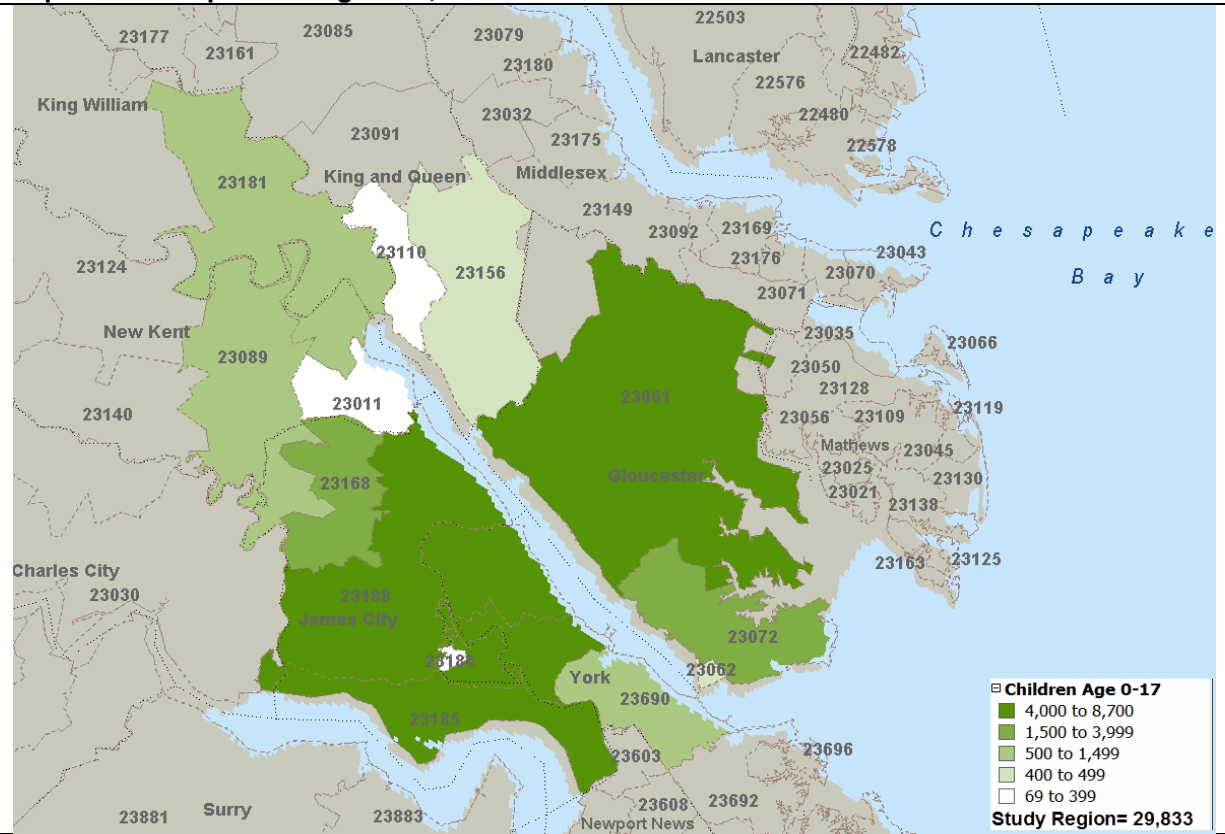


Map 2: Population Density (population per square mile), 2012

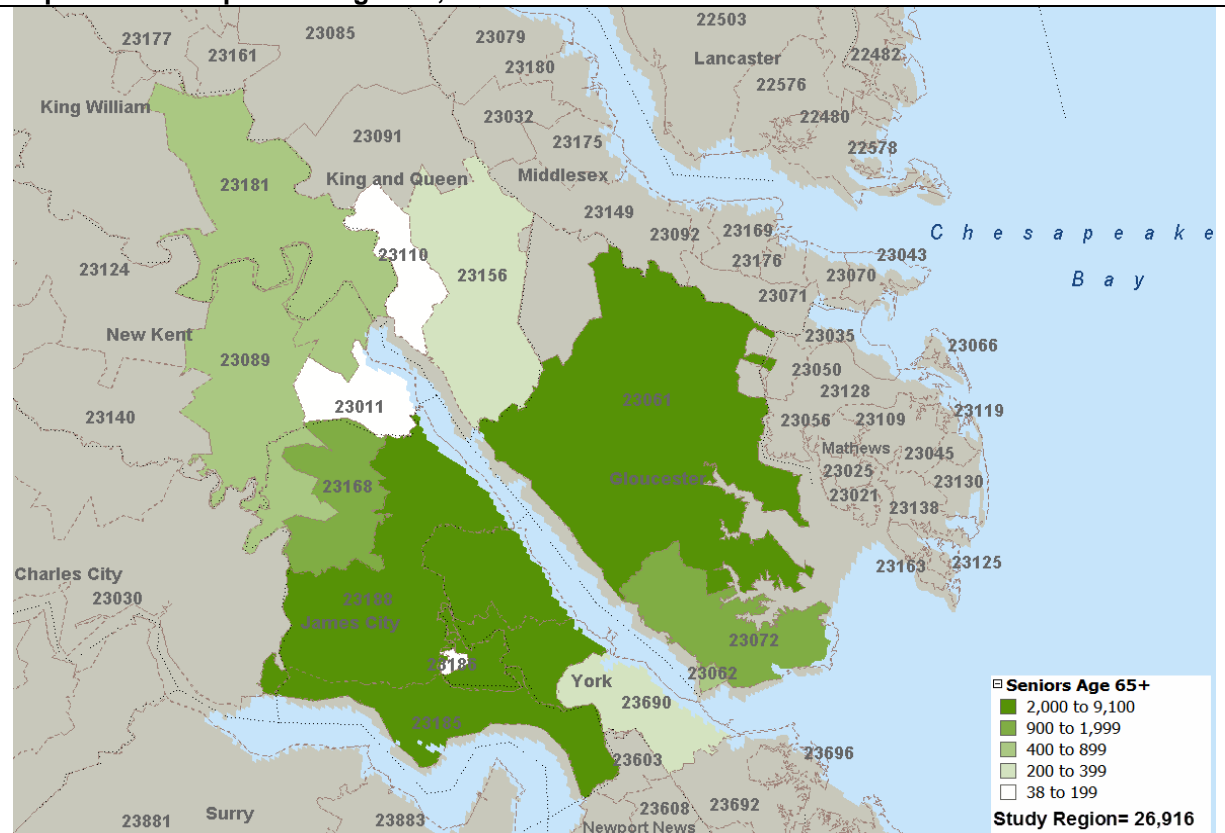


Source: Community Health Solutions analysis of estimates from Alteryx, Inc.

Map 3: Child Population Age 0-17, 2012

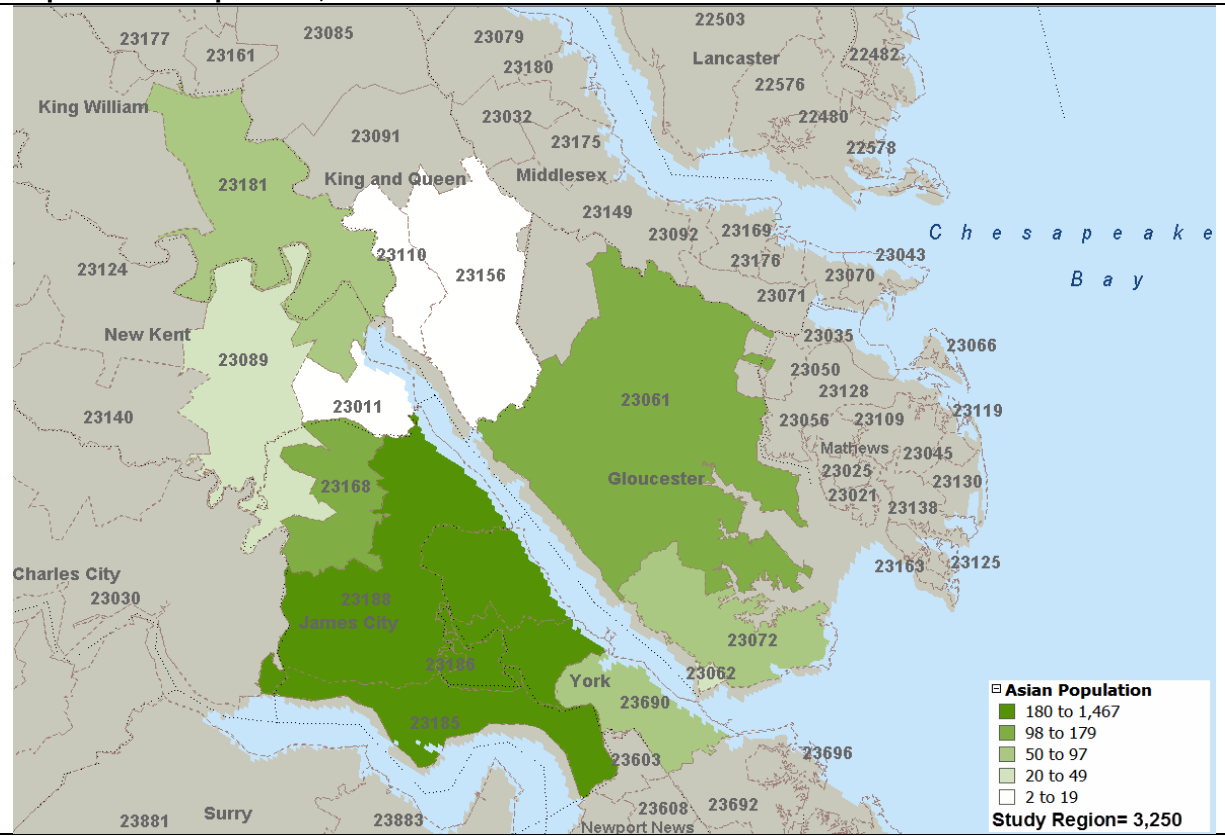


Map 4: Senior Population Age 65+, 2012

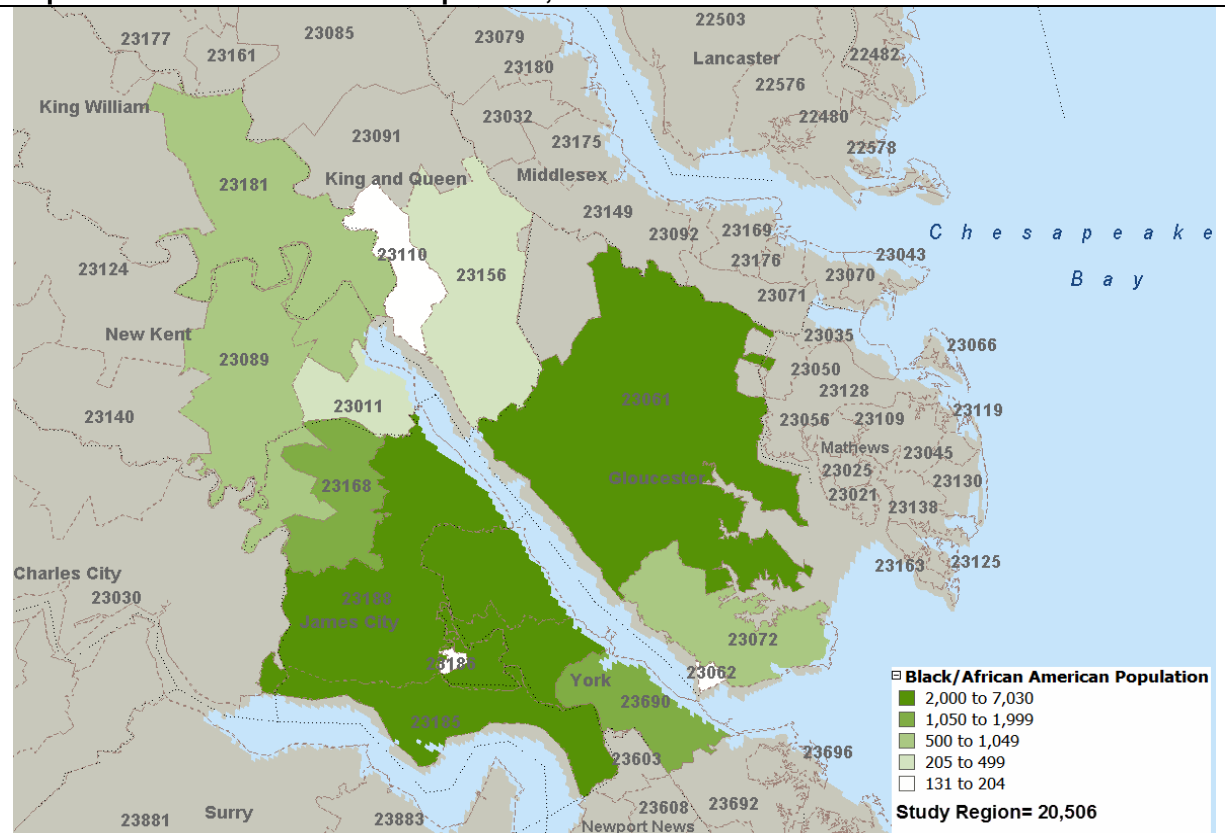


Source: Community Health Solutions analysis of estimates from Alteryx, Inc.

Map 5: Asian Population, 2012

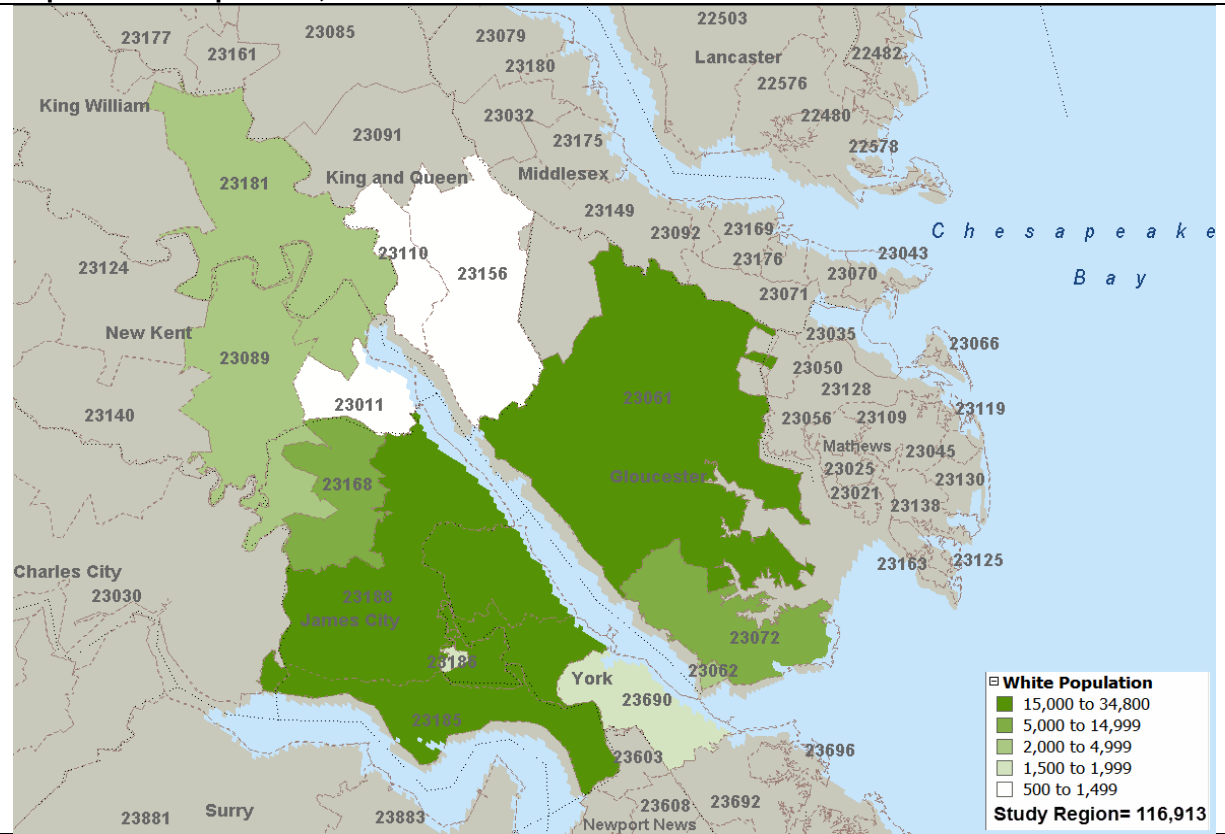


Map 6: Black/African American Population, 2012

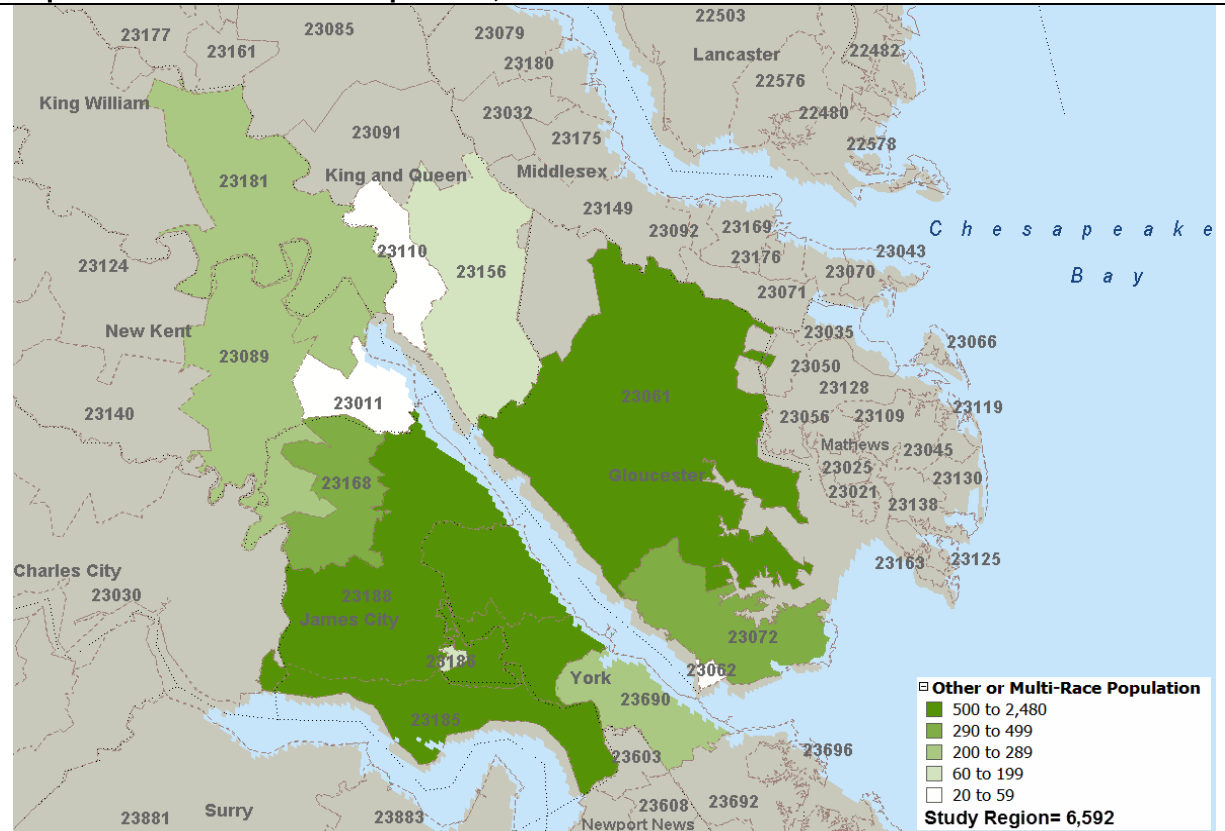


Source: Community Health Solutions analysis of estimates from Alteryx, Inc.

Map 7: White Population, 2012

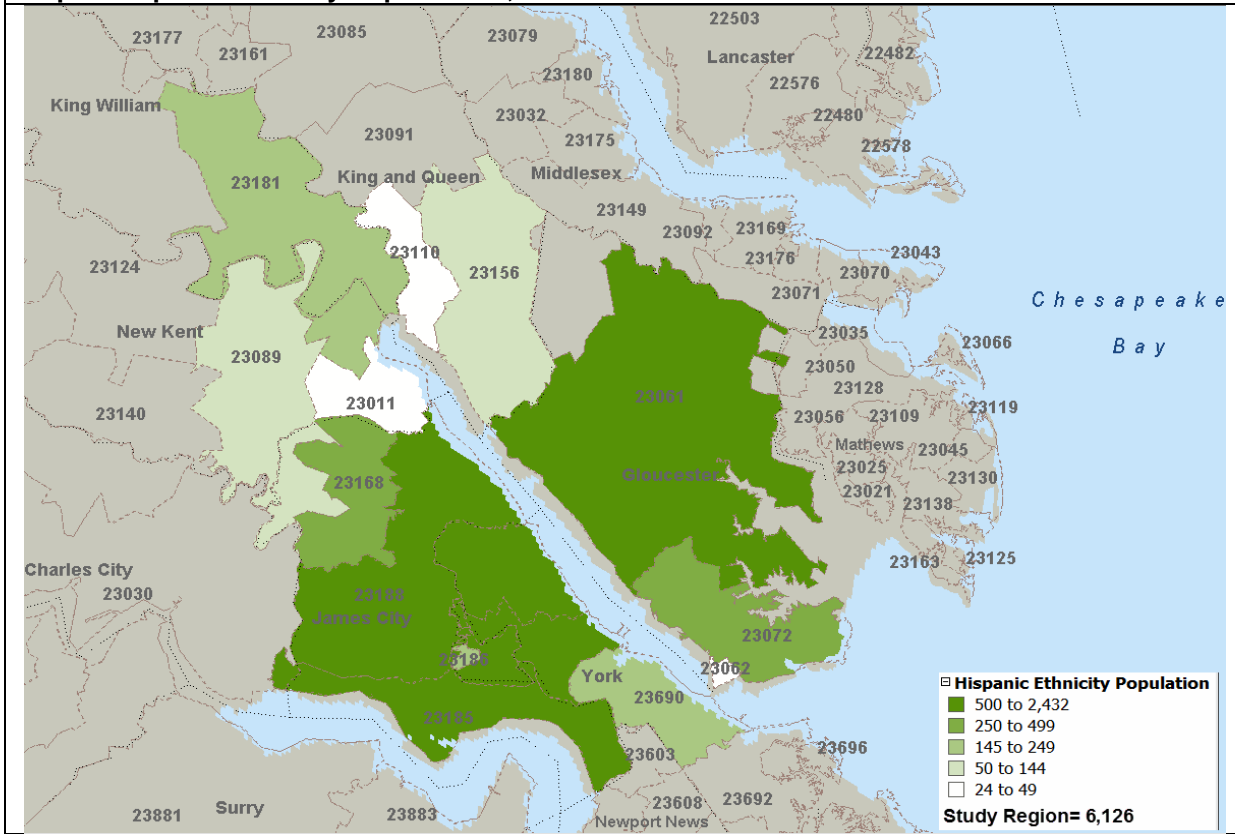


Map 8: Other or Multi-Race Population, 2012



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

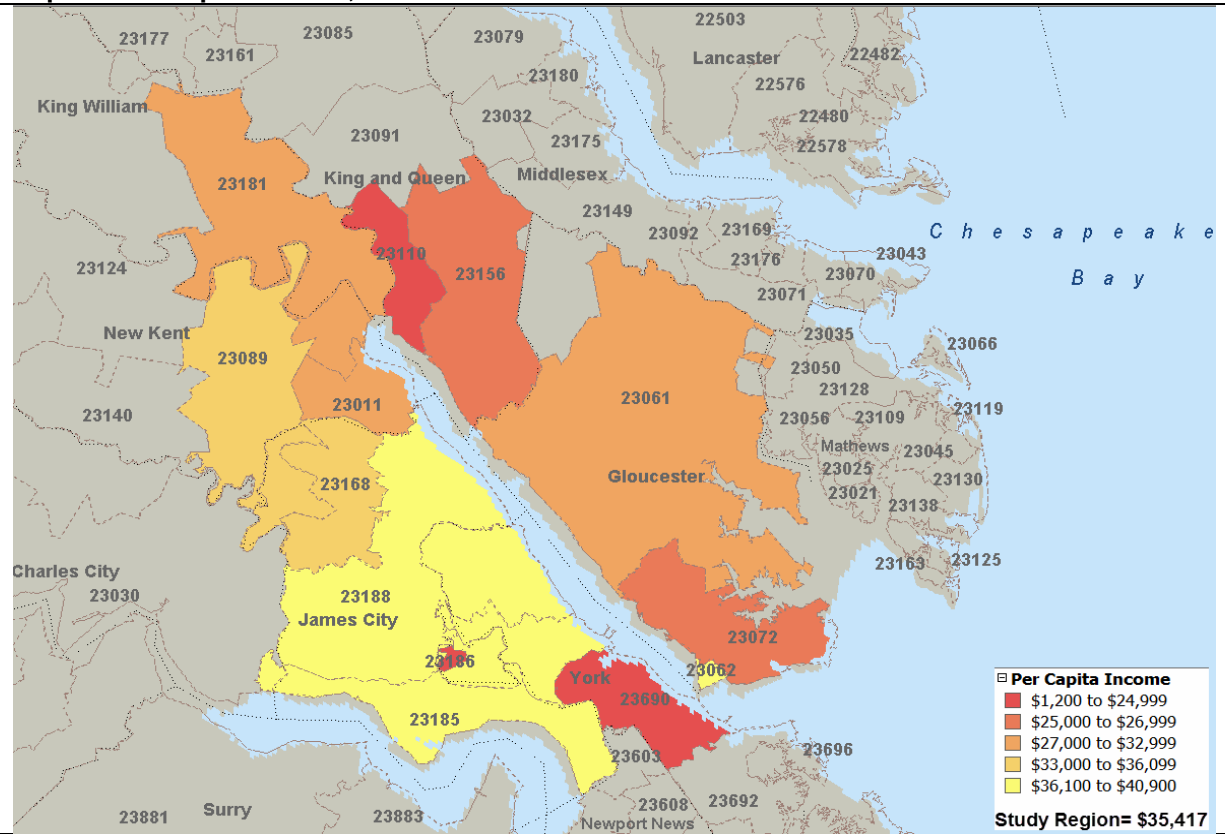
Map 9: Hispanic Ethnicity Population²¹, 2012



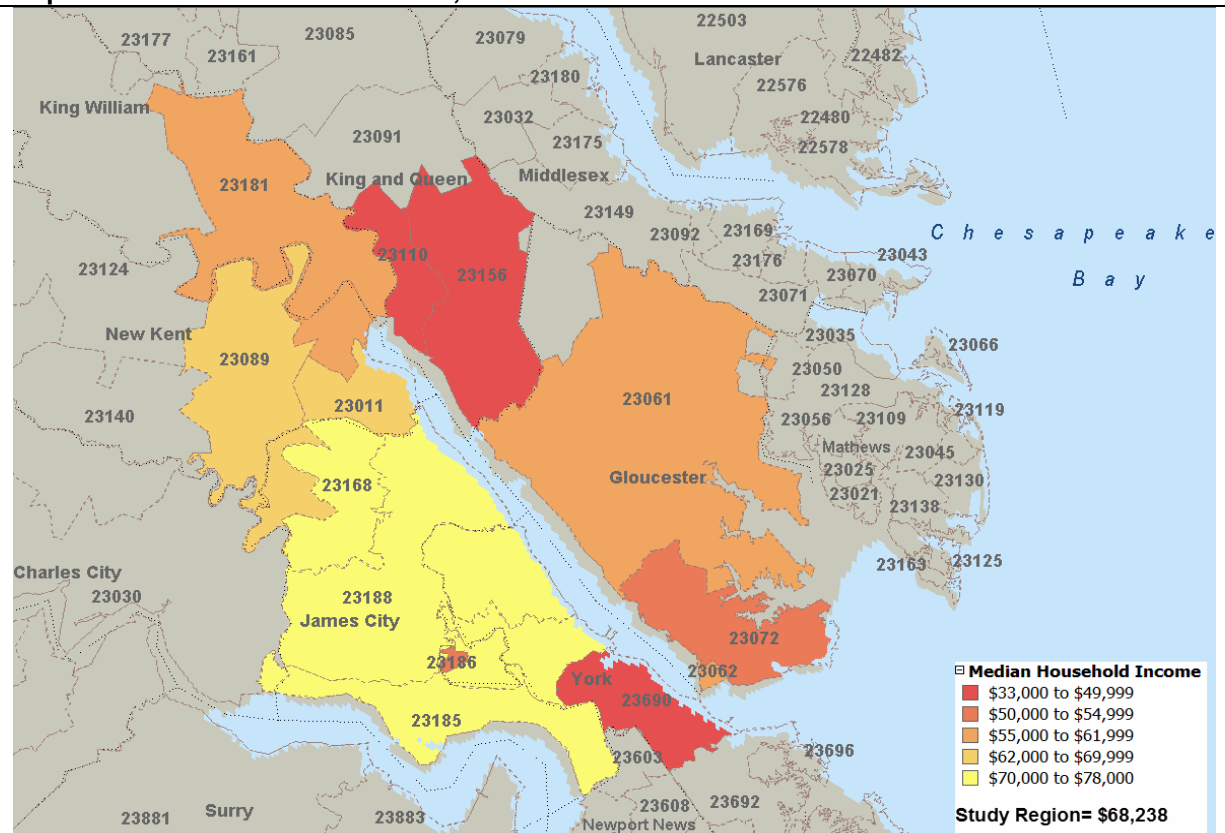
Source: Community Health Solutions analysis of estimates from Alteryx, Inc.

²¹ Classification of ethnicity; therefore, Hispanic individuals are also included in the race categories.

Map 10: Per Capita Income, 2012



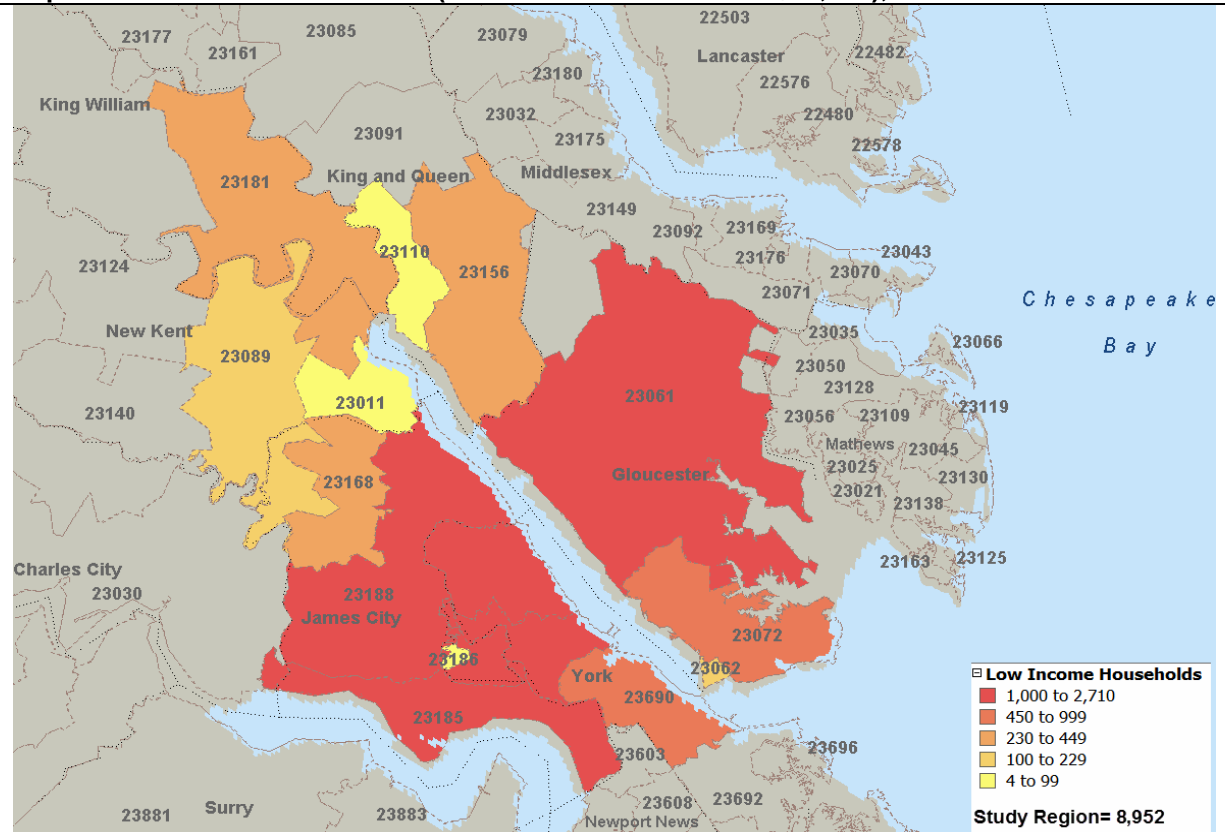
Map 11: Median Household Income, 2012



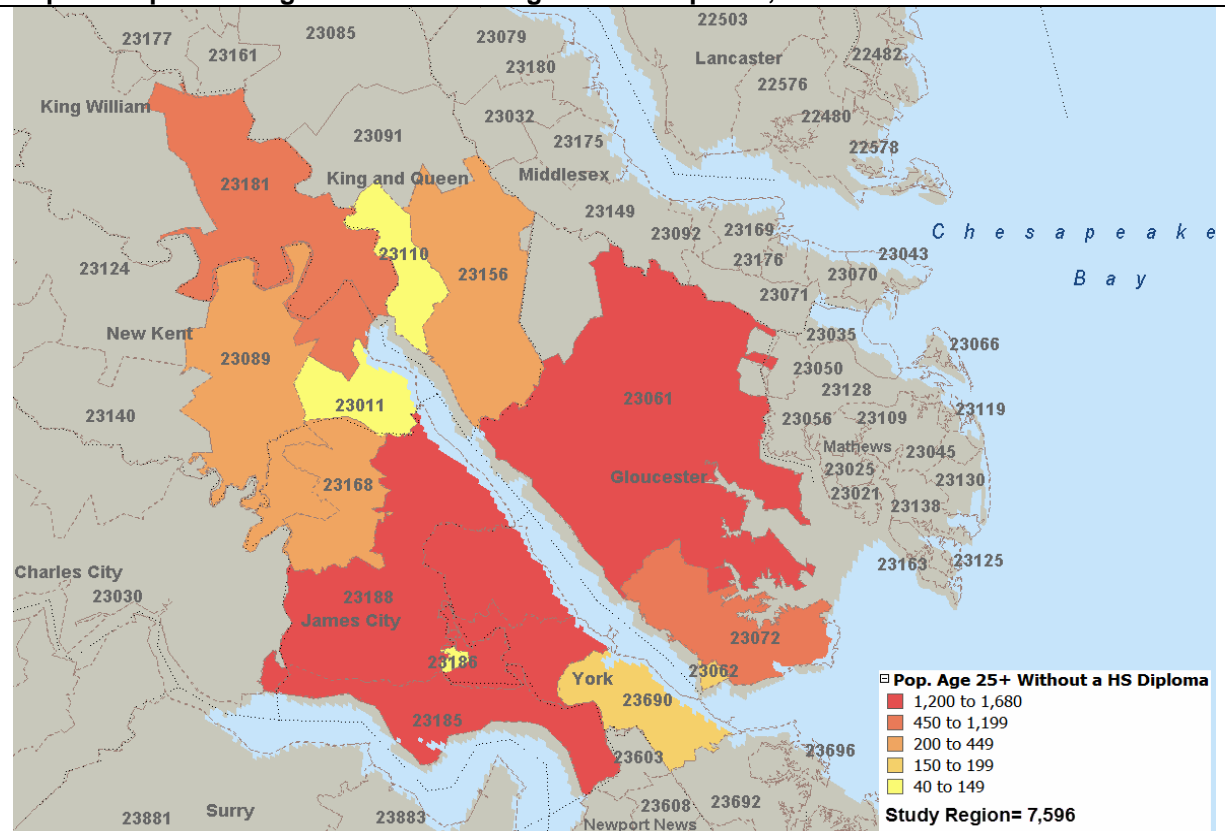
Note: Red indicates an area of higher risk on these maps.

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

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



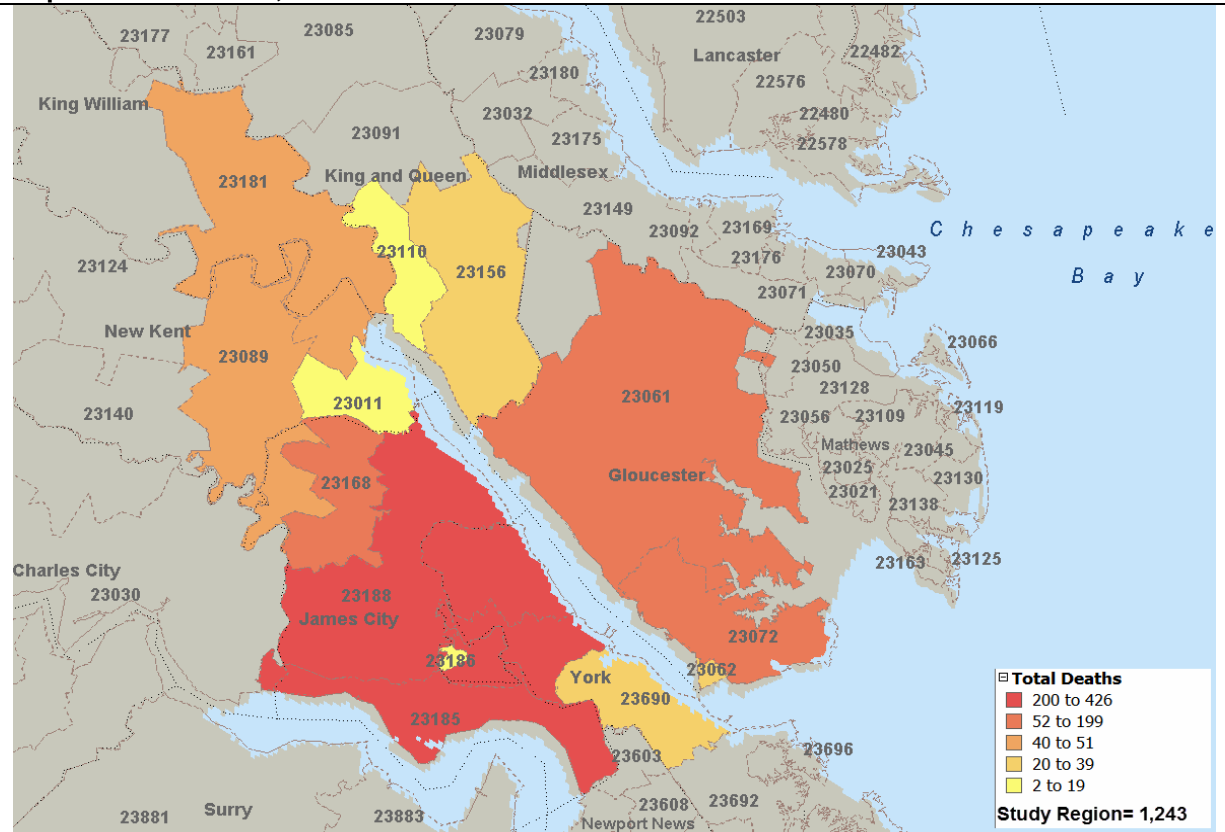
Map 13: Population Age 25+ Without a High School Diploma, 2012



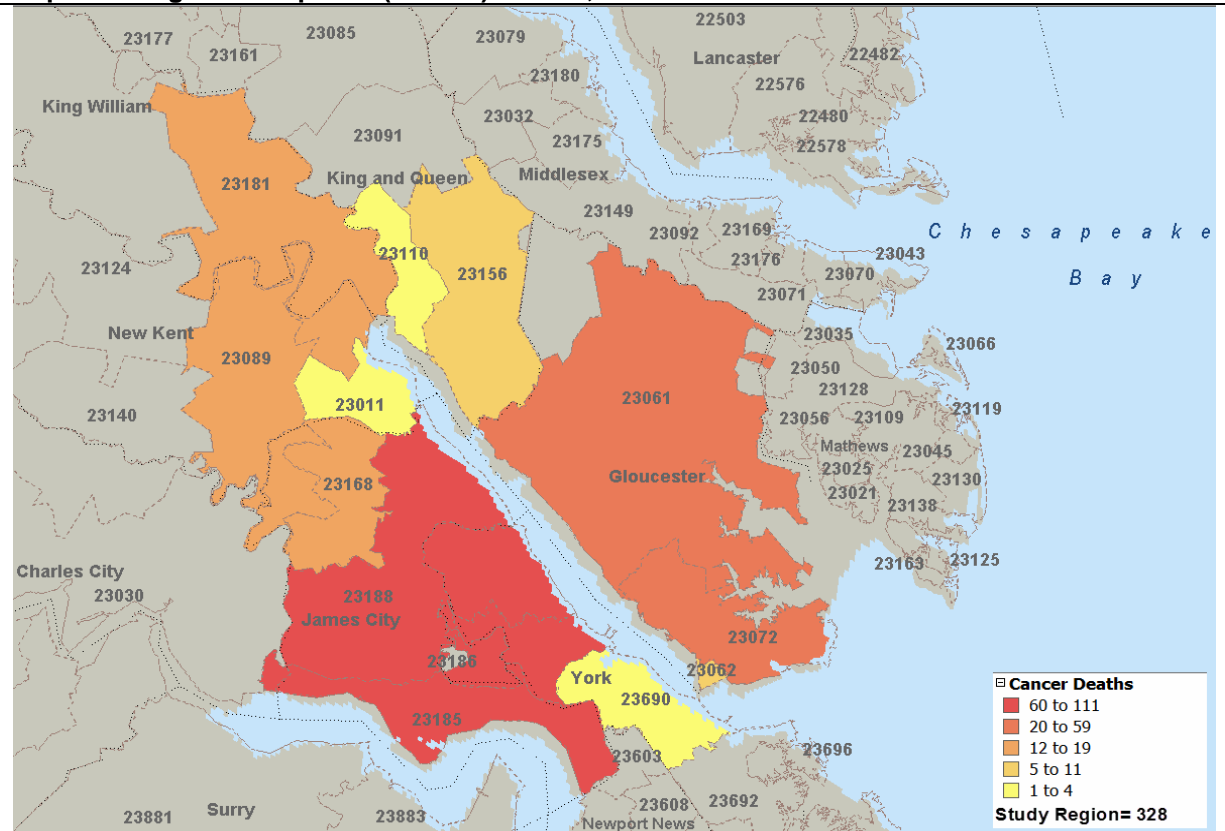
Note: Red indicates an area of higher risk on these maps.

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

Map 14: Total Deaths, 2011



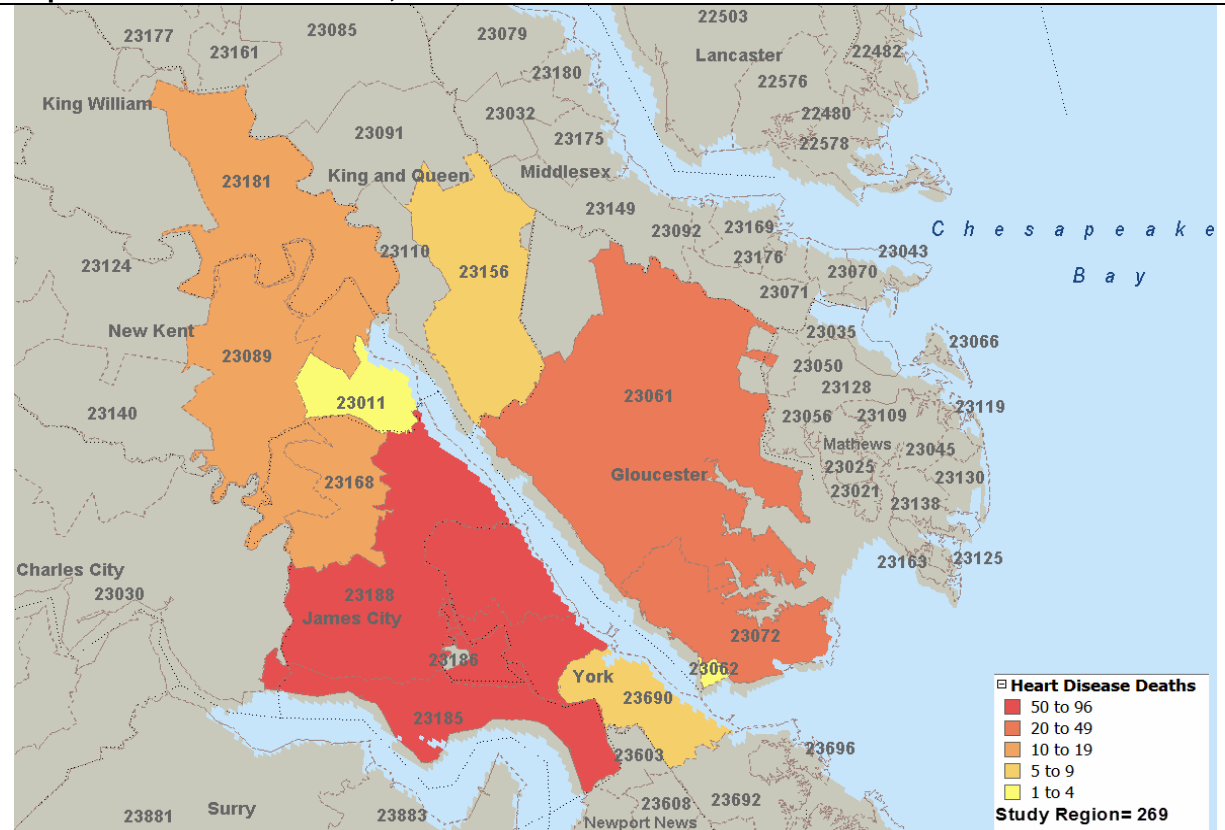
Map 15: Malignant Neoplasm (Cancer) Deaths, 2011*



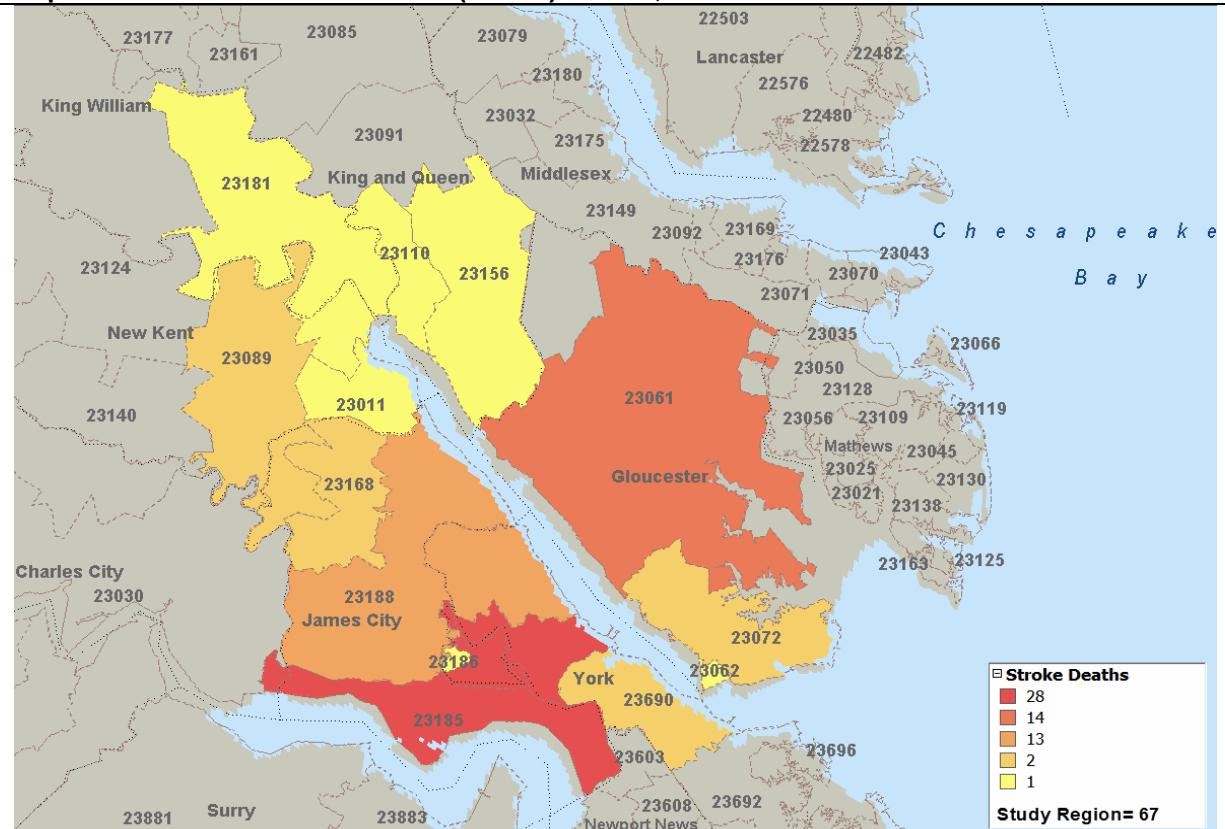
*There were no reported cancer deaths for zip code 23186.

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

Map 16: Heart Disease Deaths, 2011



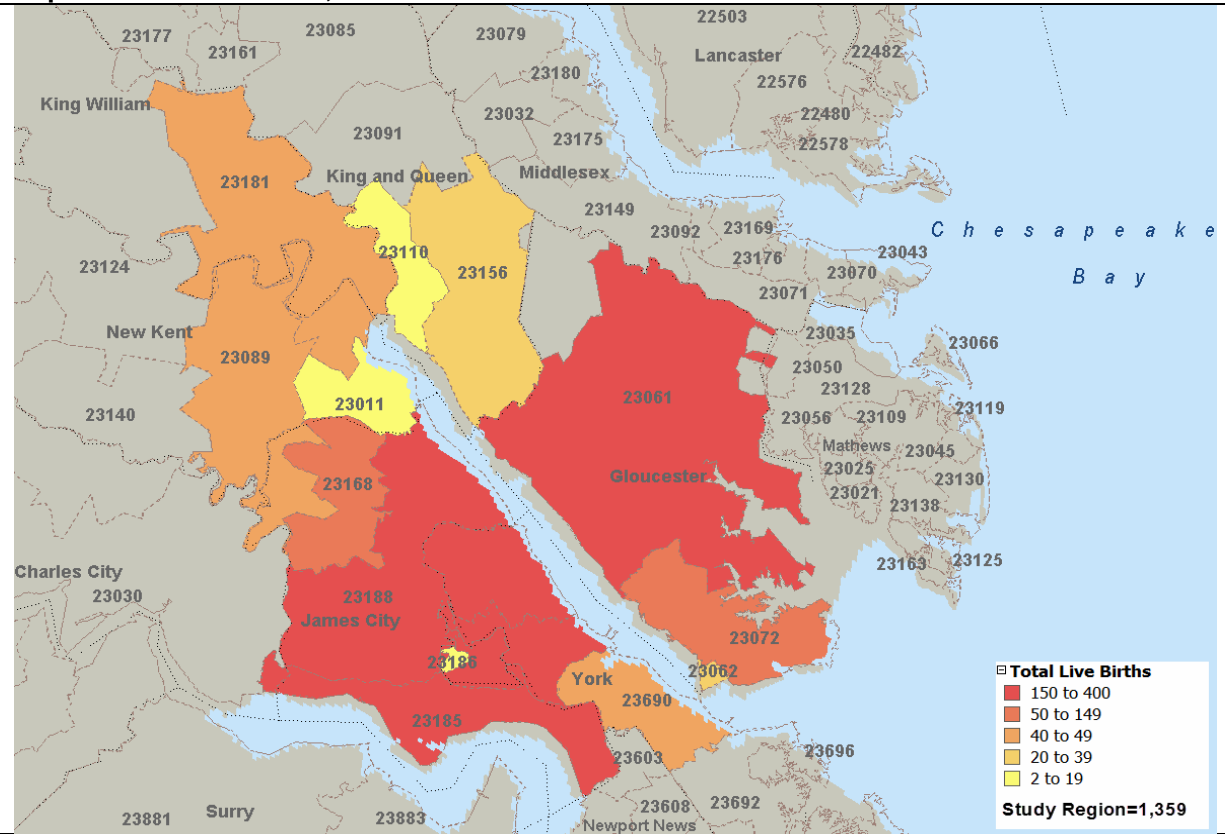
Map 17: Cerebrovascular Diseases (Stroke) Deaths, 2011*



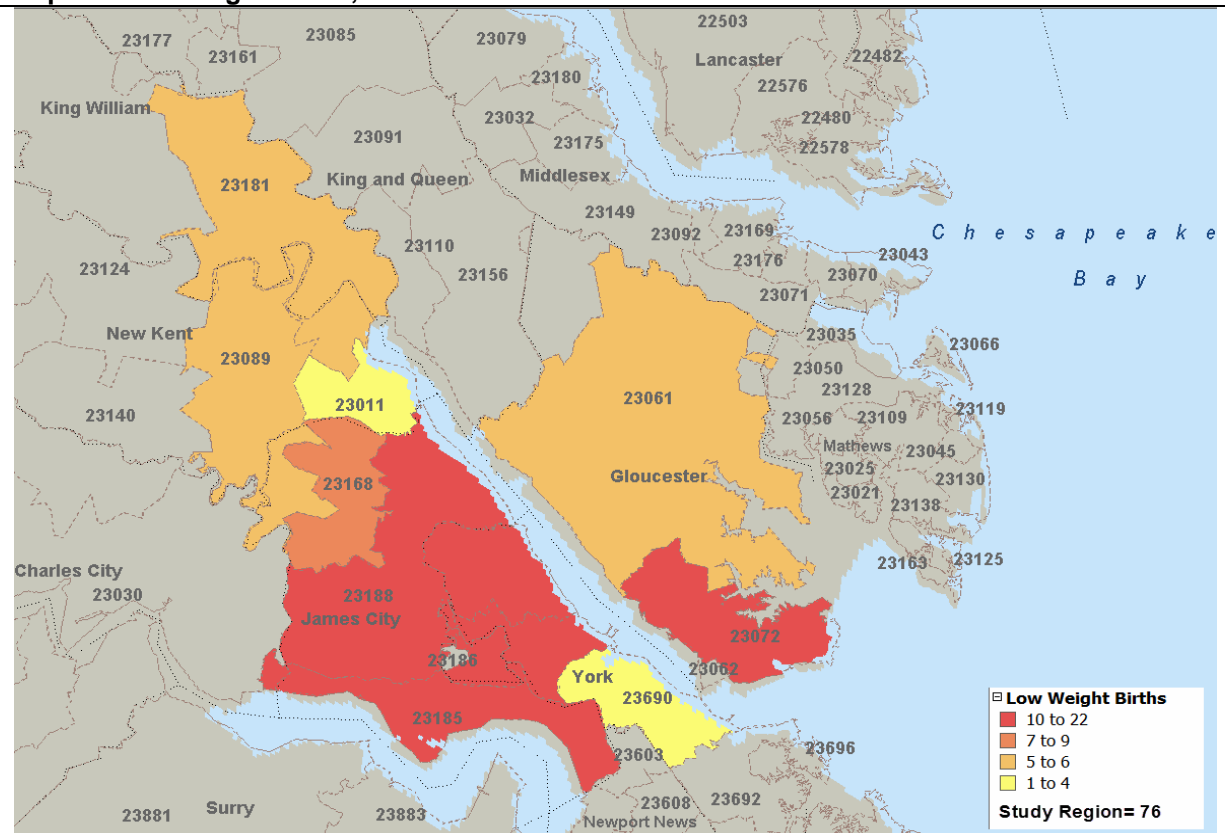
*There were no reported cancer deaths for zip codes 23186 or 23110. There were no reported stroke deaths for zip codes 23110 or 23011.

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

Map 18: Total Live Births, 2011



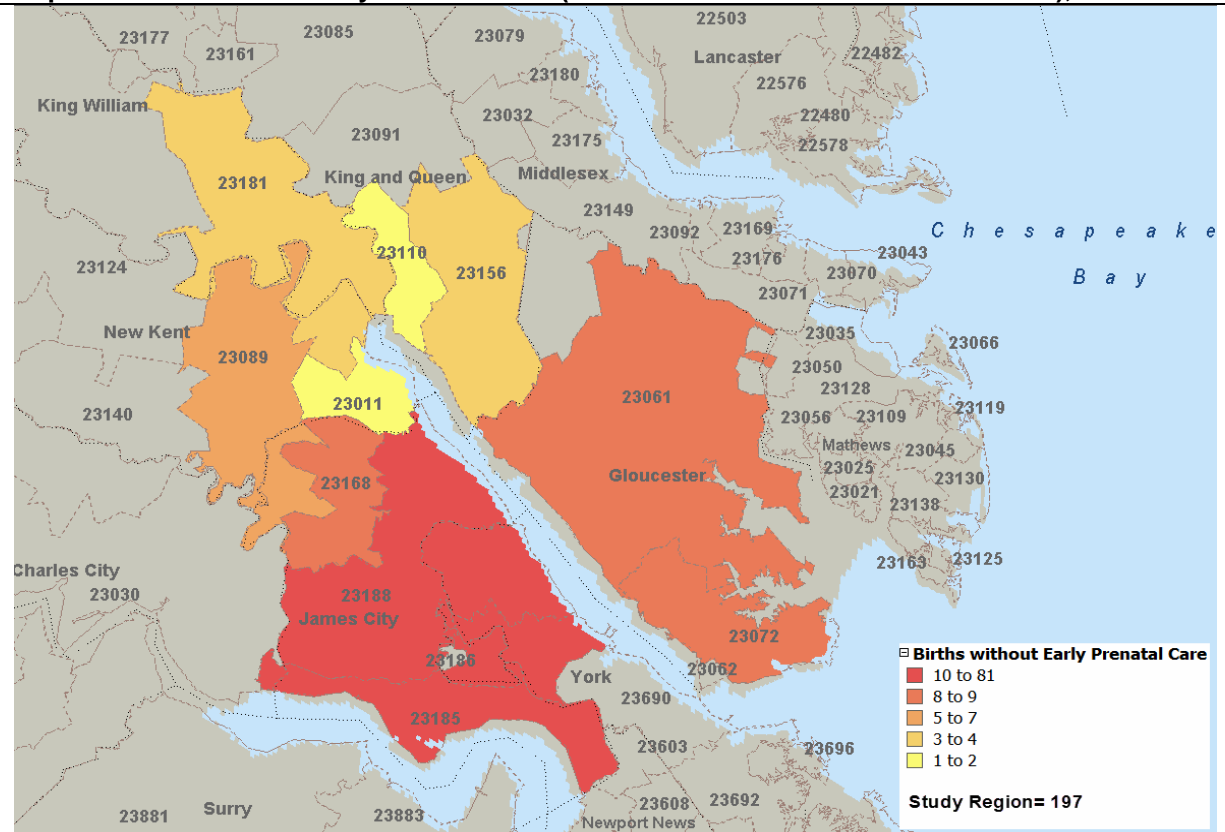
Map 19: Low Weight Births, 2011*



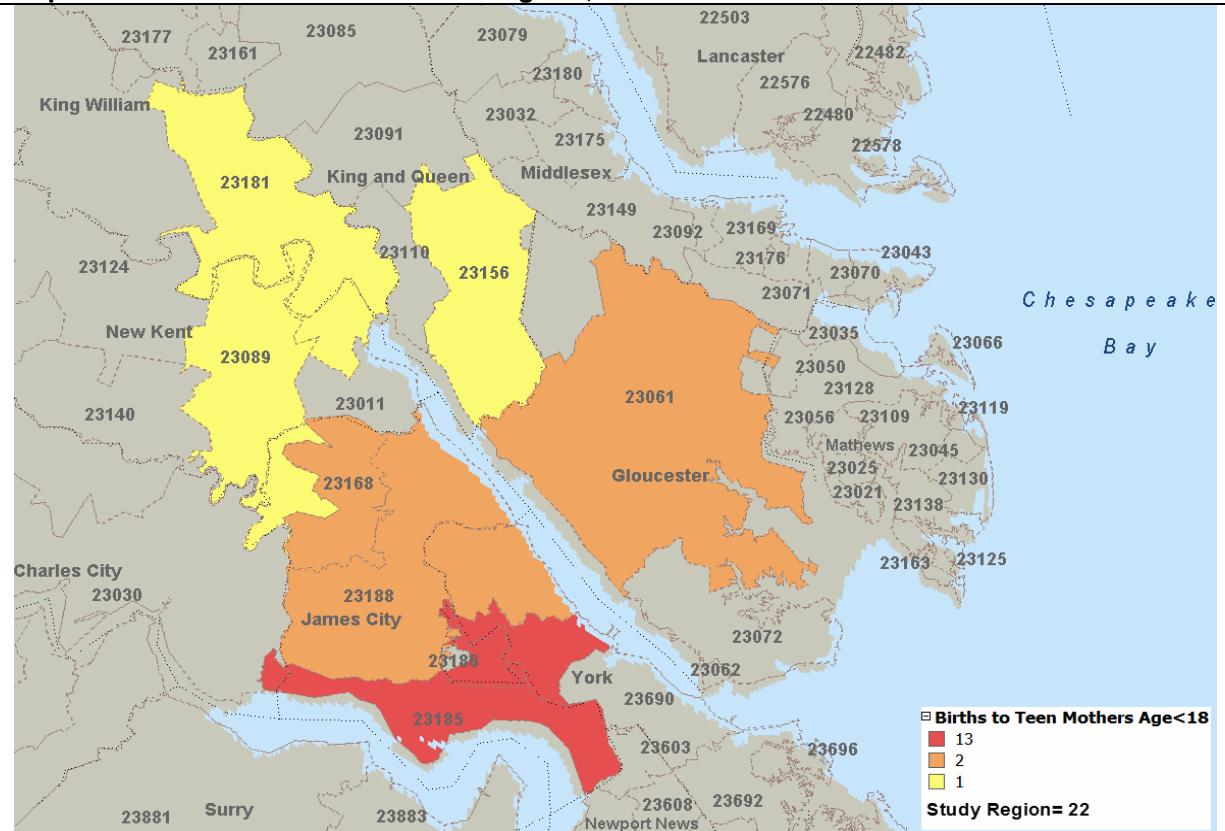
*There were no reported low weight births for zip codes 23110, 23186, 23062 and 23156..

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*



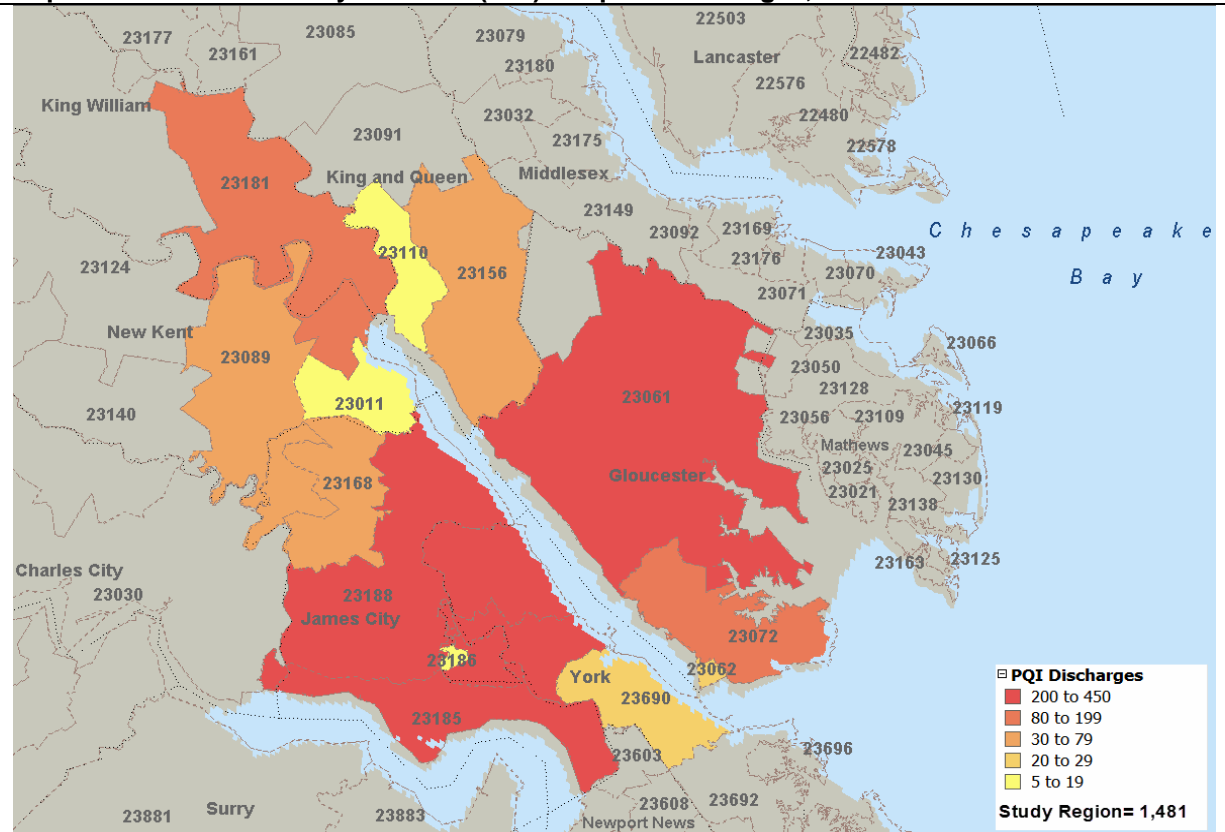
Map 21: Births to Teen Mothers Under Age 18, 2011*



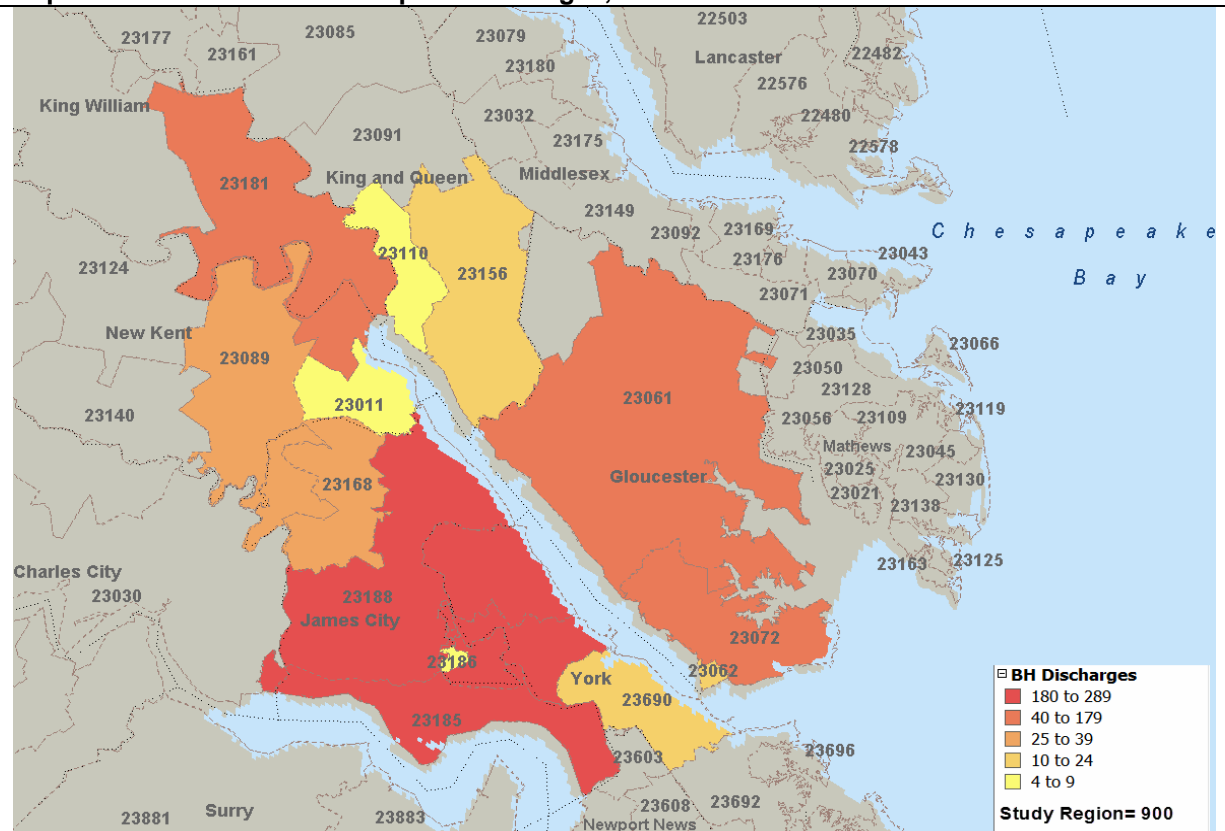
*There were no reported births without early prenatal care for zip codes 23186, 23062 and 23690. There were no reported births to teen mothers under age 18 for zip codes 23186, 23062, 23690, 23011, 23110, and 23072.

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

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

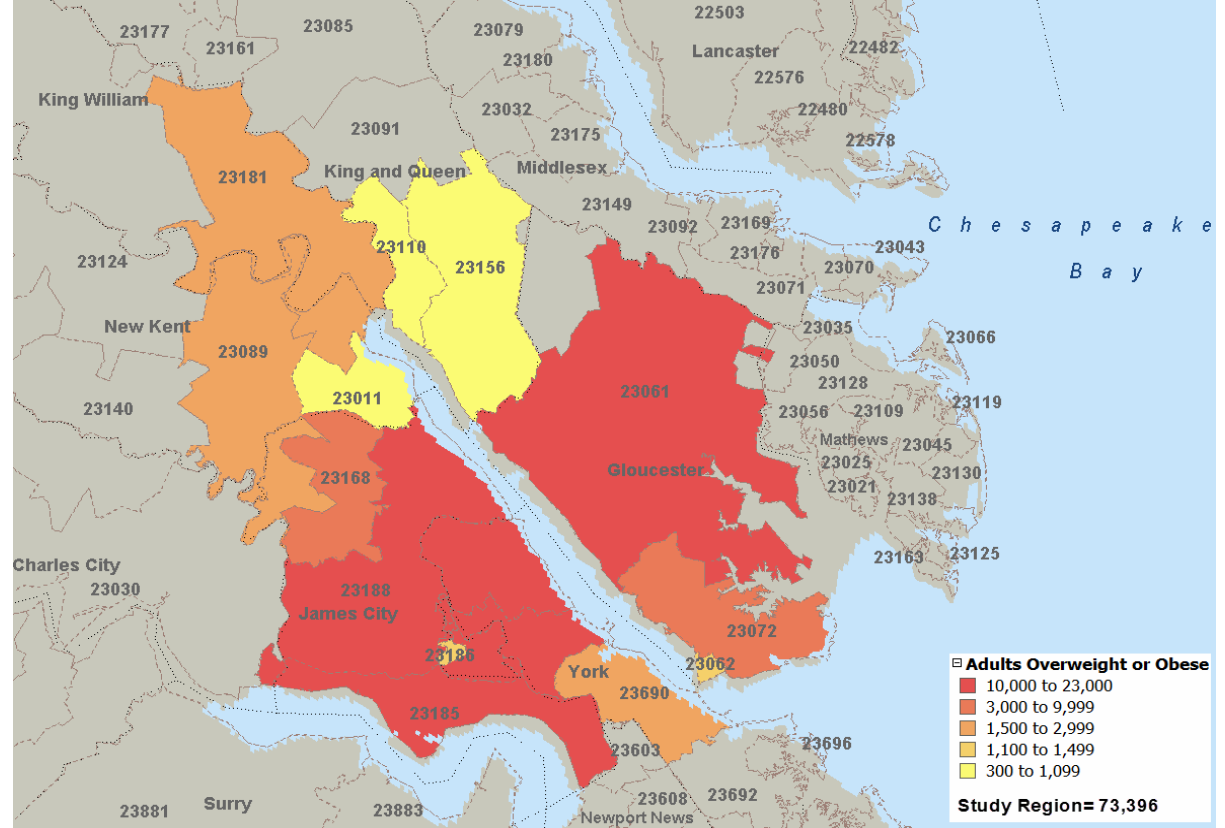


Map 23: Behavioral Health Hospital Discharges, 2011

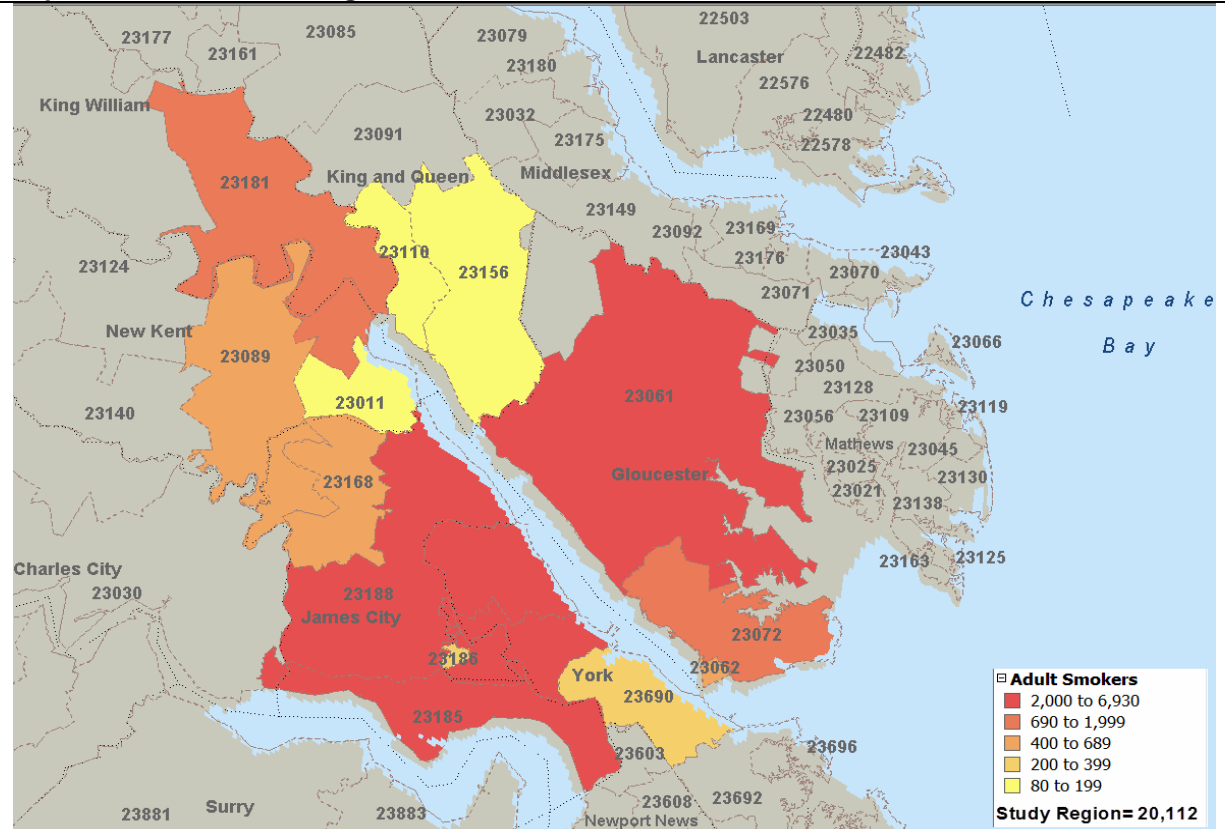


Source: Community Health Solutions analysis of hospital discharge data from Virginia Health Information, Inc.

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

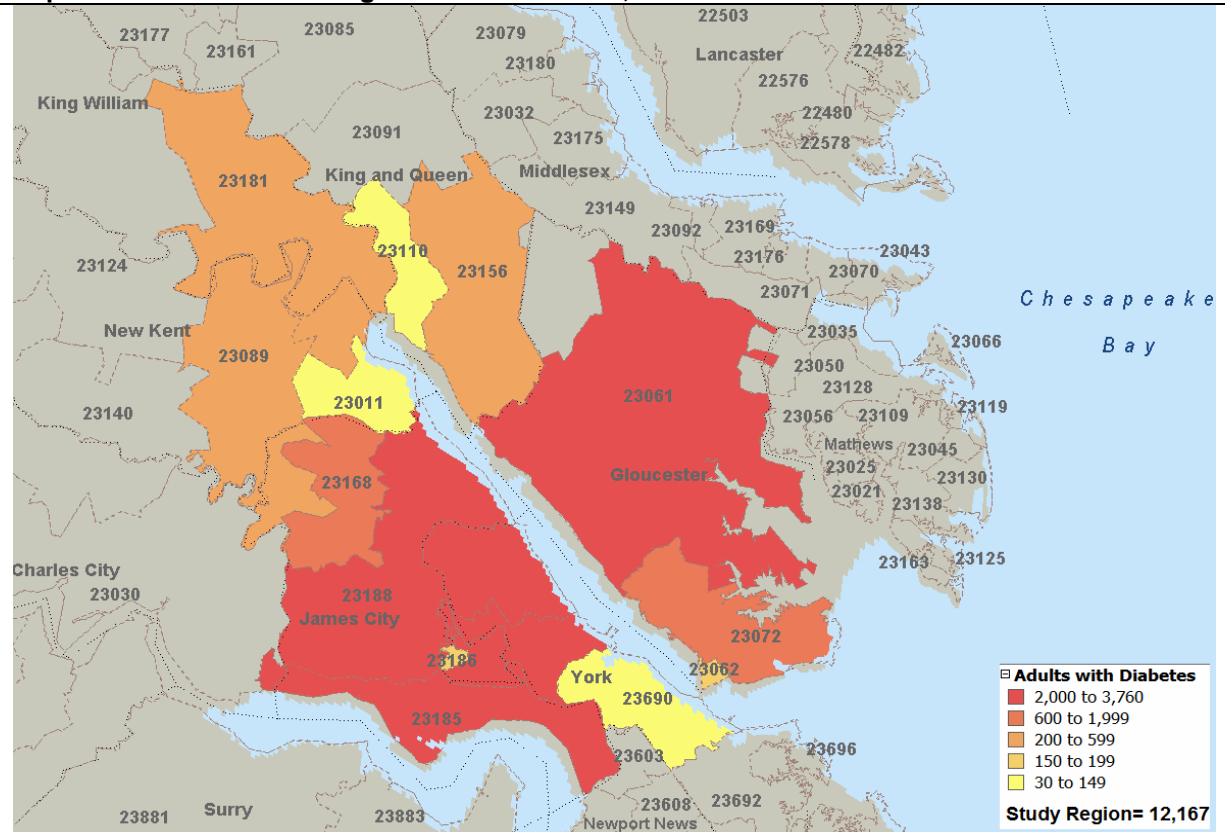


Map 25: Estimated Adult Age 18+ Smokers, 2012

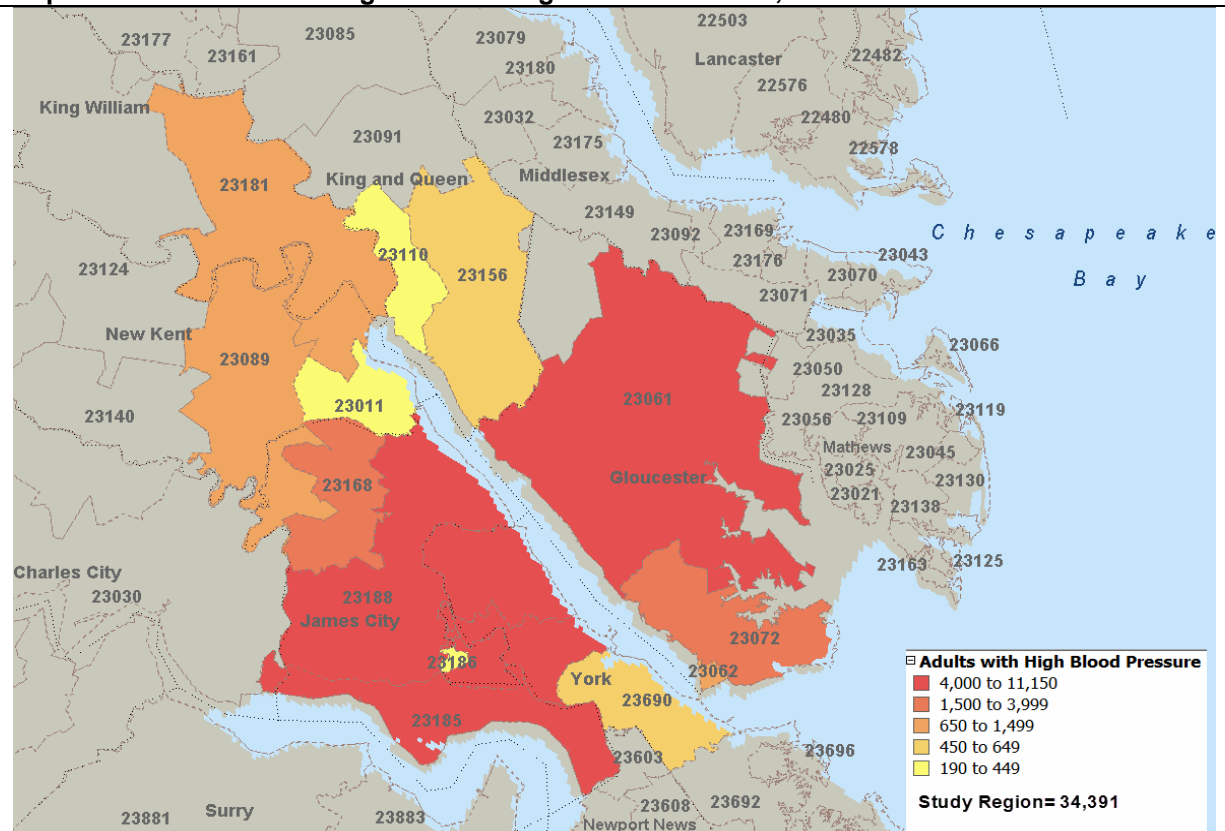


Source: Estimates based on Community Health Solutions analysis of Virginia Behavioral Risk Factor Surveillance System data and estimates from Alteryx, Inc.

Map 26: Estimated Adults Age 18+ with Diabetes, 2012

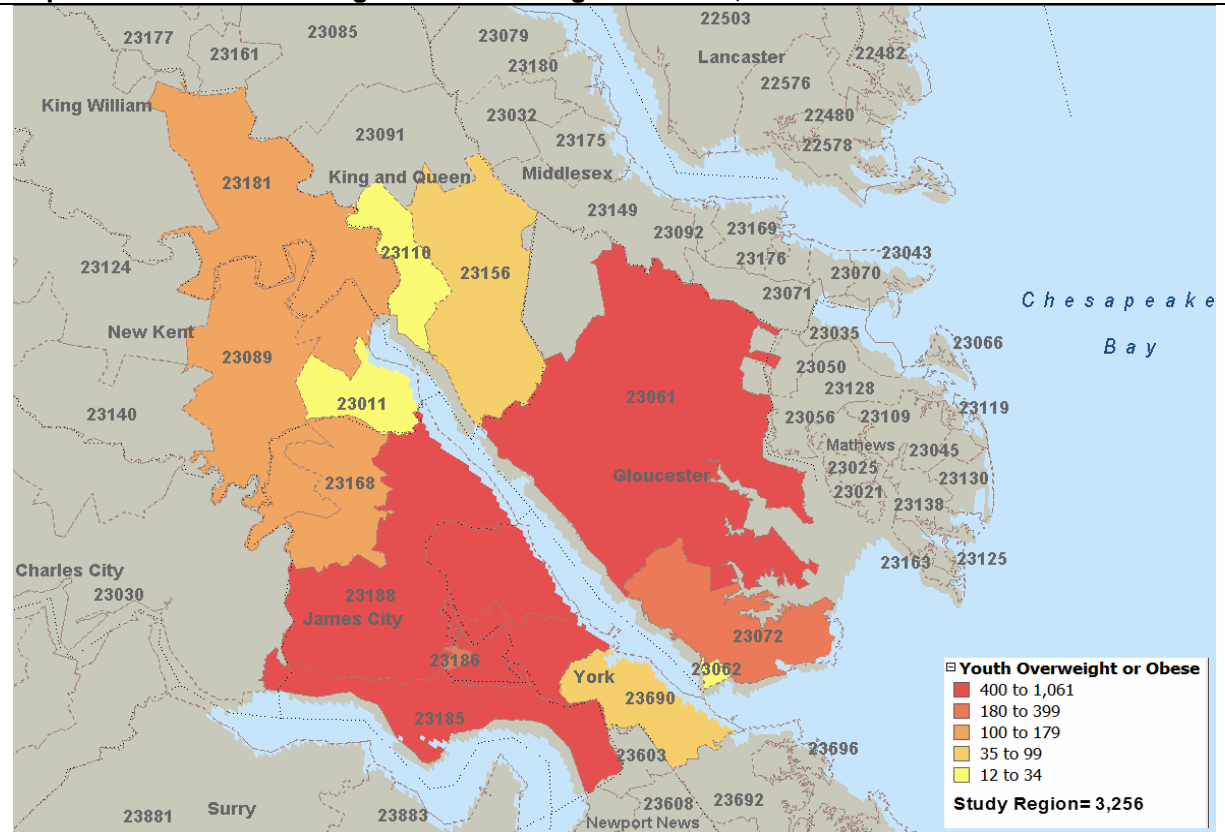


Map 27: Estimated Adults Age 18+ with High Blood Pressure, 2012

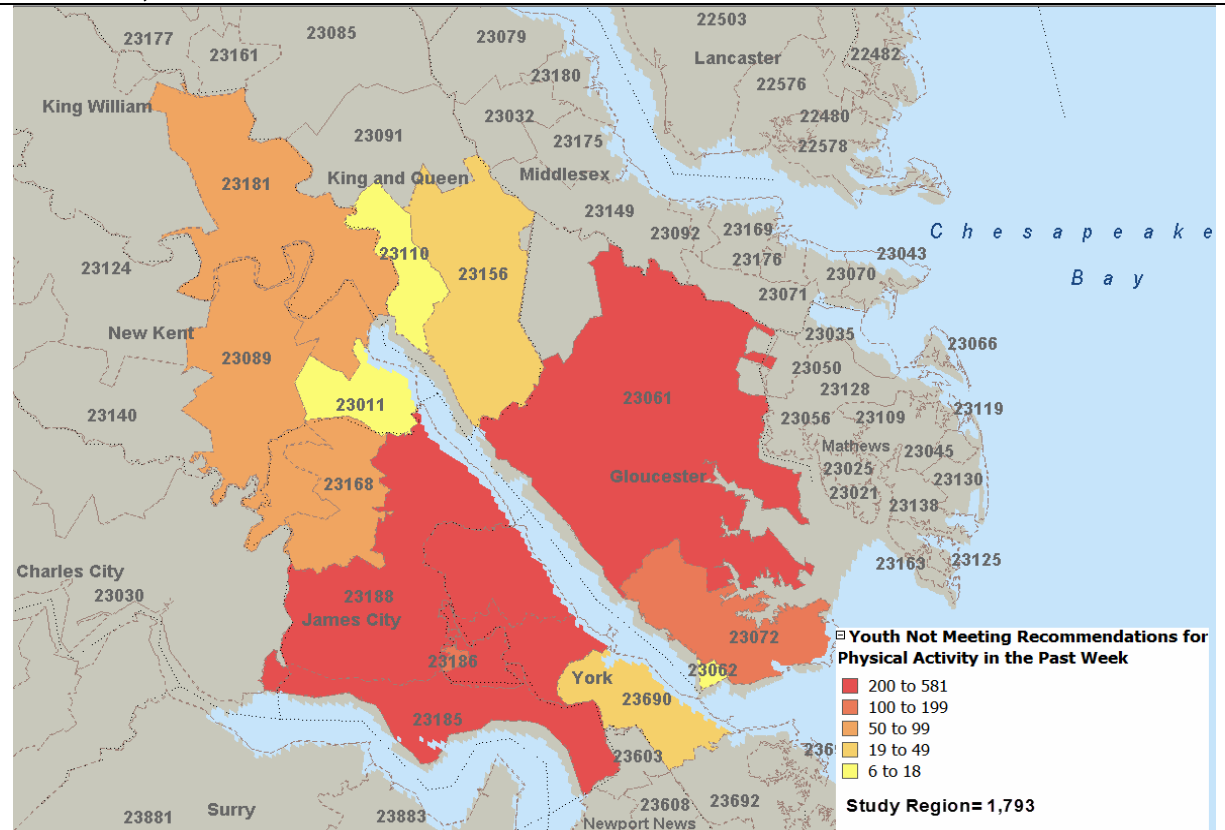


Source: Estimates based on Community Health Solutions analysis of Virginia Behavioral Risk Factor Surveillance System data and estimates from Alteryx, Inc.

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

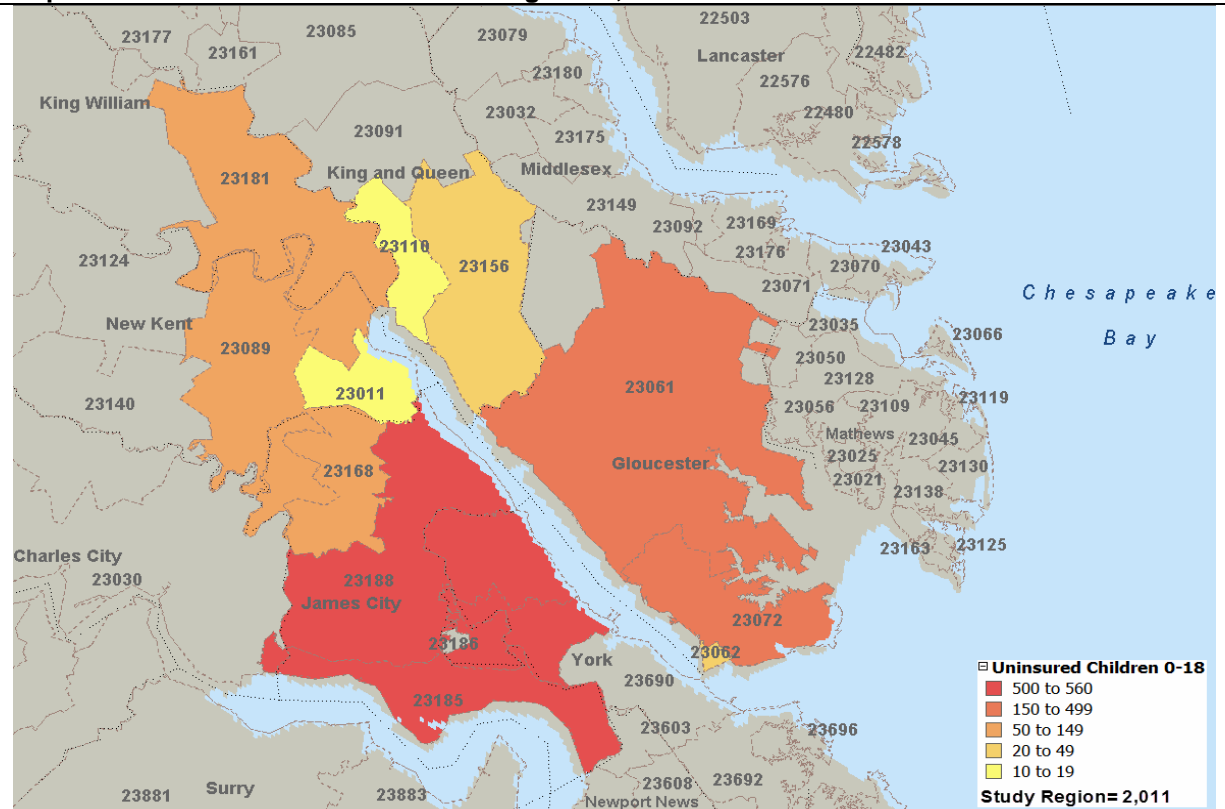


Map 29: Estimated Youth Age 14-19 Not Meeting Recommendations for Physical Activity in the Past Week, 2012

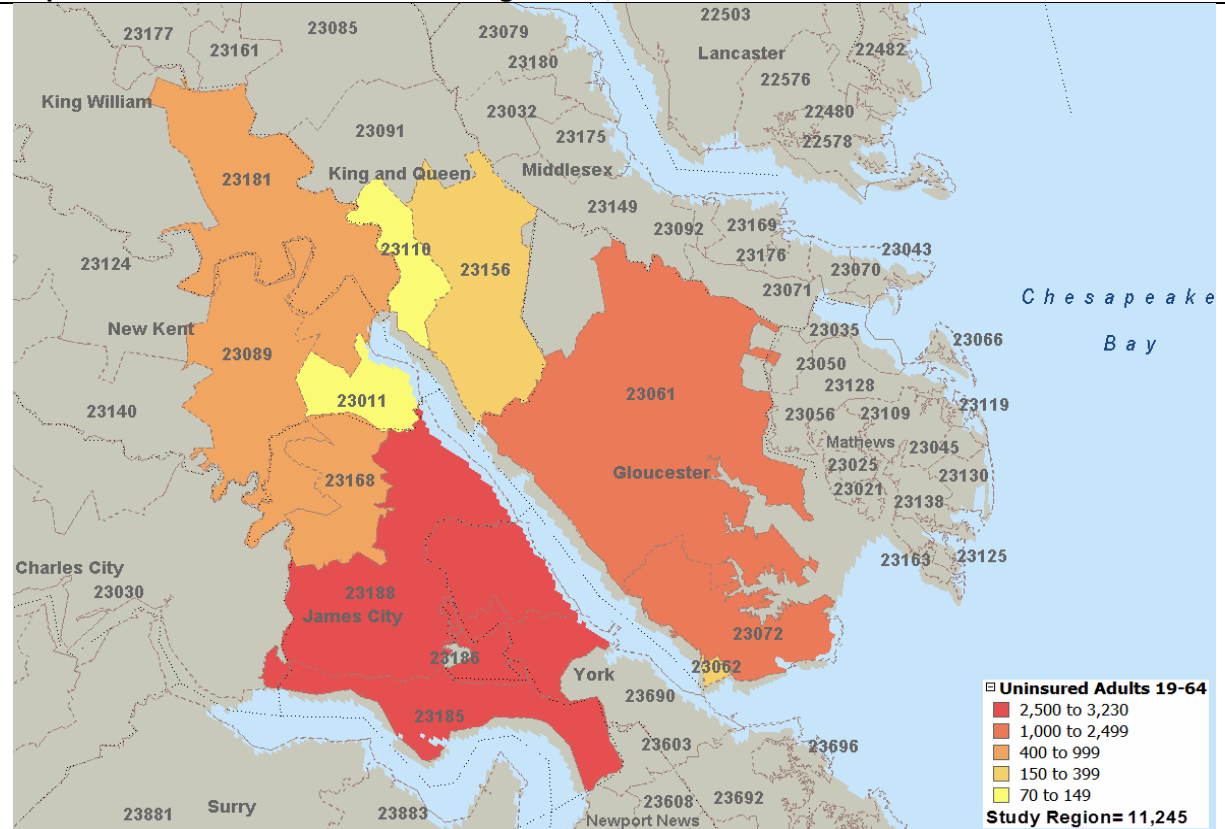


Source: Estimates based on Community Health Solutions analysis of Virginia Youth Risk Behavioral Surveillance System data and estimates from Alteryx, Inc.

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



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



* Two zip codes in the study region (23690 and 23186) were removed from the uninsured analysis because the populations are largely military or college students.

Source: Community Health Solutions estimates based on Community Health Solutions analysis of Profile of the Uninsured report produced for Virginia Health Care Foundation by the Urban Institute and estimates from Alteryx, Inc.

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	Combine the Sentara mission with the missions of the Peninsula Agency on Aging and both Community Services Boards on the Peninsula through a single formal agreement creating a coordinated health and human services network that can address many of the health issues and concerns of this region.
2	Coordination on the provision of services with organizations such as Olde Towne Medical Center, Colonial Behavioral Health, and the Senior Services Coalition will improve health in the community.
3	1) Develop closer working partnerships with the clinics that provide healthcare services to the uninsured and underinsured. 2) Integrate behavioral healthcare fully into primary care with services such as inclusion of screening for depression and other behavioral health issues with questionnaires used at primary services practices; increase staffing of behavioral health providers; promote effective communication, referrals and coordinated care planning to incorporate both primary/physical and behavioral health services; utilize EHR which incorporates both primary and behavioral health; institute basic training for primary care providers in identifying, diagnosing and making appropriate referrals for behavioral health issues.
4	Establish a network wherein your hospitals work with their regional community clinics providing care to uninsured and underinsured to provide access to specialists on an out-patient basis, accepting Medicaid or sliding scale fee schedule as appropriate. After patient is stabilized, should be returned to community health centers for maintenance care.
5	Expand partnerships with community providers, particularly Olde Towne Medical Center.
6	I have had a number of family members and friends who have been in the facility there (my late mother) and I observed wonderful and compassionate care... thanks [community member name].
7	Invest in wellness initiatives and partner with agencies in the community striving to encourage behavioral change that positively impacts health and wellness.
8	Keep it up! We consider Sentara to be a great partner.
9	Keep your emergency room well-staffed.
10	Make sure community members, young and old, rich or poor, have good access to physicians.
11	1) More Patient Advocates, particularly for seniors and those who have limited abilities. 2) Coordination between hospital's patient database and information.
12	Serving as a leader in patient self-management education- empowering patients
13	So far I am fortunate to be a healthy individual and do not have an extended family or friend network that is accessing health care in this location. So I'm sorry I was not able to provide that much information useful to this survey. I do know mental health is an issue in my sphere and it is not something that I felt I found easy access, advice, information, etc. to help deal with what I experienced with those close to me who suffer from this.
14	The community needs to be better informed about the services now being offered and the good ratings Williamsburg receives by local people and my agencies.
15	There is a real need for additional physicians in the <i>Project Care</i> patient access program. This indigent patient access program could be substantially improved with volumes of participating physicians. If there are adequate numbers of participating physicians then the patient need can be evenly divided and reduce the current delay times in getting patients access to services. Currently a patient can wait over 200 days to see an orthopedic consult. If we have a broad volume of specialty physicians participating, then no one physician or practice would be unduly burdened and patients would have increased access and shorter wait times.

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 <i>Community Insight</i> survey responses submitted by community stakeholders.
Part II: Community Indicator Profile	
1) Health Demographic Trend Profile 2) Health Demographic Snapshot Profile (also Appendix A: Maps 1-13)	Community Health Solutions analysis of US Census data and population estimates from Alteryx, Inc. (2012 and 2017). Note that demographic estimates may vary from other sources of local demographic indicators.
3) Mortality Profile (also Appendix A: Maps 14-17)	Community Health Solutions analysis of Virginia Department of Health death record data and estimates from Alteryx, Inc (2011).
4) Maternal and Infant Health Profile (also Appendix A: Maps 18-21)	Community Health Solutions analysis of Virginia Department of Health birth record data and estimates from Alteryx, Inc (2011).
5) Preventable Hospitalization Profile (also Appendix A: Map 22) 6) Behavioral Health Hospitalization Profile (also Appendix A: Map 23)	<p>Community Health Solutions analysis of hospital discharge data from the Virginia Health Information (VHI) dataset (January 1-December 31, 2011) and estimates 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.</p> <p><i>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.</i></p>
7) Adult Health Risk Factor Profile (also Appendix A: Maps 24-27)	<p>Estimates of chronic disease and risk behaviors for adults 18+ are based on Community Health Solutions analysis of:</p> <ul style="list-style-type: none"> • 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 • Estimates from Alteryx, Inc. (2012) <p>Estimates are used when there are no primary sources of data available at the local level. The statistical model to produce the estimates was developed by Community Health Solutions. The estimates are for planning purposes only and are not guaranteed for accuracy. The table does not include a comparison to Virginia statewide rates because the local estimates were derived from state-level data; therefore, attempts to contrast local estimates versus state estimates would result in a circular comparison.</p>

<p>8) Youth Health Risk Factor Profile (also Appendix A: Maps 28-29)</p>	<p>Estimates of risk behaviors for children age 14-19 are based on Community Health Solutions analysis of:</p> <ul style="list-style-type: none"> • National and statewide Virginia Youth Risk Behavioral Surveillance System from the Centers for Disease Control (2011). For more information on YRBSS visit: http://www.cdc.gov/HealthyYouth/yrbs/index.htm • Estimates from Alteryx, Inc. (2012). <p>Estimates are used when there are no primary sources of data available at the local level. The statistical model to produce the estimates was developed by Community Health Solutions. The estimates are for planning purposes only and are not guaranteed for accuracy. The table does not include a comparison to Virginia statewide rates because the local estimates were derived from state-level data; therefore, attempts to contrast local estimates versus state estimates would result in a circular comparison.</p>
<p>9) Uninsured Profile (also Appendix A: Maps 30-31)</p>	<p>Estimates of uninsured nonelderly age 0-64 are based on Community Health Solutions analysis of:</p> <ul style="list-style-type: none"> • <i>Profile of the Uninsured</i> report produced for Virginia Health Care Foundation by the Urban Institute (2011) • Estimates from Alteryx, Inc. (2012) <p>Estimates are used when there are no primary sources of data available at the local level. The statistical model to produce the estimates was developed by Community Health Solutions. The estimates are for planning purposes only and are not guaranteed for accuracy. The table does not include a comparison to Virginia statewide rates because the local estimates were derived from state-level data; therefore, attempts to contrast local estimates versus state estimates would result in a circular comparison.</p>
<p>10) Medically Underserved Profile</p>	<p>Community Health Solutions analysis of U.S. Health Resources and Services Administration data. For more information visit: http://muafind.hrsa.gov/.</p>