Obici Ambulatory Surgery Center
Community Health Needs Assessment
2013

SENTARA®

Obici Ambulatory Surgery Center

Community Health Needs Assessment

Introduction

Obici Ambulatory Surgery Center has conducted a community health needs assessment in collaboration with Sentara Obici Hospital. 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:

- Obesity/nutrition/fitness
- Diabetes
- Orthopedics
- Heart disease
- Health care coverage

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 facility'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 Sentara Obici Hospital

By Community Health Solutions

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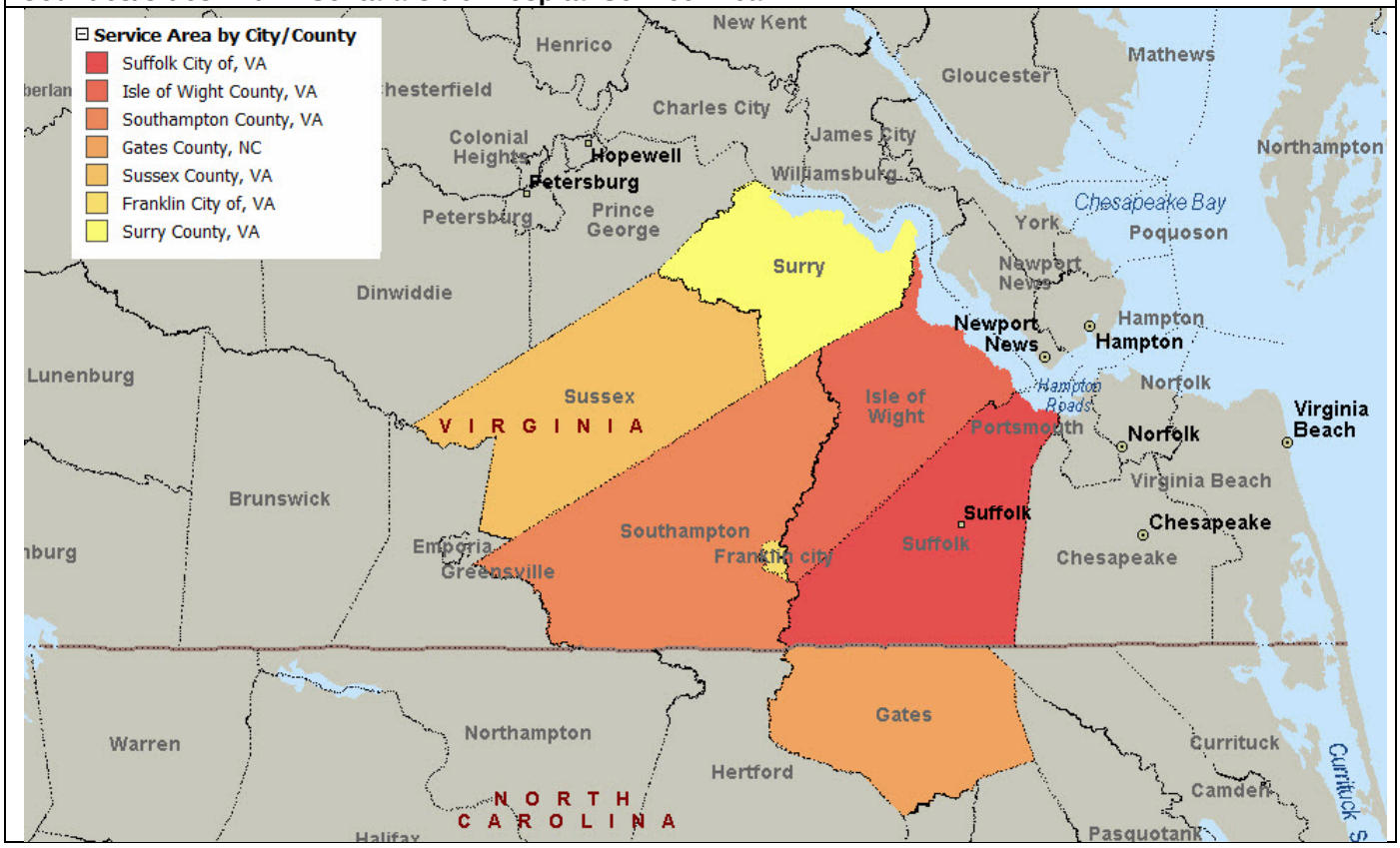
Executive Summary

The mission of Sentara Obici Hospital is to "to improve health every day". With this mission in mind, Sentara Obici Hospital commissioned Community Health Solutions to conduct this community health needs assessment in 2012.

The Sentara Obici Hospital service area includes seven localities in Virginia and North Carolina. The Virginia localities include all or parts of Isle of Wight, Southampton, Surry and Sussex counties; and the cities of Franklin and Suffolk (city/county-level Virginia study region). The North Carolina locality is Gates County. The service area is shown in the map below.

Counties/Cities Within Sentara Obici Hospital Service Area



Study Focus

The body of this report is focused on the six Virginia city/county localities. *Appendix C* includes selected community health indicators for Gates County, NC. The study results 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 community health needs assessment, a Community Insight Survey was conducted with a group of community stakeholders identified by Sentara Obici Hospital. The survey participants were asked to provide their viewpoints on:

- Important health concerns in the community;
- Significant service gaps in the community; and
- Ideas for addressing health concerns and service gaps.

The survey was sent to a group of 124 community stakeholders. A total of 50 (40%) submitted a response (although not every respondent answered every question). The respondents provided rich insights about community health in the Sentara Obici Hospital service area. To summarize:

- The respondents identified almost two dozen important health problems such as obesity, chronic disease, mental health conditions, substance abuse/illegal drugs, teen pregnancy and more.

- The respondents reported more than two dozen specific community services in need of strengthening. Commonly identified services included behavioral health services; dental care/oral health services; aging services; health promotion and prevention services; transportation services and more.

Seventeen 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 city/county-level Virginia study region (Isle of Wight, Southampton, Surry and Sussex counties; and the cities of Franklin and Suffolk). To produce the profile, Community Health Solutions analyzed city/county-level 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 at the city/county-level that provide broad insight into community health and for which there were readily available data sources.[1,2] To summarize:

- *Demographic Profile.* As of 2011, the city/county-level Virginia study region included an estimated168,131 people. The population is expected to increase to 175,957 by 2016. Compared to the Commonwealth of Virginia as a whole, the city/county-level Virginia study region is more sparsely populated, and (proportionally) more Black/African American. The city/county-level Virginia study region has lower income levels than the state as a whole, and proportionally more adults without a high school diploma.

- *Mortality Profile.* The city/county-level Virginia study region had 1,543 total deaths in 2010. The leading causes of death were malignant neoplasms (cancer), heart disease, and cerebrovascular disease (stroke). The age-adjusted death rates for the city/county-level Virginia study region were higher than the Virginia statewide rates overall, and for most causes of death where a rate was calculated.

- *Maternal and Infant Health Profile.* The city/county-level Virginia study region had 2,565 pregnancies and 1,891 total live births in 2010. Compared to Virginia as a whole, the city/county-level Virginia study region had higher rates of low weight births, births without early prenatal care, non-marital births, teen pregnancies, and infant mortality (based on the five-year average rate).

- *Preventable Hospitalization 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. PQI measures can be used with hospital inpatient discharge data to identify quality of care for "ambulatory care sensitive conditions."[3] High rates of hospitalization for these

[1] Unless otherwise noted, 2010 and 2011 demographic data used in the report were acquired from Alteryx, Inc., a commercial vendor of such data. The Virginia Department of Health was the source for all of the birth and death data included in the report. Virginia Health Information, Inc. was the source of the hospital discharge data included in the report. 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.*

[2] In addition, Community Health Solutions, Inc produced a number of indicators using '*synthetic estimation methods*.' Synthetic estimation methods can be used when there are no readily available sources of local data to produce a community health indicator. Synthetic estimation begins with analysis of national and state survey data to develop estimates of the number of people with a particular health status (e.g. asthma, diabetes, uninsured) at the national or state level. The national and state data are then applied to local demographic data to produce estimates of health status in a local area. These kinds of synthetic estimates are subject to error. They are instructive for planning, but it is not possible for Community Health Solutions, Inc to guarantee their accuracy.

[3] 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 has been included in the Maternal and Infant Health

conditions indicate potential gaps in access to quality outpatient services for community residents. Residents of the city/county-level Virginia study region had 2,428 PQI hospital discharges in 2010.[4] The leading diagnoses for these discharges were congestive heart failure, bacterial pneumonia and urinary tract infection. The age-adjusted PQI discharge rates for the city/county-level Virginia study region were higher than the Virginia statewide rates overall, and for multiple PQI diagnoses.

- *Behavioral Health Hospital Discharge Profile.* Behavioral health (BH) hospitalizations provide another important indicator of community health status. Residents of the city/county-level Virginia study region had 1,409 hospital discharges from Virginia hospitals for behavioral health conditions in 2010.[5] The leading diagnoses for these discharges were affective psychoses, general symptoms, and schizophrenic disorders. The age-adjusted BH discharge rates for the city/county-level Virginia study region were lower than the statewide rates overall, but were higher than the statewide rate for multiple BH diagnoses.

- *Adult and Child Health Risk Profiles.* The profiles contain a set of estimates of adult and child health risk. The local estimates indicate that substantial numbers of adults in the city/county-level Virginia study region may have health risks related to nutrition, physical activity, weight, tobacco, and alcohol. It is also estimated that large numbers of children in the city/county-level Virginia study region are not meeting recommendations for healthy eating, physical activity and healthy weight.

- *Uninsured Profile*. An estimated 20,225 (14%) nonelderly residents of the city/county-level Virginia study region were uninsured at any given time in 2010. Among both children and adults, the large majority of uninsured residents were estimated to have incomes at or below 200% of the federal poverty level (FPL).

- *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 six localities in the city/county-level Virginia study region have been designated as MUAs/MUPs.

Accompanying File of Zip Code Level Indicators

This report includes community health indicators for the city/county-level Virginia study region as a whole. A separate Microsoft Excel file contains indicators for each county and zip code within the study region (including county and zip code level data for Gates County, North Carolina).

Appendix A: Maps

Appendix A provides a set of thematically colored maps displaying variation in community health indicators by zip code. As mentioned, 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

Seventeen 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. Selected Community Health Indicators for Gates County, NC

This appendix provides demographic indicators and selected other health-related indicators for Gates County, NC.

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

[4] Data include discharges 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 primary diagnosis.

[5] Data include discharges 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 primary diagnosis.

Part I. Community Insight Profile

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

- Important health concerns in the community;
- Significant service gaps in the community;
- Ideas for addressing health concerns and service gaps.

The survey was sent to a group of 124 community stakeholders. A total of 50 (40%) submitted a response (although not every respondent answered every question). The respondents provided rich insights about community health in the Sentara Obici Hospital service area. 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

Albemarle Regional Health Services	Smithfield Center
Bethel Assembly	Smithfield Foods, Inc.
Birdsong Peanuts	Smithfield Middle School/IWCS
City of Franklin	St. Mary of the Presentation Catholic Church
City of Suffolk	Suffolk Christian Church
Duke Automotive Corp	Suffolk Department of Social Services
Ebenezer United Methodist Church	Suffolk Fire & Rescue
Gateway Community Care Center	Suffolk Health Department.
Health Department	Suffolk Partnership for a Healthy Community
Hubbard Peanut Company	Suffolk Police
Isle of Wight Academy	Suffolk Public Schools (2)
Kraft Foods	Temple Beth El
Luter Family YMCA	The Children's Center
Merrill Lynch	The Village at Woods Edge
Nansemond Insurance	Tidewater Physical Therapy, Inc
Obici Healthcare Foundation	Town of Smithfield (3)
Retired	Town of Windsor
Retired Banker	Virginia Business Coalition on Health
Riverside	Western Tidewater Free Clinic
Sentara Obici Hospital	Western Tidewater Health District
Sleepy Hole Golf Course	Wilroy Baptist Church
Smithfield & Isle of Wight Tourism	*Unknown Organization (4)*

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[b]	Response Count
Adult Obesity	88%	42
Diabetes	85%	41
Cancer	69%	33
Childhood Obesity	69%	33
Heart Disease	69%	33
High Blood Pressure	63%	30
Mental Health Conditions	42%	20
Substance Abuse Illegal Drugs	42%	20
Teen Pregnancy	42%	20
Alzheimer's Disease	38%	18
Asthma	35%	17
Arthritis	35%	17
Stroke	35%	17
Dental Care/Oral Health	31%	15
Tobacco Use	31%	15
Alcohol Use	29%	14
Infant and Child Health	29%	14
Prenatal & Pregnancy Care	25%	12
Renal (kidney) Disease	23%	11
Domestic Violence	19%	9
Physical Disabilities	19%	9
Substance Abuse Prescription Drugs	19%	9
Autism	17%	8
Sexually Transmitted Diseases	17%	8
Chronic Pain	15%	7
Neurological Disorders (seizures, multiple sclerosis)	13%	6
Respiratory Diseases (other than asthma)	13%	6
Environmental Quality	10%	5
HIV/AIDS	10%	5
Intellectual/Developmental Disabilities	10%	5
Orthopedic Problems	8%	4
Infectious Diseases	6%	3
Other Health Problems (see open-ended responses)	6%	3
Open-Ended Responses		
• Behavioral health for Adolescents		
• Asthma, etc. is getting worse in Suffolk especially during dismal swamp fires.		
• Child mental health - especially the elementary age. Counseling needs for family breakdowns, ADD/ADHD, and abnormal health conditions in our young children.		

Note: When interpreting the survey results, please note that while 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.

[6] *Forty-eight (48) of the 50 survey respondents answered this question.*

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[7]	Response Count
Behavioral Health Services (including mental health, substance use and intellectual disability)	66%	29
Dental Care/Oral Health Services	52%	23
Aging Services	50%	22
Health Promotion and Prevention Services	43%	19
Transportation	43%	19
Cancer Services (screening, diagnosis, treatment)	41%	18
Patient Self Management Services(e.g. nutrition, exercise, taking medications)	41%	18
Health Care Coverage	39%	17
Chronic Disease Services (including screening and early detection)	34%	15
Food Safety Net (food bank, community gardens)	34%	15
Job/Vocational Retraining	32%	14
Long Term Care Services	30%	13
Early Intervention Services for Children	25%	11
Family Planning Services	25%	11
Homeless Services	25%	11
Public Health Services	23%	10
Domestic Violence Services	21%	9
Specialty Medical Care (e.g. cardiologists, oncologists, etc.)	21%	9
Chronic Pain Management Services	14%	6
Home Health Services	14%	6
Maternal, Infant & Child Health Services	14%	6
Primary Health Care Services	11%	5
School Health Services	11%	5
Social Services	11%	5
Hospice Services	9%	4
Hospital Services (including emergency, inpatient and outpatient)	9%	4
Environmental Health Services	7%	3
Pharmacy Services	7%	3
Physical Rehabilitation	7%	3
Workplace Health and Safety Services	7%	3
Other Community Health Services (see open-ended responses)	11%	5

Note: When interpreting the survey results, please note that while 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.

Continued on next page…

[7] *Forty-four (44) of the 50 survey respondents answered this question.*

Exhibit I-3. Important Community Service Gaps Identified by Survey Respondents
Open-Ended Responses
• Retina specialists
• There needs to be an integrated emphasis placed on increasing awareness of the benefits of an active lifestyle at all ages and on the benefits of preventive/primary care. Things such as the following would be a good start. 1) Restructuring roads to accommodate pedestrians and bicycles. 2) Physical fitness classes in school to include some sort of required participation. 3) Allowing health insurance to charge more for folks unwilling to improve their health status. 4) Restructuring the payment methodologies to increase payments for preventive and primary care and reducing payments for specialist services.
• I have only been a member of the community for six months now, so my experience in these areas is somewhat limited at this time.
• Nutrition assessment and screening in the community.
• Obesity education

Part II. Community Indicator Profile

This section of the report provides a quantitative profile of the city/county-level Virginia study region (Isle of Wight, Southampton, Surry and Sussex counties; and the cities of Franklin and Suffolk) based on a wide array of community health indicators. To produce the profile, Community Health Solutions analyzed city/county-level 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 at the city/county-level 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 Profile
6. Behavioral Health Hospital Discharge Profile
7. Adult Health Risk Factor Profile
8. Child 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 2011 the city/county-level Virginia study region included an estimated 168,131 people. The population is expected to increase to 175,957 by 2016. By age, the highest growth rates are expected to occur in the young adult and senior populations. By race/ethnicity, the highest growth rates expected to occur in the Hispanic population.

Exhibit II-1
Health Demographic Trend,
City/County-Level Virginia Study Region, 2000-2016

Indicator	2000 Census	2011 Estimate	2016 Projection	% Change 2011-2016
Total Population	138,566	168,131	175,957	5%
Population Density (per Sq Mile)	62.8	76.2	79.8	5%
Total Households	51,010	61,512	62,490	2%
Population by Age				
Children Age 0-17	35,873	40,657	43,433	7%
Adults Age 18-29	18,176	24,611	26,466	8%
Adults Age 30-44	34,085	33,958	30,624	-10%
Adults Age 45-64	33,209	46,333	48,787	5%
Seniors Age 65+	17,569	22,566	26,649	18%
Population by Race/Ethnicity				
Asian	713	1,828	1,889	3%
Black/African American	58,943	67,913	71,861	6%
White	76,751	93,398	97,051	4%
Other or Multi-Race	2,159	4,993	5,156	3%
Hispanic Ethnicity[8]	1,377	4,144	5,614	35%

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

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

2. Health Demographic Snapshot

Community health is driven in large 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 city/county-level Virginia study region. As of 2011, the city/county-level Virginia study region included an estimated 168,131 people. Compared to the Commonwealth of Virginia as a whole, the city/county-level Virginia study region is more sparsely populated, and (proportionally) more Black/African American. The city/county-level Virginia study region has lower income levels than the state as a whole, and proportionally more adults without a high school diploma. *Note: Maps 1-13 in Appendix A show the geographic distribution of 2011 population estimates by zip code.*

Exhibit II-2
Health Demographic Snapshot,
City/County-Level Virginia Study Region, 2011

Indicator	City/County-Level Virginia Study Region	Virginia
Population Counts		
Population	168,131	8,120,937
Children Age 0-17	40,657	1,910,883
Adults Age 18-29	24,611	1,367,779
Adults Age 30-44	33,958	1,687,883
Adults Age 45-64	46,333	2,139,219
Seniors Age 65+	22,566	1,014,213
Female	85,476	4,130,586
Male	82,653	3,990,349
Asian	1,828	446,480
Black/African American	67,913	1,575,045
White	93,398	5,568,689
Other or Multi-Race	4,993	530,708
Hispanic Ethnicity	4,144	684,450
Low Income Households (Households with Income < $25,000)	13,144	561,807
Population Age 25+ Without a High School Diploma	17,321	697,401
Population Rates		
Population Density (pop. per sq. mile)	76.2	201.7
Children Age 0-17 pct. of Total Pop.	24%	24%
Adults Age 18-29 pct. of Total Pop.	15%	17%
Adults Age 30-44 pct. of Total Pop.	20%	21%
Adults Age 45-64 pct. of Total Pop.	28%	26%
Seniors Age 65+ pct. of Total Pop.	13%	12%
Female pct. of Total Pop.	51%	51%
Male pct. of Total Pop.	49%	49%
Asian pct. of Total Pop.	1%	5%
Black/African American pct. of Total Pop.	40%	19%
White pct. of Total Pop.	56%	69%
Other or Multi-Race pct. of Total Pop.	3%	7%
Hispanic Ethnicity pct. of Total Pop.	2%	8%
Per Capita Income	$28,472	$33,364
Median Household Income	$61,376	$63,002
Low Income Households (Households with Income < $25,000) pct. of Total Households	21%	18%
Pop. Age 25+ Without a High School Diploma pct. of Total Pop. Age 25+	15%	13%

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

3. Mortality Profile

As shown in *Exhibit II-3*, the city/county-level Virginia study region had 1,543 total deaths in 2010. The leading causes of death were malignant neoplasms (cancer) (379), heart disease (343), and cerebrovascular disease (stroke) (106). The age-adjusted death rates for the city/county-level Virginia study region were higher than the Virginia statewide rates overall, and for most causes of death where a rate was calculated. *Note: Maps 14-17 in Appendix A show the geographic distribution of 2010 deaths by zip code.*

Exhibit II-3
Mortality Profile,
City/County-Level Virginia Study Region, 2010

Indicators	City/County-Level Virginia Study Region	Virginia
Total Deaths		
Deaths by All Causes	1,543	58,841
Deaths by Top 14 Causes		
Malignant Neoplasms (Cancer) Deaths	379	13,958
Heart Disease Deaths	343	13,332
Cerebrovascular Disease (Stroke) Deaths	106	3,259
Unintentional Injury Deaths	75	2,571
Chronic Lower Respiratory Disease Deaths	62	2,957
Alzheimer's Disease Deaths	56	1,842
Diabetes Mellitus Deaths	46	1,527
Nephritis and Nephrosis Deaths	34	1,358
Septicemia Deaths	33	1,583
Influenza and Pneumonia Deaths	27	1,183
Primary Hypertension and Renal Disease Deaths	22	687
Chronic Liver Disease Deaths	22	519
Suicide Deaths	15	982
Age Adjusted Death Rates per 100,000 Population[9]		
Total Deaths	874.4	739.2
Malignant Neoplasms (Cancer) Deaths	207.1	170.9
Heart Disease Deaths	193.4	167.6
Cerebrovascular Disease (Stroke) Deaths	59.2	41.7
Unintentional Injury Deaths	43.0	32.2
Chronic Lower Respiratory Diseases Deaths	35.7	37.9
Alzheimer's Disease Deaths	33.8	24.4
Diabetes Mellitus Deaths	25.7	18.7
Nephritis and Nephrosis Deaths	19.0	20.1
Septicemia Deaths	19.2	17.2

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

[9] 2010 Census data were used to calculate study region age adjusted rates. Rates are not calculated for causes where n<30.

4. Maternal and Infant Health Profile

As shown in *Exhibit II-4,* the city/county-level Virginia study region had 2,565 pregnancies and 1,891 total live births in 2010. Of these, 218 were born with low birth weight, 573 were births without early prenatal care, 848 were non-marital births, and 169 were births to teens [with 52 involving younger teens age 15-17]. There were also 18 infant deaths in the city/county-level Virginia study region during 2010. Compared to Virginia as a whole, the city/county-level Virginia study region had higher rates of low weight births, births without early prenatal care, non-marital births, teen pregnancies, and infant mortality (based on the five-year average rate). *Note: Maps 18-21 in Appendix A show the geographic distribution of 2010 births by zip code.*

Exhibit II-4
Maternal and Infant Health Profile,
City/County-Level Virginia Study Region, 2010

Indicators	City/County-Level Virginia Study Region	Virginia
Counts		
Total Pregnancies	2,565	134,416
Induced Terminations of Pregnancy	479	24,892
Natural Fetal Deaths	195	6,590
Total Live Births	1,891	102,934
Low Weight Births (under 2,500 grams / 5 lb. 8 oz.)	218	8,487
Births Without Early Prenatal Care (No Prenatal Care in First 13 Weeks)	573	14,950
Non-Marital Births	848	36,532
Total Teen Pregnancies Ages 10-19	267	10,970
Live Births to Teens Age 10-19	169	7,2444
Live Births to Teens Age 18-19	113	5,418
Live Births to Teens Age 15-17	41	1,955
Live Births to Teens Age <15	15	71
Total Infant Deaths	18	695
Rates		
Live Birth Rate per 1,000 Population	11.4	12.9
Low Weight Births pct. of Total Live Births	12%	8%
Births Without Early Prenatal Care (No Prenatal Care in First 13 Weeks) pct. of Total Live Births	30%	15%
Non-Marital Births pct. of Total Live Births	45%	35%
Teenage (age 10-19) Pregnancy Rate per 1,000 Teenage Female Population	24.6	21.1
Five-Year Average Infant Mortality Rate per 1,000 Live Births) 2006-2010	8.8	7.1

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

5. Preventable Hospitalization 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. PQI measures can be used with hospital inpatient discharge data to identify quality of care for "ambulatory care sensitive conditions."[10] 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 city/county-level Virginia study region had 2,428 PQI hospital discharges in 2010. The leading diagnoses for these discharges were congestive heart failure (654), bacterial pneumonia (474), and urinary tract infection (308).[11] The age-adjusted PQI discharge rates for the city/county-level Virginia study region were higher than the Virginia statewide rates overall, and for multiple PQI diagnoses. *Note: Map 22 in Appendix A shows the geographic distribution of 2010 PQI discharges by zip code.*

Exhibit II-5
Prevention Quality Indicator Hospital Discharges,
City/County-Level Virginia Study Region, 2010

Indicators	City/County-Level Virginia Study Region	Virginia
Total PQI Discharges		
Total PQI Discharges by All Diagnoses	2,428	81,070
PQI Discharges by Diagnosis		
Congestive Heart Failure PQI Discharges	654	19,062
Bacterial Pneumonia PQI Discharges	474	14,845
Urinary Tract Infection PQI Discharges	308	10,331
Chronic Obstructive Pulmonary Disease (COPD) PQI Discharges	295	10,448
Diabetes PQI Discharges	291	11,166
Adult Asthma PQI Discharges	173	6,313
Dehydration PQI Discharges	114	3,564
Hypertension PQI Discharges	81	2,851
Angina PQI Discharges	21	812
Perforated Appendix PQI Discharges	17	1,678
Age Adjusted PQI Discharge Rates per 100,000 Population[12]		
All Diagnoses	1,358.3	999.1
Congestive Heart Failure	359.4	238.1
Bacterial Pneumonia	268.6	184.5
Urinary Tract Infection	179.8	131.8
Chronic Obstructive Pulmonary Disease (COPD)	125.6	162.5
Diabetes	134.0	163.5
Adult Asthma	76.0	96.5
Dehydration	44.2	43.5
Hypertension	34.6	44.6

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

[10] 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

[11] Data include discharges 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 primary diagnosis.

[12] 2010 Census data were used to calculate study region age adjusted rates. Rates are not calculated for diagnoses where n<30.

6. Behavioral Health Hospital Discharge Profile

Behavioral health (BH) hospitalizations provide another important indicator of community health status. *Exhibit II-6* shows behavioral health hospital discharges for city/county-level Virginia study region residents in 2010. Residents of the city/county-level Virginia study region had 1,409 hospital discharges from Virginia hospitals for behavioral health conditions in 2010.[13] The leading diagnoses for these discharges were affective psychoses (534), general symptoms (337) and schizophrenic disorders (204). The age-adjusted BH discharge rates for the city/county-level Virginia study region were lower than the statewide rates overall, but were higher than the statewide rates for multiple BH diagnoses. *Note: Map 23 in Appendix A shows the geographic distribution of 2010 BH health discharges by zip code.*

Exhibit II-6
Behavioral Health Hospital Discharges,
City/County-Level Virginia Study Region, 2010

Indicators	City/County-Level Virginia Study Region	Virginia
BH Discharges		
Total BH Discharges by All Diagnoses	1,409	63,936
BH Discharges by Diagnosis		
Affective Psychoses[14]	534	27,220
General Symptoms[15]	337	11,084
Schizophrenic Disorders	204	8,092
Adjustment Reaction	59	2,021
Depressive Disorder, Not Elsewhere Classified	54	2,819
Other Nonorganic Psychoses	43	2,008
Alcoholic Psychoses	32	2,969
Alcoholic Dependence Syndrome	26	2,080
Neurotic Disorders	26	1,210
Drug Psychoses	20	1,252
Age Adjusted BH Discharge Rates per 100,000 Population [16]		
All Diagnoses	786.2	791.9
Affective Psychoses	326.2	339.0
General Symptoms	191.7	138.2
Schizophrenic Disorders	123.2	97.4
Adjustment Reaction	37.1	25.4
Depressive Disorder, Not Elsewhere Classified	34.4	35.5
Other Nonorganic Psychoses	26.0	24.9
Alcoholic Psychoses	16.4	35.5

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

[13] Data include discharges 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 primary diagnosis.
[14] Includes major depressive, bipolar affective and manic depressive disorders.
[15] 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.
[16] 2010 Census data were used to calculate study region age adjusted rates. Rates are not calculated for diagnoses where n<30.

7. Adult Health Risk Factor Profile

This section examines health risks for adults based on synthetic estimates developed by Community Health Solutions[17] As shown in *Exhibit II-7*, the estimates indicate that substantial numbers of adults in the city/county-level Virginia study region may have health risks related to nutrition, physical activity, weight, tobacco and alcohol. In addition, large numbers of adults may have chronic conditions such as high cholesterol, arthritis, high blood pressure, asthma and diabetes. *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 (Synthetic Estimates),
City/County-Level Virginia Study Region, 2010[18]

Indicators	City/County-level Virginia Study Region Estimates (count)	City/County-level Virginia Study Region Estimates (percent)
Estimated adults age 18+	126,883	100%
Risk Factors. Adults Age 18+ estimated to…		
Eat Less Than Five Servings of Fruits and Vegetables Per Day	97,612	77%
Have No Physical Activity in the Past 30 Days	32,549	26%
Be Overweight or Obese	77,844	61%
Be a Smoker	27,991	22%
Be at Risk for Binge Drinking	16,954	13%
Chronic Conditions. Adults Age 18+ estimated to…		
Have High Cholesterol (told by a doctor or other health professional)	37,925	30%
Have High Blood Pressure (told by a doctor or other health professional)	39,478	31%
Have Arthritis (told by a doctor or other health professional)	37,283	29%
Have Asthma (told by a doctor or other health professional)	16,281	13%
Have Diabetes (told by a doctor or other health professional)	12,336	10%
General Health Status. Adults Age 18+ estimated to…		
Be Limited in any Activities because of Physical, Mental or Emotional Problems	23,291	18%
Have Fair or Poor Health Status	21,762	17%

Source: Community Health Solutions synthetic estimates. See footnote for details.

[17] Synthetic estimates are used when there are no primary sources of data available at the local level. In this case, synthetic estimates were developed by using national and state survey results to predict the prevalence of the listed conditions in the local population. The survey data came from the CDC's Behavioral Risk Factor Surveillance Survey. Local demographic 2010 Census data were obtained from Alteryx, Inc. The statistical model to produce the estimates was developed by Community Health Solutions

[18] Estimates are not provided for the Virginia total. Local-level synthetic estimates are based on state-level Virginia data. Attempts to contrast local estimates versus state estimates would result in a circular comparison.

8. Child Health Risk Factor Profile

This section examines a set of health risks for children based on synthetic estimates developed by Community Health Solutions. The particular risk indicators involve nutrition, physical activity and weight-related risks. 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 the list of selected child health risk estimates for children age 10-17 in the city/county-level Virginia study region. These estimates are based on statewide and regional survey data from a recent household survey on childhood obesity commissioned by the Virginia Foundation for Healthy Youth.[19] The results of the survey were published in May 2010. The estimates were produced by applying the regional estimates for southern/southeastern (including Western Tidewater) Virginia to the city/county-level Virginia study region population estimates for 2010. Assuming that the survey estimates for southern/ southeastern Virginia reflect the behaviors of children in the city/county-level Virginia study region today, it is estimated that large numbers of children are not meeting recommendations for healthy eating, physical activity and healthy weight. *Note: Maps 28 and 29 in Appendix A show the geographic distribution of selected child health risks by zip code.*

Exhibit II-8
Child Health Risk Factors (Synthetic Estimates),
City/County-Level Virginia Study Region, 2010[20]

Indicators	City/County-Level Virginia Study Region Estimates (count)	City/County-Level Virginia Study Region Estimates (percent)
Estimated Children Age 10-17	17,264	100%
Estimated to…		
Drink Soda or Eat Chips or Candy At Least Once Per Week	15,883	92%
Eat Less than the Recommended Intake of Fruits and Vegetables	15,192	88%
Be Less Physically Active than Recommended	5,870	34%
Watch Television Three or More Hours per Day	4,452	26%
Be Overweight or Obese[21]	3,998	23%
Play Video/Computer Games Three or More Hours per Day	2,944	17%

Source: Community Health Solutions synthetic estimates. See footnote for details.

[19] Synthetic estimates are used when there are no primary sources of data available at the local level. In this case, synthetic estimates were developed by using state and regional survey results to predict the prevalence of the listed conditions in the local population. The survey data came from Market Decisions' *2010 Obesity Survey* commissioned by Virginia Foundation for Healthy Youth. Local demographic 2010 Census data were obtained from Alteryx, Inc. The statistical model to produce the estimates was developed by Community Health Solutions

[20] Estimates are not provided for the Virginia total. Local-level synthetic estimates are based on state-level Virginia data. Attempts to contrast local estimates versus state estimates would result in a circular comparison.

[21] 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.

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 synthetic estimates of the number of uninsured individuals in the city/county-level Virginia study region as of 2010.[22] An estimated 20,225 (14%) nonelderly residents of the city/county-level Virginia study region were uninsured at any given time. This includes an estimated 3,153 children and 17,072 adults. Among both children and adults, the large majority of uninsured residents were estimated to have income at or below 200% of the federal poverty level (FPL).[23] *Note: Maps 30-33 in Appendix A show the geographic distribution of the uninsured population by zip code.*

Exhibit II-9
Uninsured (Synthetic Estimates),
City/County-Level Virginia Study Region, 2010[24]

Indicators	City/County-Level Virginia Study Region Estimates
Estimated Population Counts	
Total Nonelderly Population Age 0-64	154,672
Total Child Population Age 0-18	44,603
Total Adult Population Age 19-64	110,069
Estimated Uninsured Counts	
Uninsured Nonelderly Age 0-64	20,225
Uninsured Children Age 0-18	3,153
Uninsured Children and Income 0- 200% Federal Poverty Level (FPL)	1,997
Uninsured Children and Income <100% FPL	1,038
Uninsured Children and Income 100-200% FPL	1,228
Uninsured Children and Income 201-300% FPL	611
Uninsured Children and Income 301%+ FPL	410
Uninsured Adults Age 19-64	17,072
Uninsured Adults 0-200% FPL	12,048
Uninsured Adults and Income <100% FPL	7,808
Uninsured Adults and Income 100-200% FPL	5,561
Uninsured Adults and Income 201-300% FPL	2,706
Uninsured Adults and Income 301%+ FPL	1,658
Uninsured Adults 19-64 and Income under 133% FPL	9,044
Uninsured Adults 19-64 and Income 133-300% FPL	3,949
Estimated Uninsured Rates	
Uninsured Nonelderly Percent pct. of Total Nonelderly Population Age 0-64	14%
Uninsured Children Percent pct. of Total Child Population Age 0-18	8%
Uninsured Adults Percent pct. of Total Adult Population Age 19-64	17%

Source: Community Health Solutions synthetic estimates. See footnote for details.

[22] Synthetic estimates are used when there are no primary sources of data available at the local level. In this case, synthetic estimates were developed by using state survey results to predict the prevalence of the listed conditions in the local population. The statewide uninsured estimates were obtained from a report produced for the Virginia Health Care Foundation by Urban Institute. Local demographic 2010 Census data were obtained from Alteryx, Inc. The statistical model to produce the estimates was developed by Community Health Solutions. The estimates do not explicitly account for either undocumented populations or acute drops in income due to the recession.

[23] Two hundred percent of the federal poverty level was defined as an annual income of $44,700 for a family of four in 2010. http://aspe.hhs.gov/poverty/11poverty.shtml

[24] Estimates are not provided for the Virginia total. Local-level synthetic estimates are based on state-level Virginia data. Attempts to contrast local estimates versus state estimates would result in a circular comparison.

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 six localities in the city/county-level Virginia study region have been 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 Designations,
City/County-Level Virginia Study Region

Locality	Census Tracts Designated as Medically Underserved
Franklin, City of	5 of 5 Census Tracts
Isle of Wight County	15 of 15 Census Tracts
Southampton County	14 of 14 Census Tracts
Suffolk, City of	39 of 39 Census Tracts
Surry County	8 of 8 Census Tracts
Sussex County	13 of 13 Census Tracts

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

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

The zip code level maps in this section illustrate the geographic distribution of the zip code-level Virginia study region population on key demographic and health indicators. The results can also 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 2010/2011:

1. Total Population, 2011	18. Total Live Births, 2010
2. Population Density, 2011	19. Low Weight Births, 2010
3. Child Population Age 0-17, 2011	20. Births Without Early Prenatal Care (No Prenatal Care in the First 13 Weeks), 2010
4. Senior Population Age 65+, 2011	21. Births to Teen Mothers Under Age 18, 2010
5. Per Capita Income, 2011	22. Prevention Quality Indicator (PQI) Hospital Discharges, 2010
6. Median Household Income, 2011	23. Behavioral Health (BH) Hospital Discharges, 2010
7. Low Income Households (Households with Income <$25,000), 2011	24. Estimated Adults Age 18+ Overweight or Obese, 2011
8. Population Age 25+ Without a High School Diploma, 2011	25. Estimated Adult Age 18+ Smokers, 2011
9. Asian Population, 2011	26. Estimated Adults Age 18+ with Diabetes, 2011
10. Black/African American Population, 2011	27. Estimated Adults Age 18+ with High Blood Pressure, 2011
11. White Population, 2011	28. Estimated Children Age 10-17 Overweight or Obese, 2011
12. Hispanic Population, 2011	29. Estimated Children Age 10-17 Not Meeting Physical Activity Targets, 2011
13. Other or Multi-Race Population, 2011	30. Estimated Uninsured Nonelderly Age 0-64, 2011
14. Total Deaths, 2010	31. Estimated Uninsured Nonelderly Age 0-64 and Income 0-200% Federal Poverty Level, 2011
15. Malignant Neoplasms (Cancer) Deaths, 2010	32. Estimated Uninsured Children Age 0-18, 2011
16. Heart Disease Deaths, 2010	33. Estimated Uninsured Children Age 0-18 and Income 0-200% Federal Poverty Level, 2011
17. Cerebrovascular Disease (Stroke) Deaths, 2010	

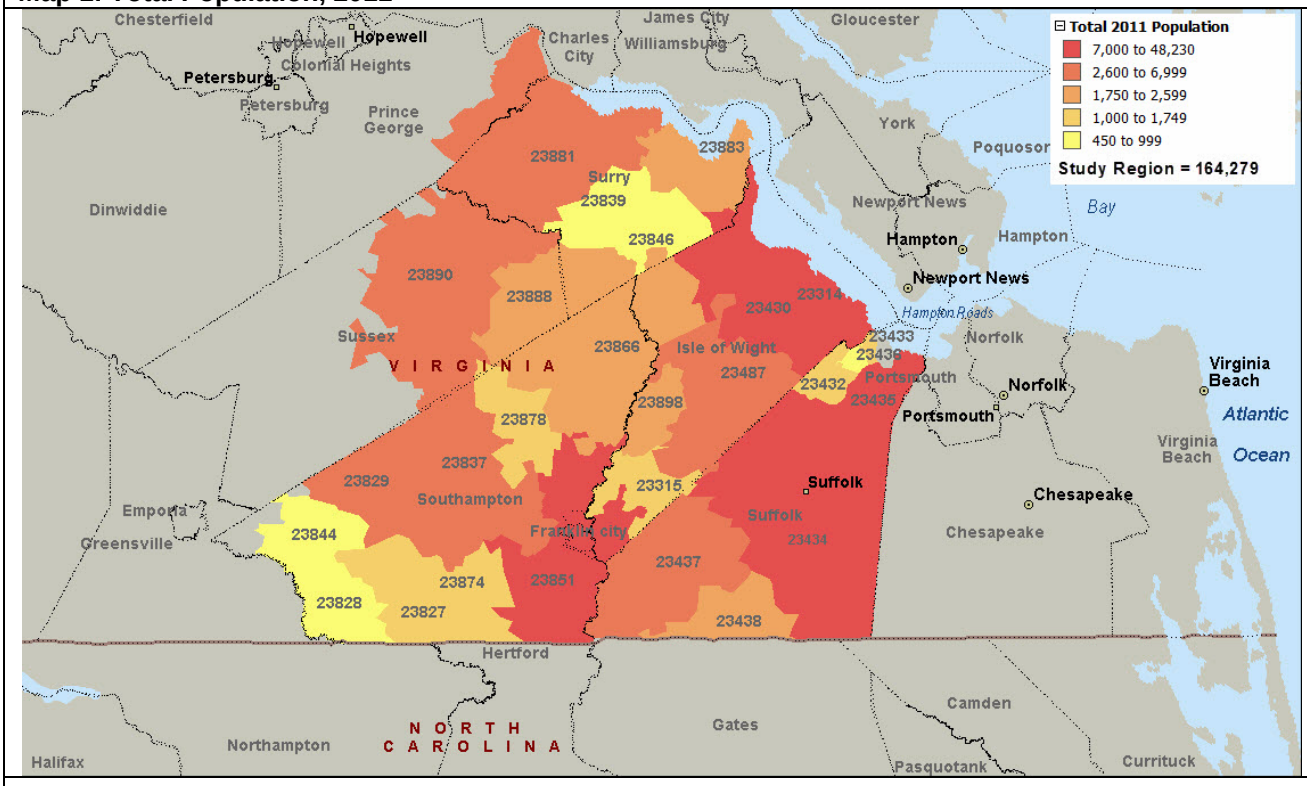
Technical Notes

1. The maps and data include 33 zip codes, as identified by Sentara Obici Hospital, fall mostly within Isle of Wight, Southampton, Surry and Sussex counties; and the cities of Franklin and Suffolk in Virginia. Because zip code boundaries do not automatically align with city/county boundaries, there are some zip codes that extend beyond the county boundaries. Consequently, the combined zip-code-level totals for population, deaths, births, hospitalizations, etc. differ from the city/county-level Virginia study region totals listed throughout the body of the report.

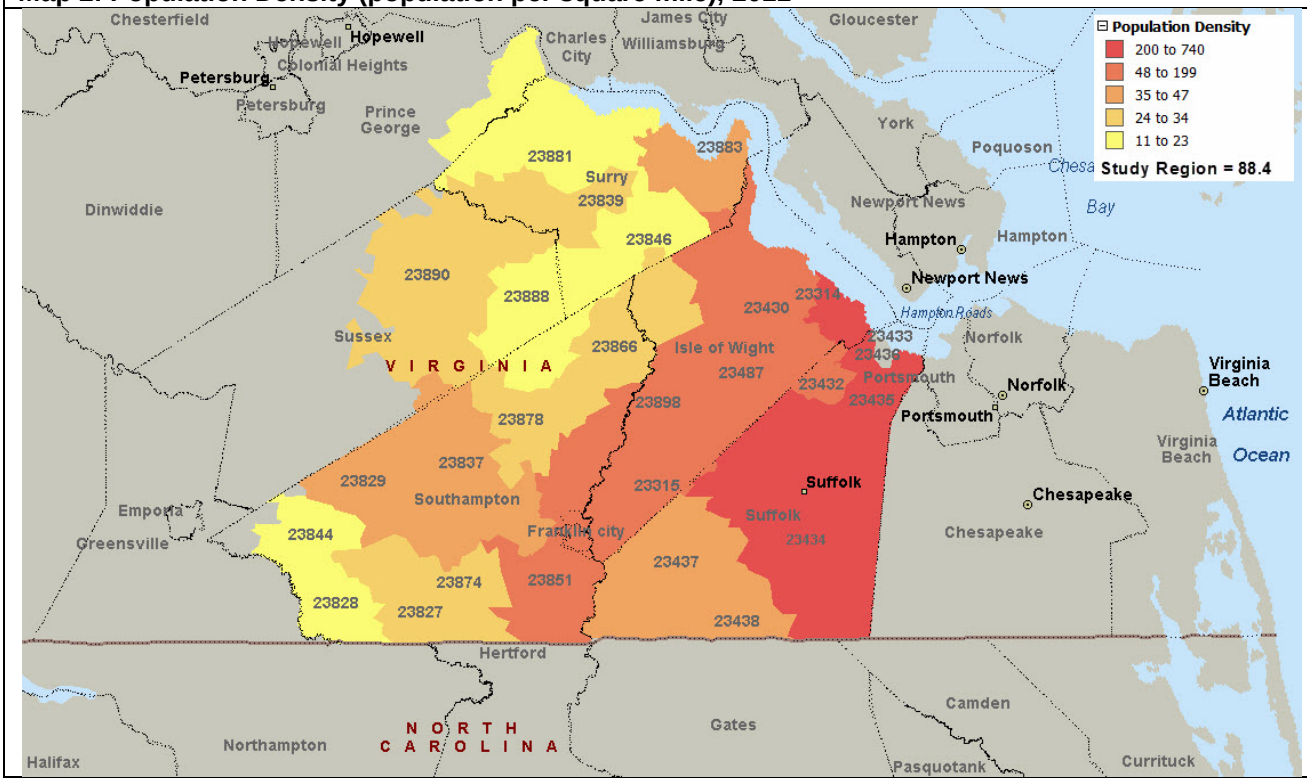
2. With the exception of per capita income and median household income, the maps show counts rather than rates. Rates are not mapped at the zip code level because in some zip codes the population is too small to support rate-based comparisons.

3. Demographic (maps 1-13), health risk estimates (maps 24-29), and uninsured estimates (30-33) data for the zip-code level maps are based on Community Health Solutions analysis of 2011 population estimates from Alteryx, Inc. Death (maps 14-17) and birth (maps 18-21) data are based on Community Health Solutions analysis of 2010 Virginia Department of Health birth and death record data. Hospital discharge data (maps 22 and 23) are based on Community Health Solutions analysis of 2010 Virginia Hospital Information data (see complete technical notes on this source on page 2).

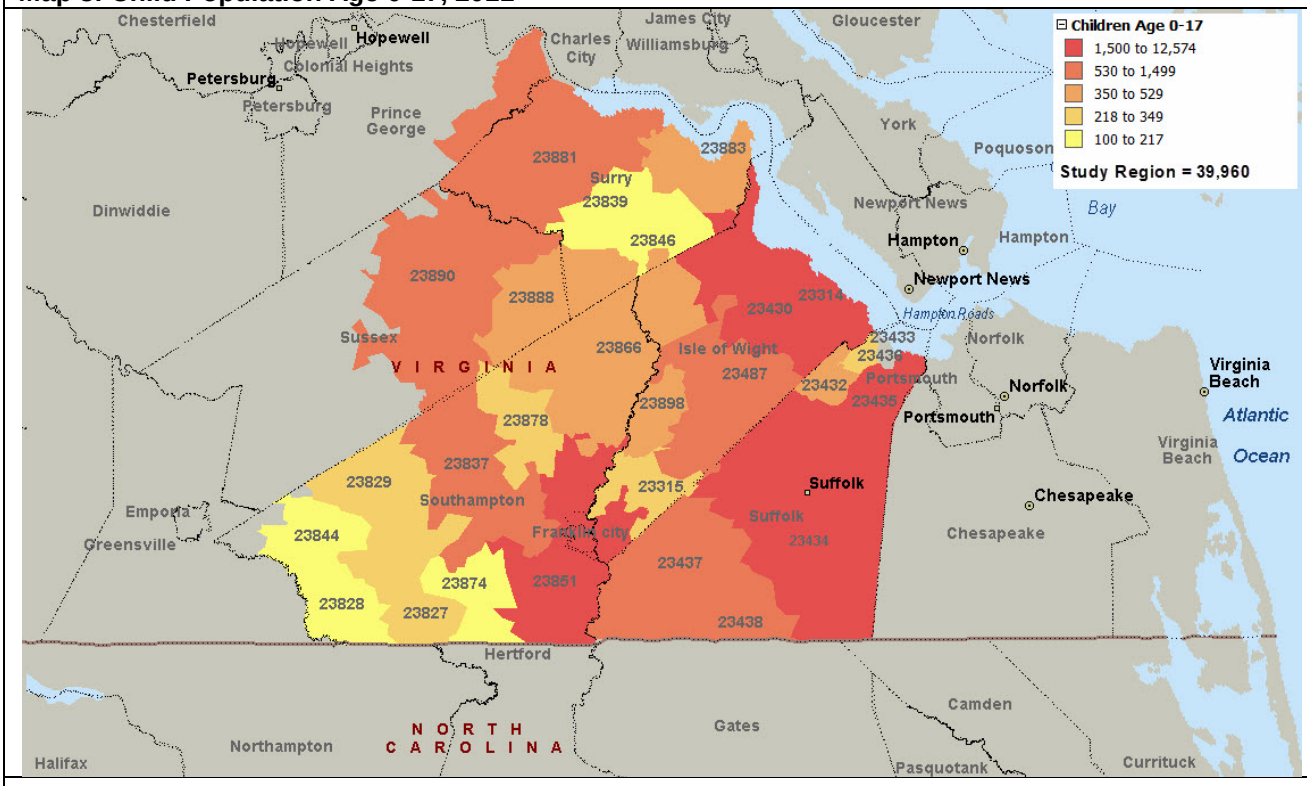
Map 1: Total Population, 2011



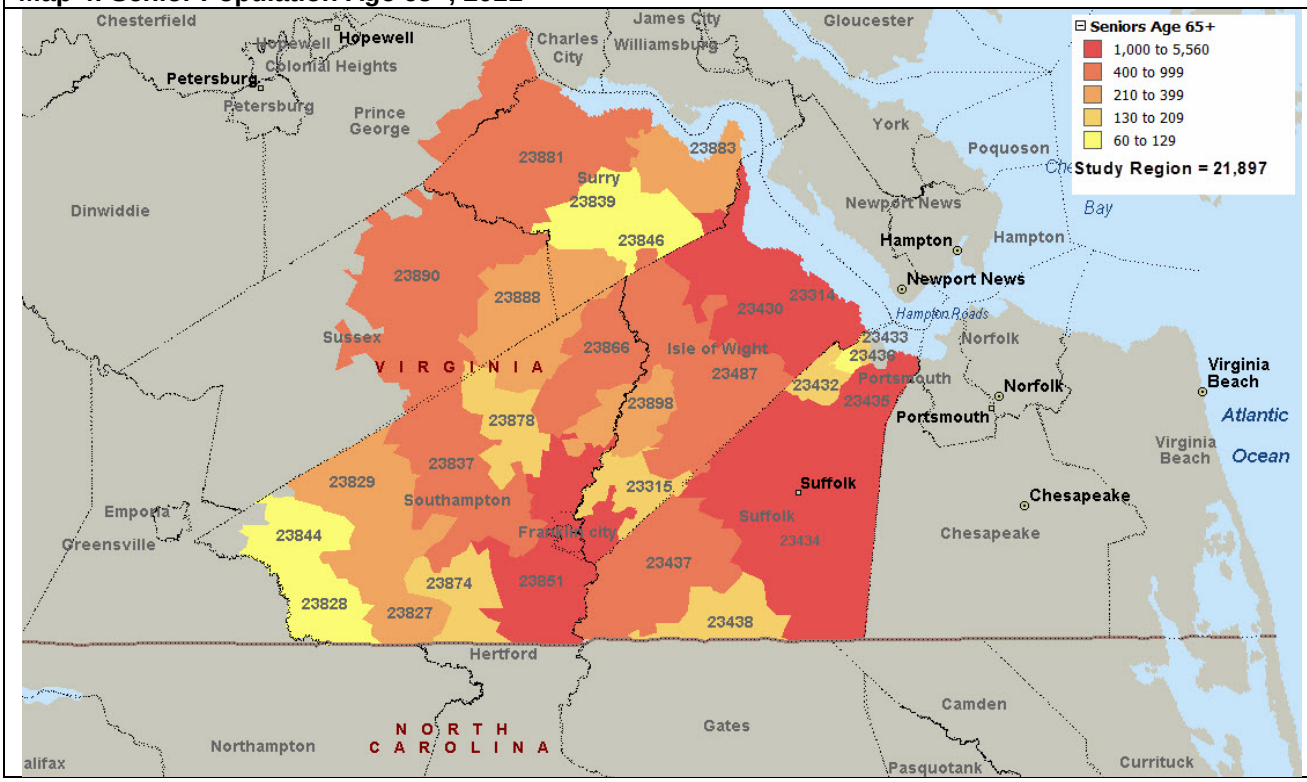
Map 2: Population Density (population per square mile), 2011



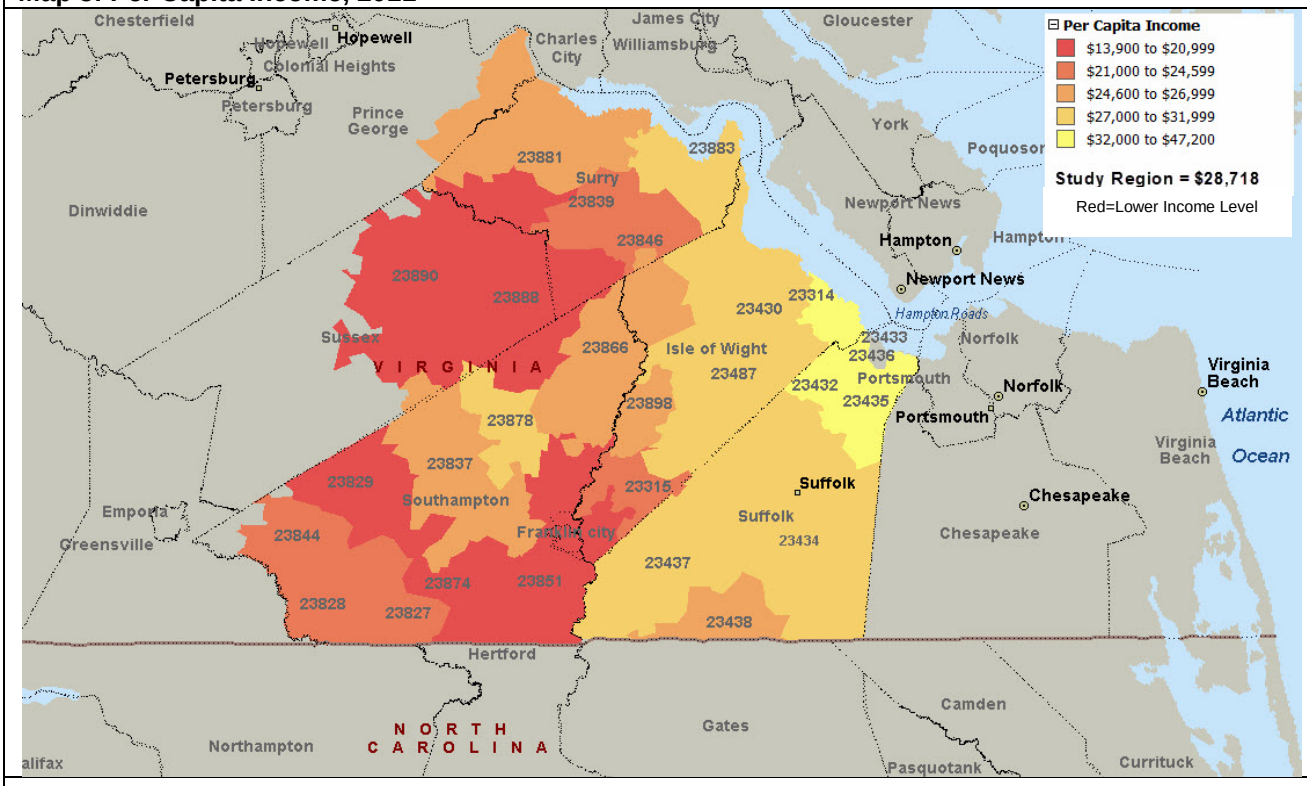
Map 3: Child Population Age 0-17, 2011



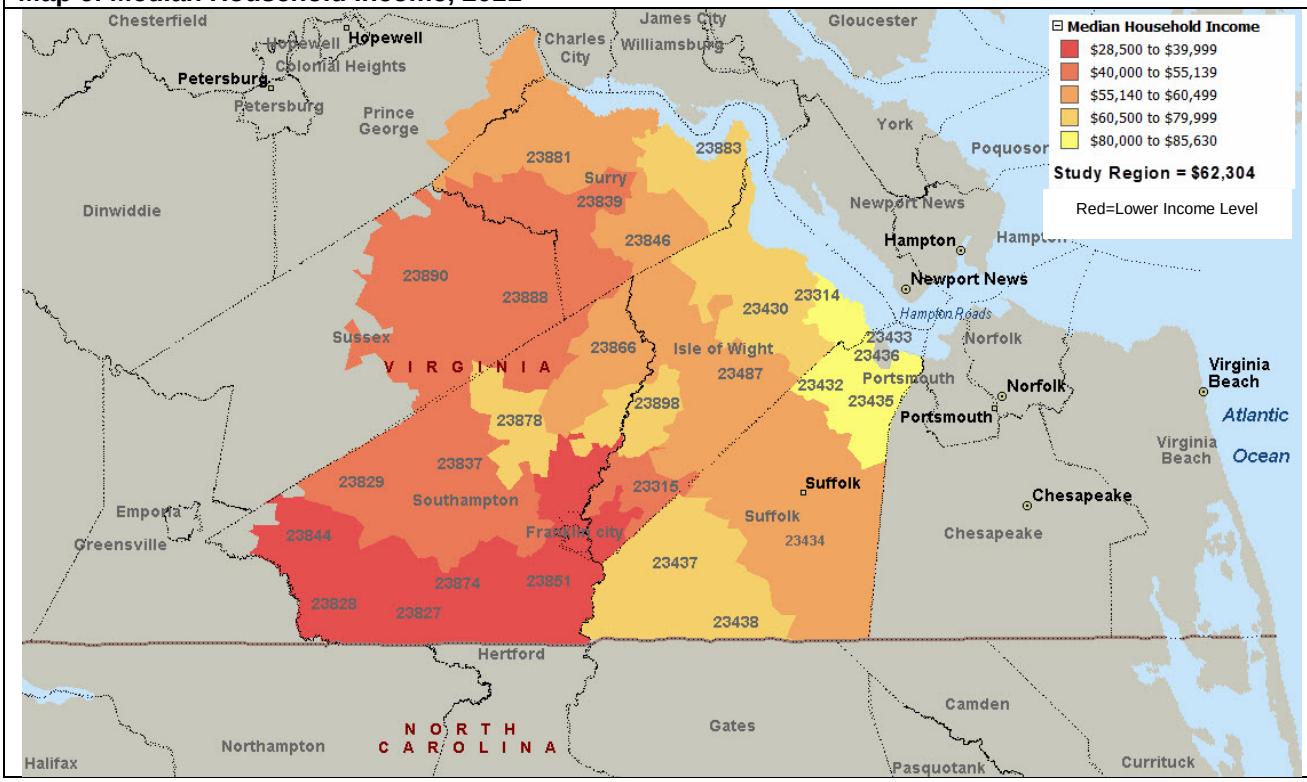
Map 4: Senior Population Age 65+, 2011



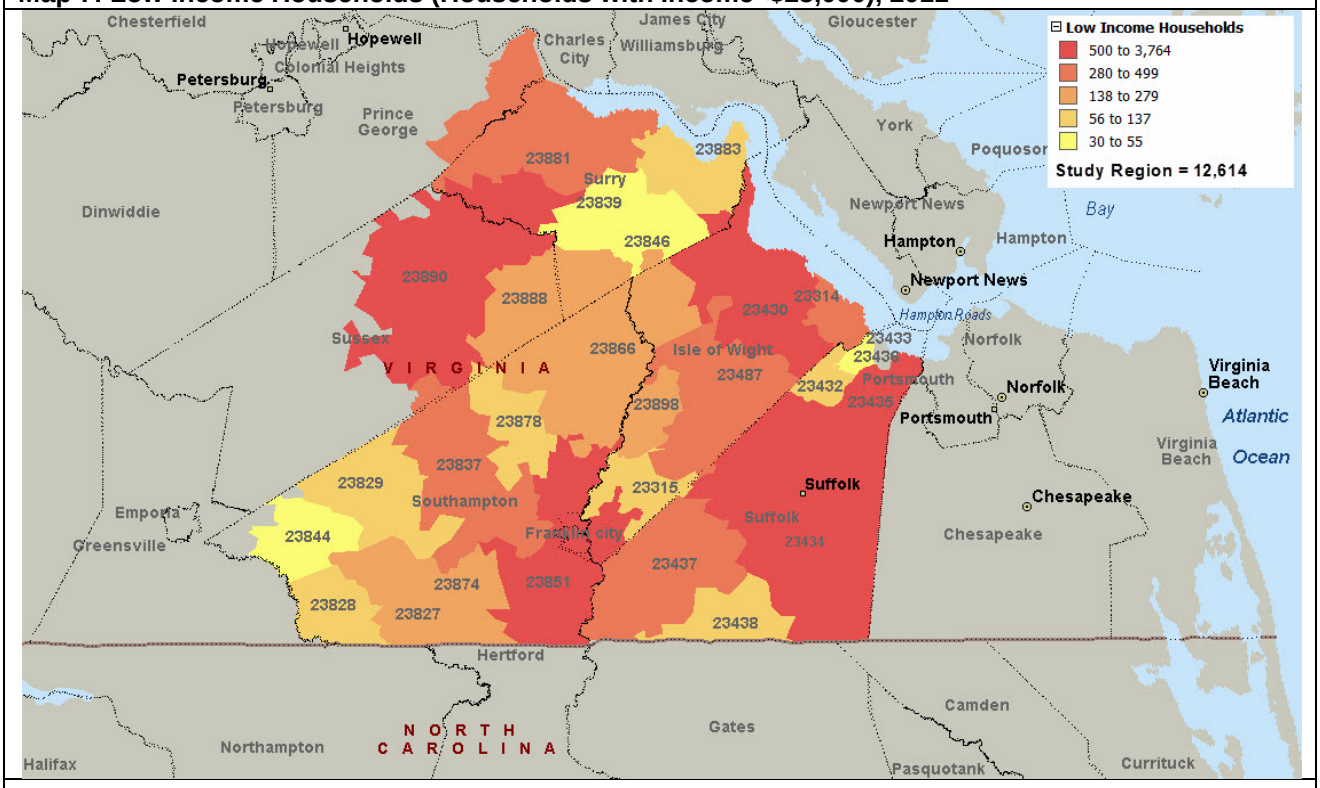
Map 5: Per Capita Income, 2011



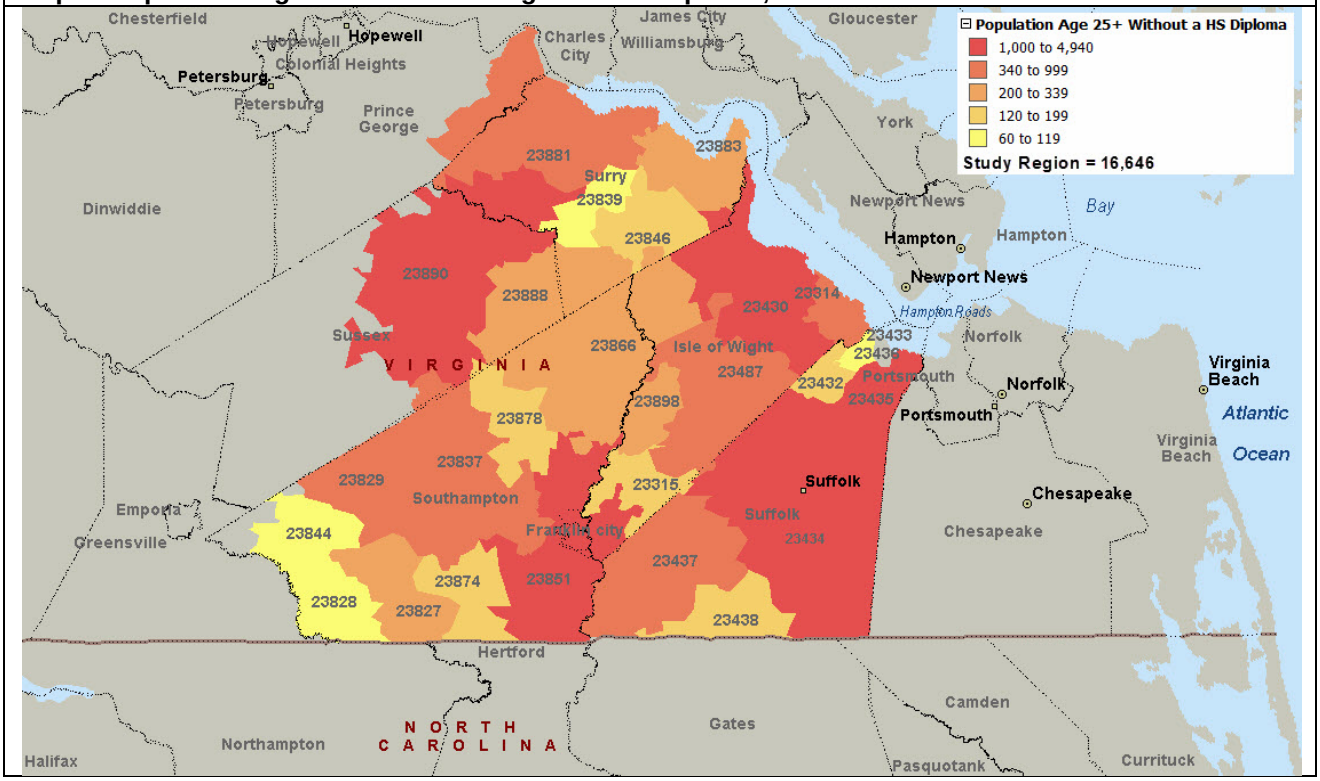
Map 6: Median Household Income, 2011



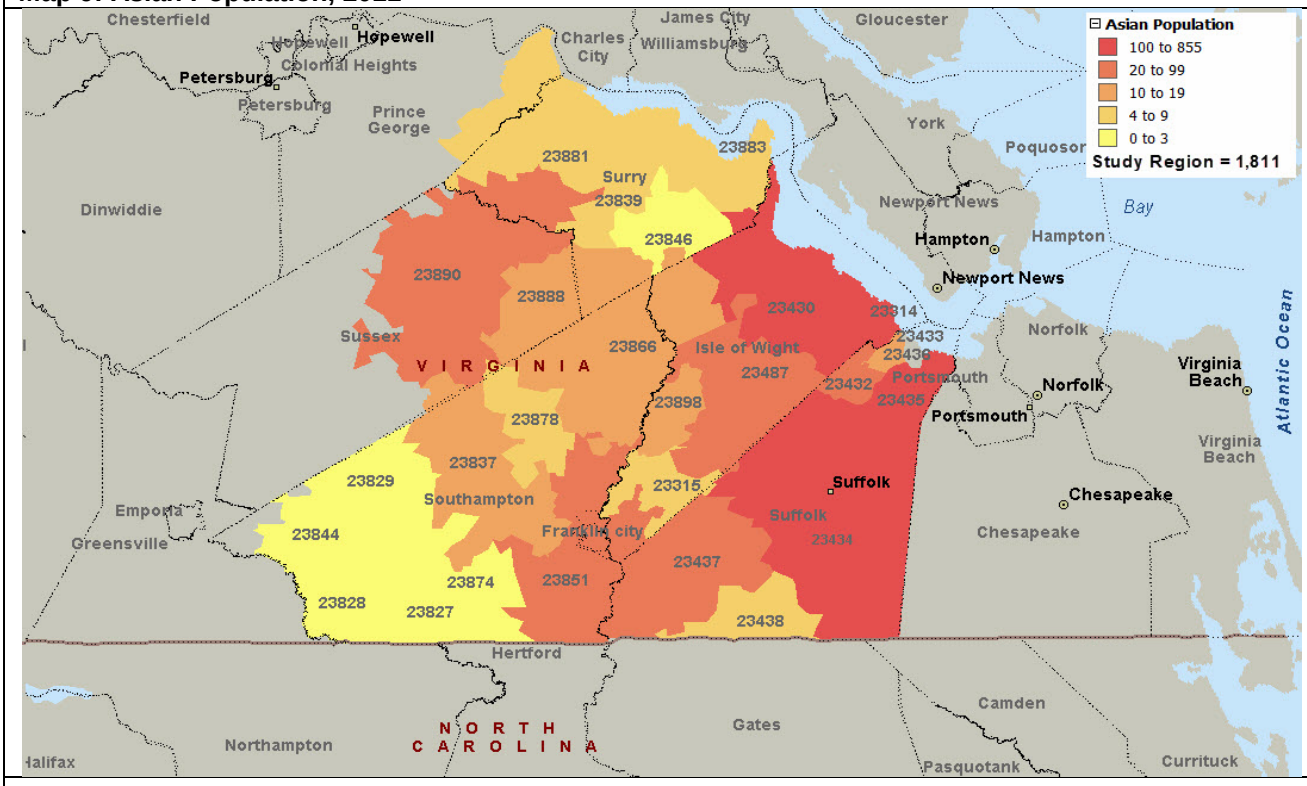
Map 7: Low Income Households (Households with Income<$25,000), 2011



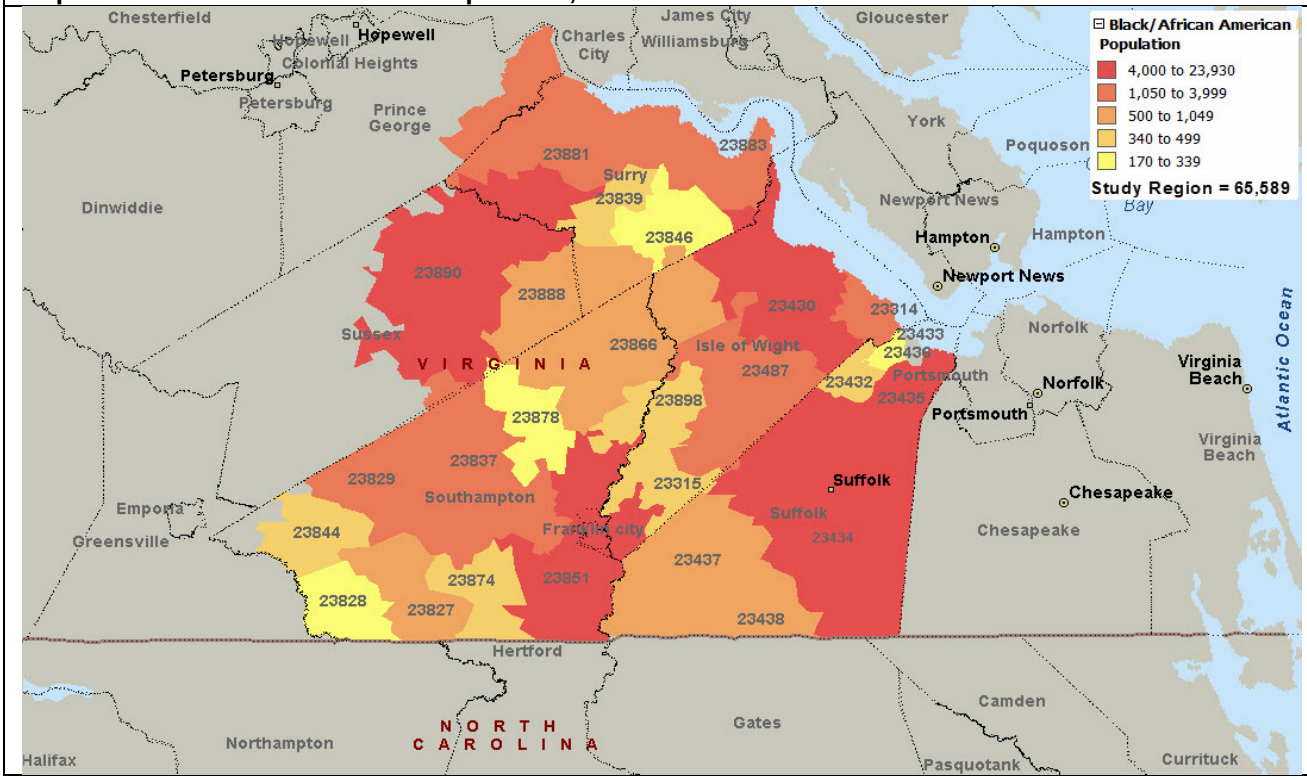
Map 8: Population Age 25+ Without a High School Diploma, 2011



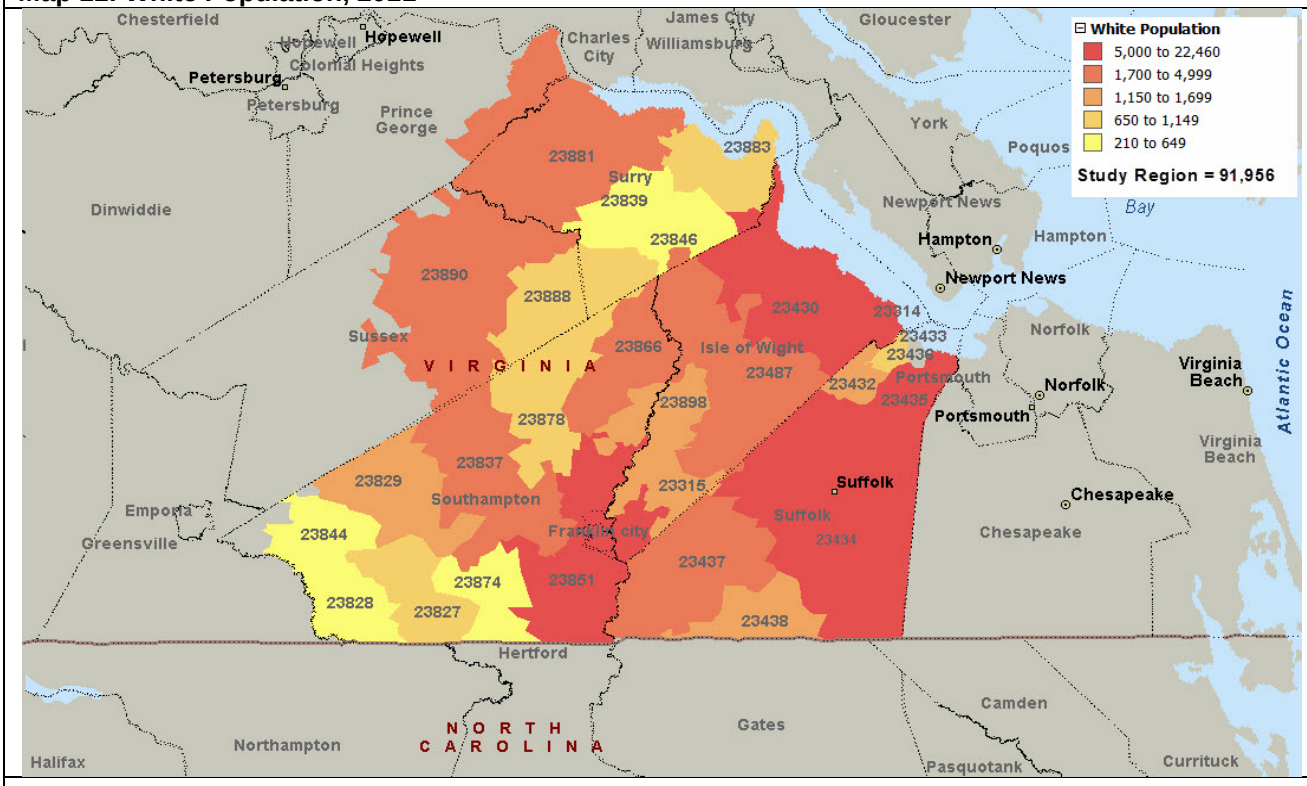
Map 9: Asian Population, 2011



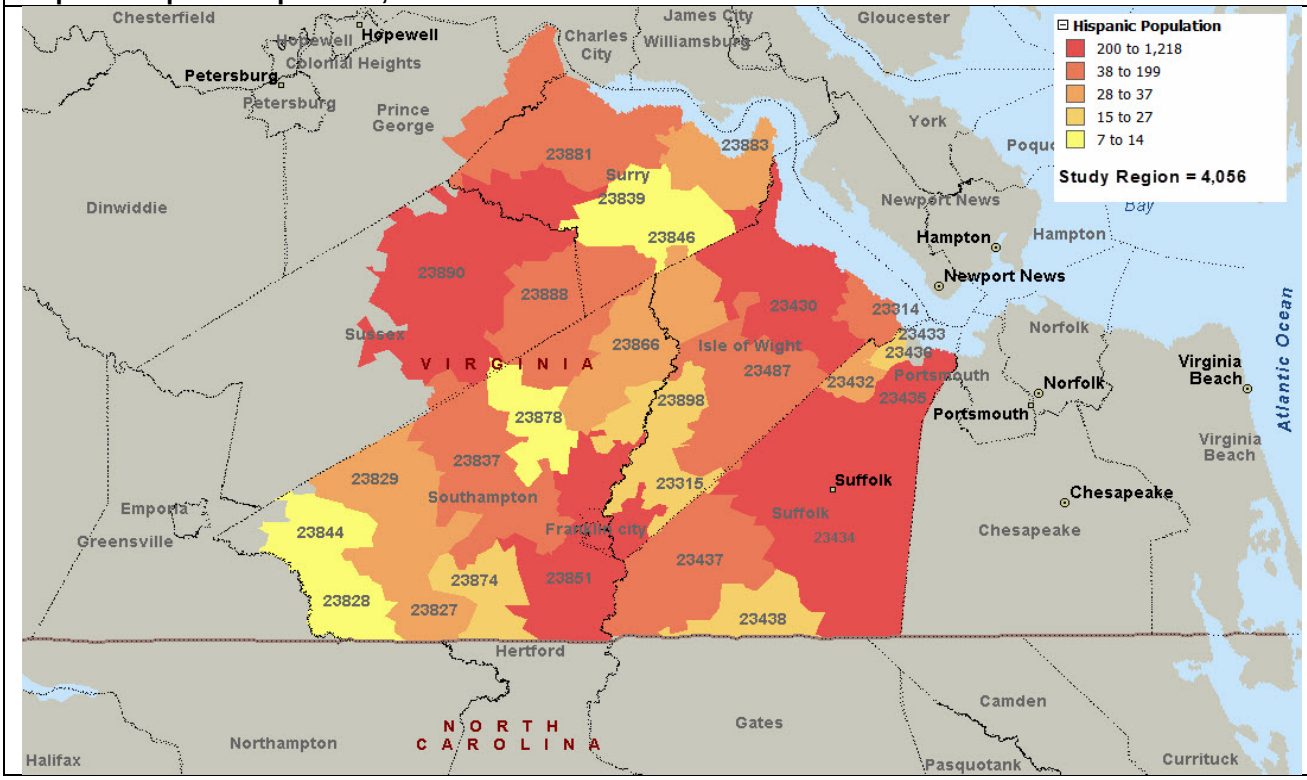
Map 10: Black/African American Population, 2011



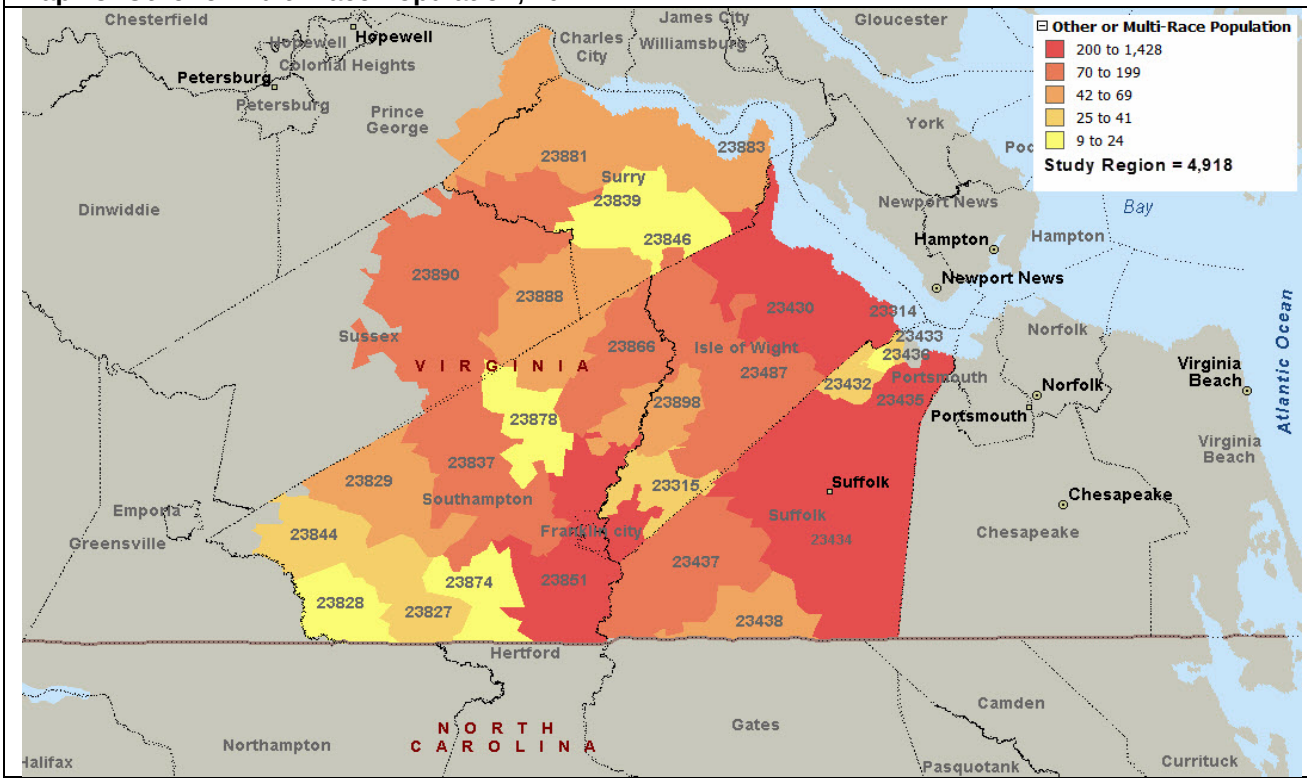
Map 11: White Population, 2011



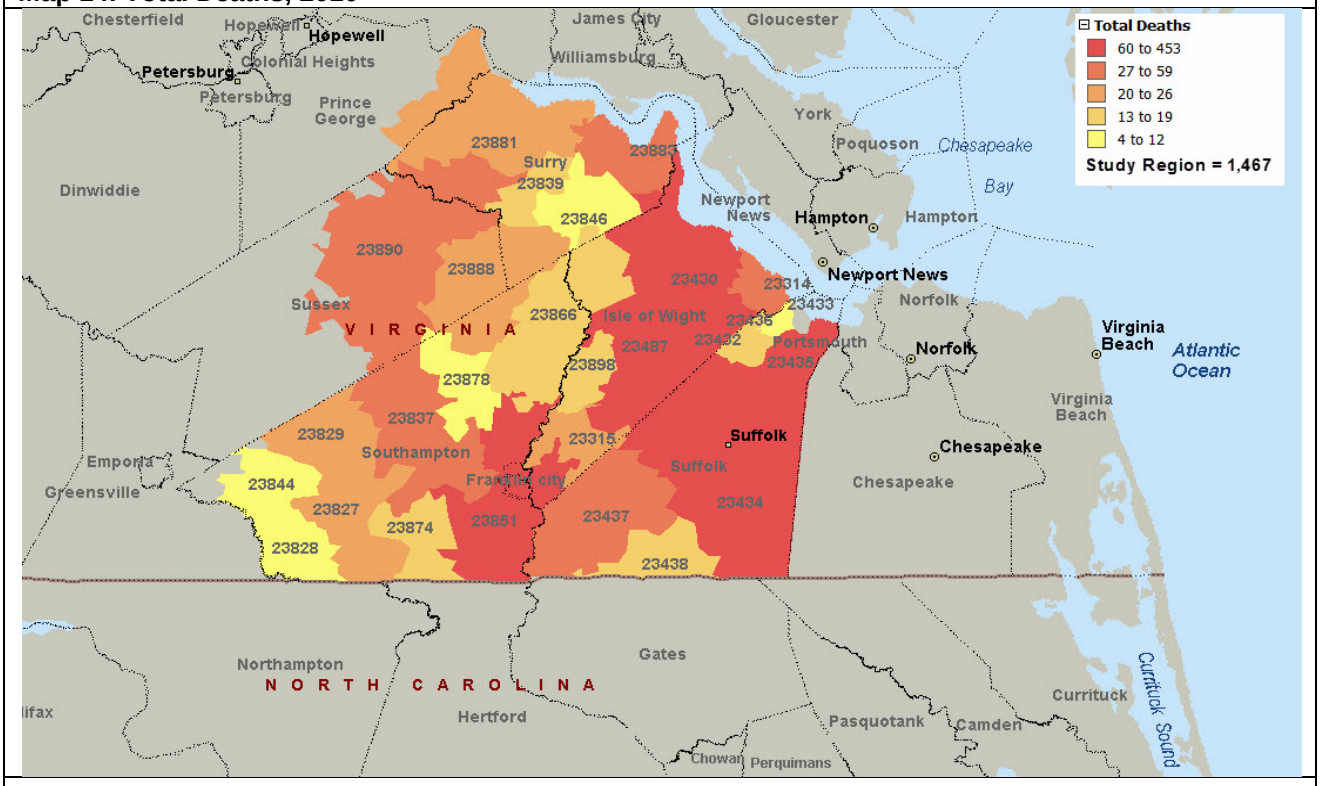
Map 12: Hispanic Population, 2011



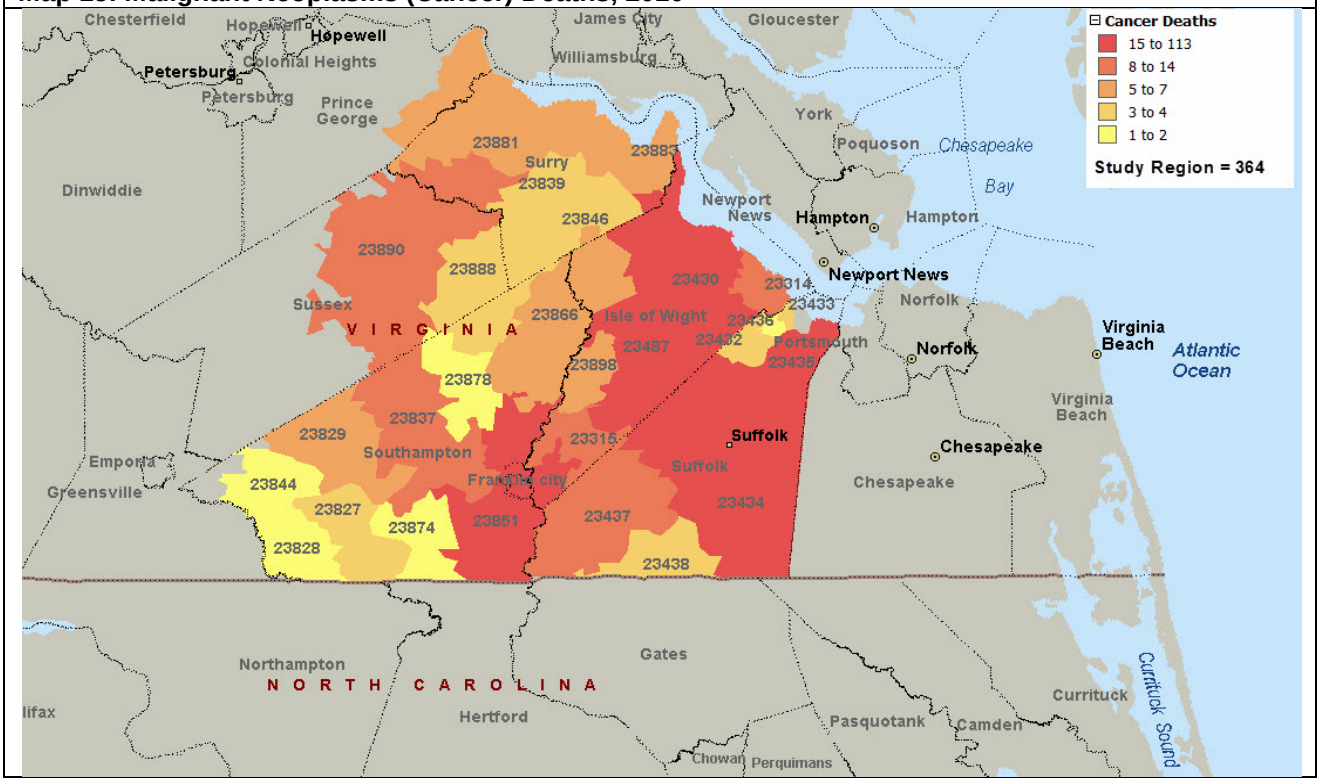
Map 13: Other or Multi-Race Population, 2011



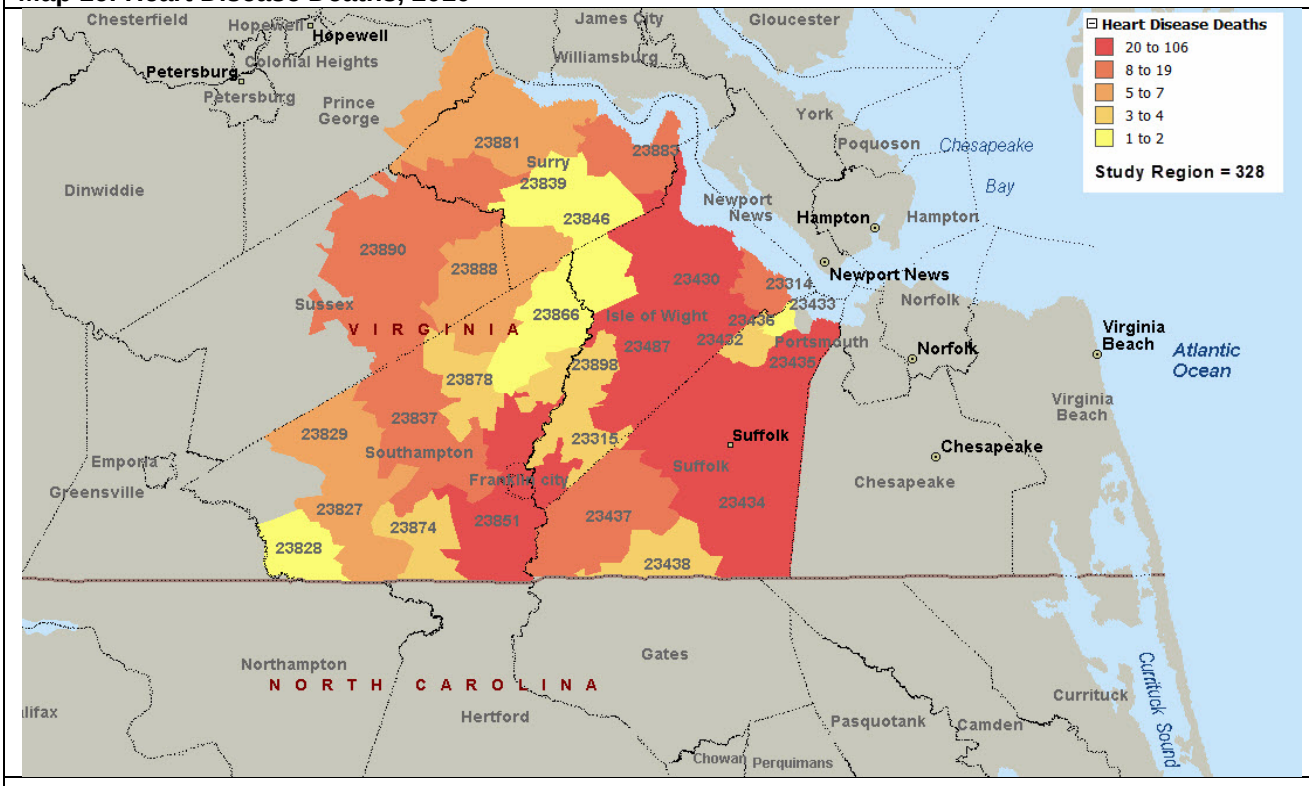
Map 14: Total Deaths, 2010



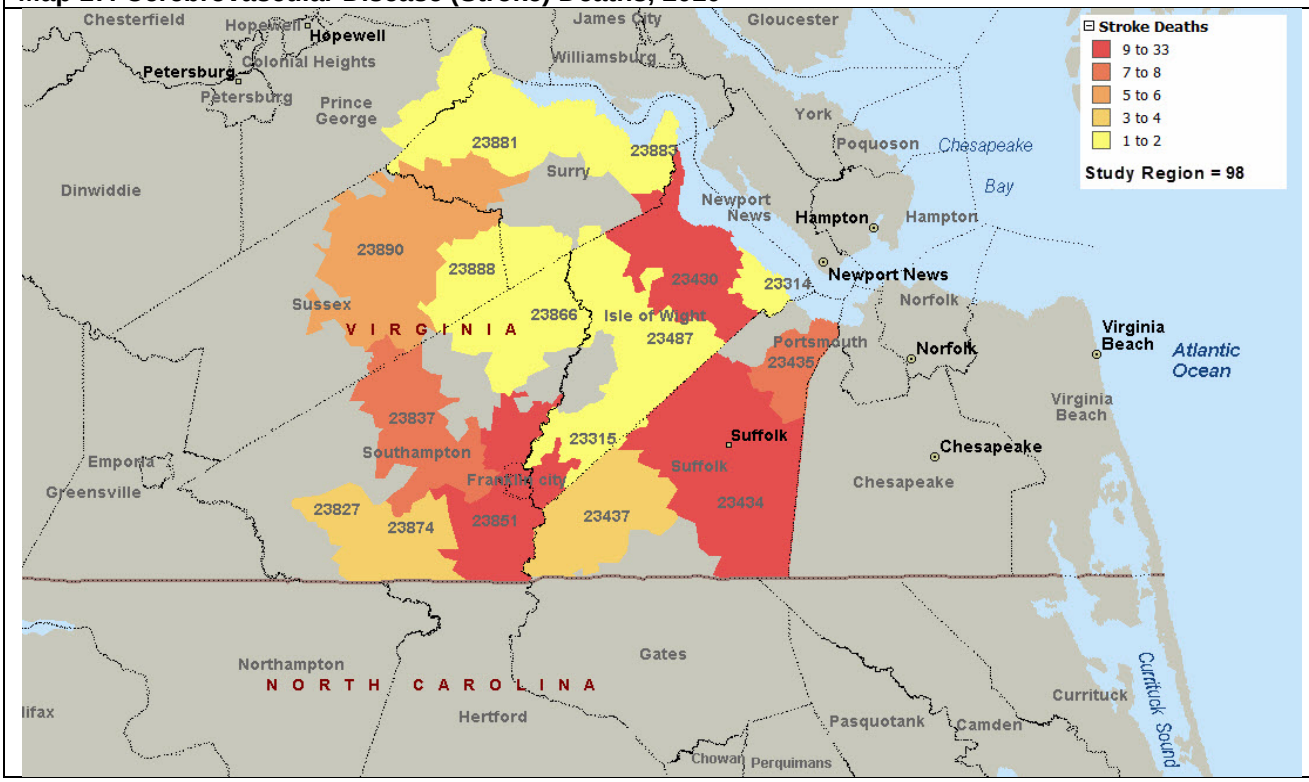
Map 15: Malignant Neoplasms (Cancer) Deaths, 2010



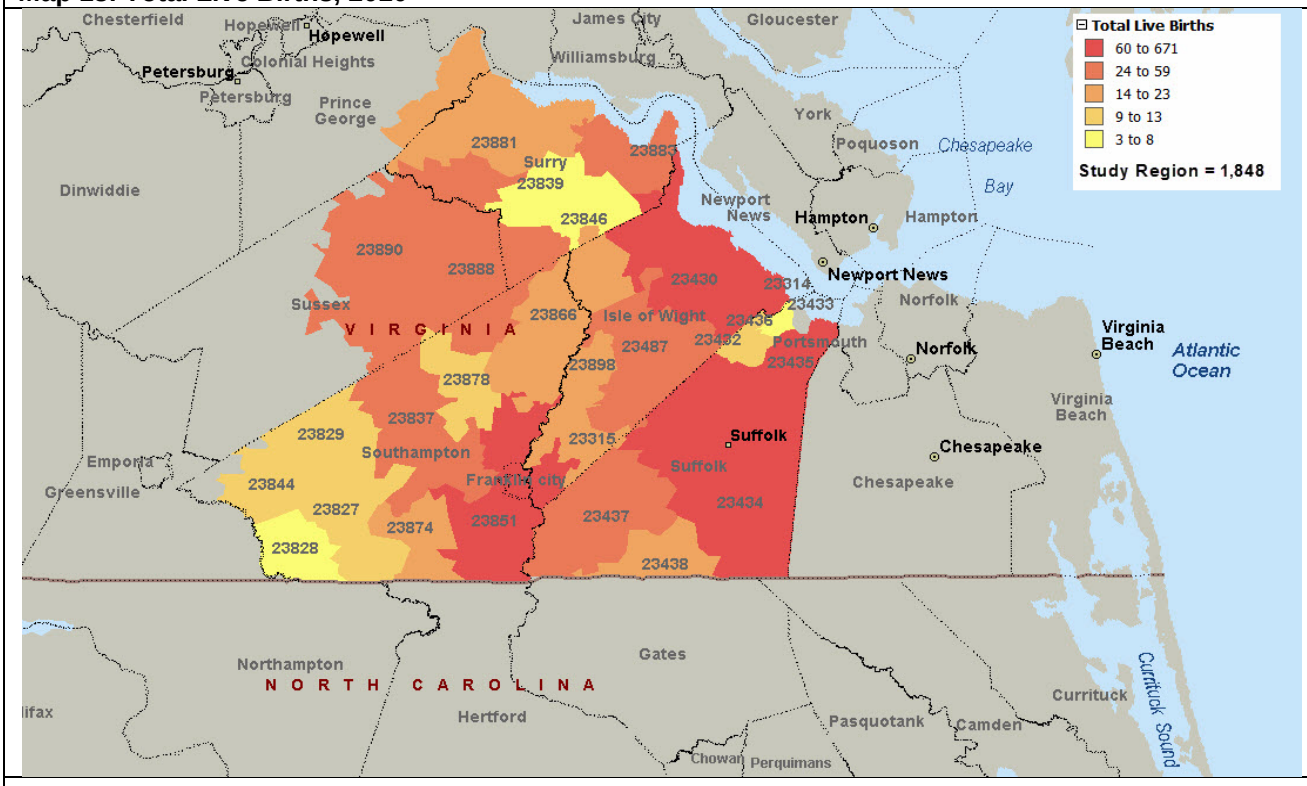
Map 16: Heart Disease Deaths, 2010



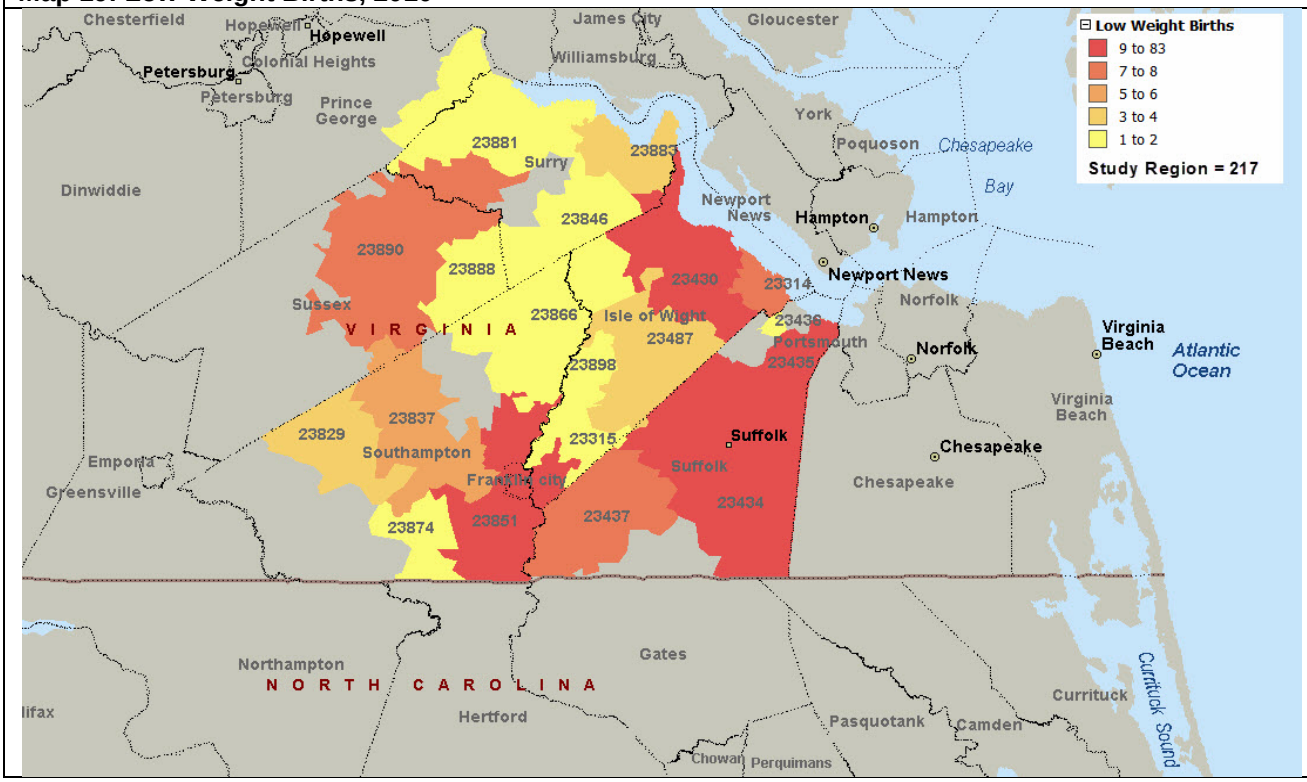
Map 17: Cerebrovascular Disease (Stroke) Deaths, 2010



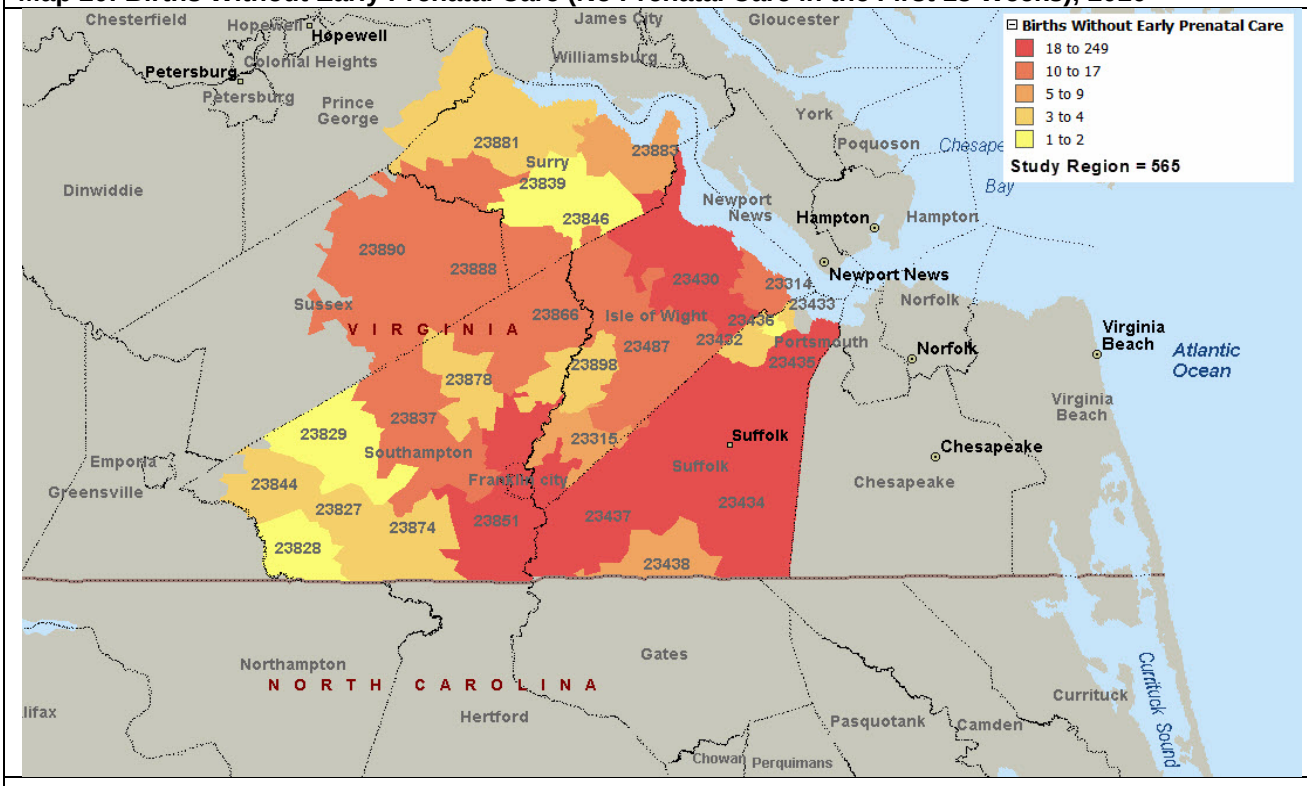
Map 18: Total Live Births, 2010



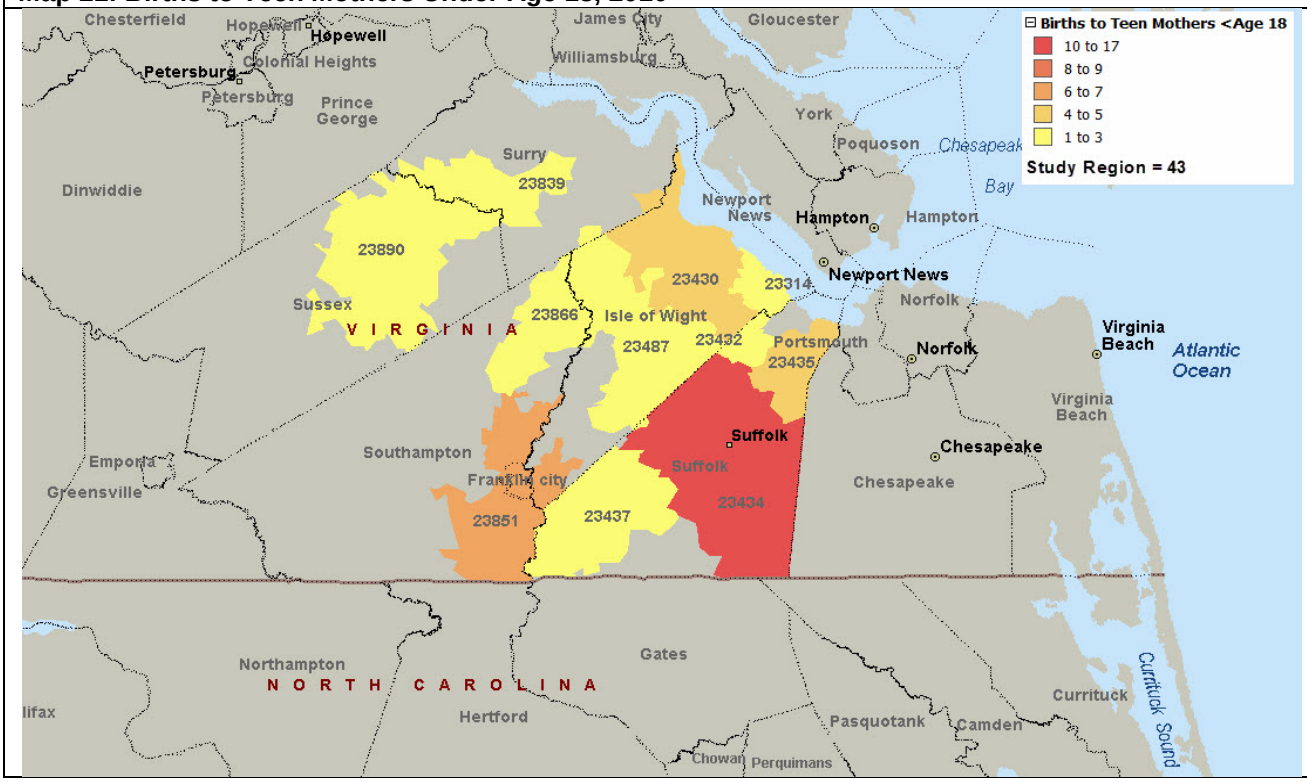
Map 19: Low Weight Births, 2010



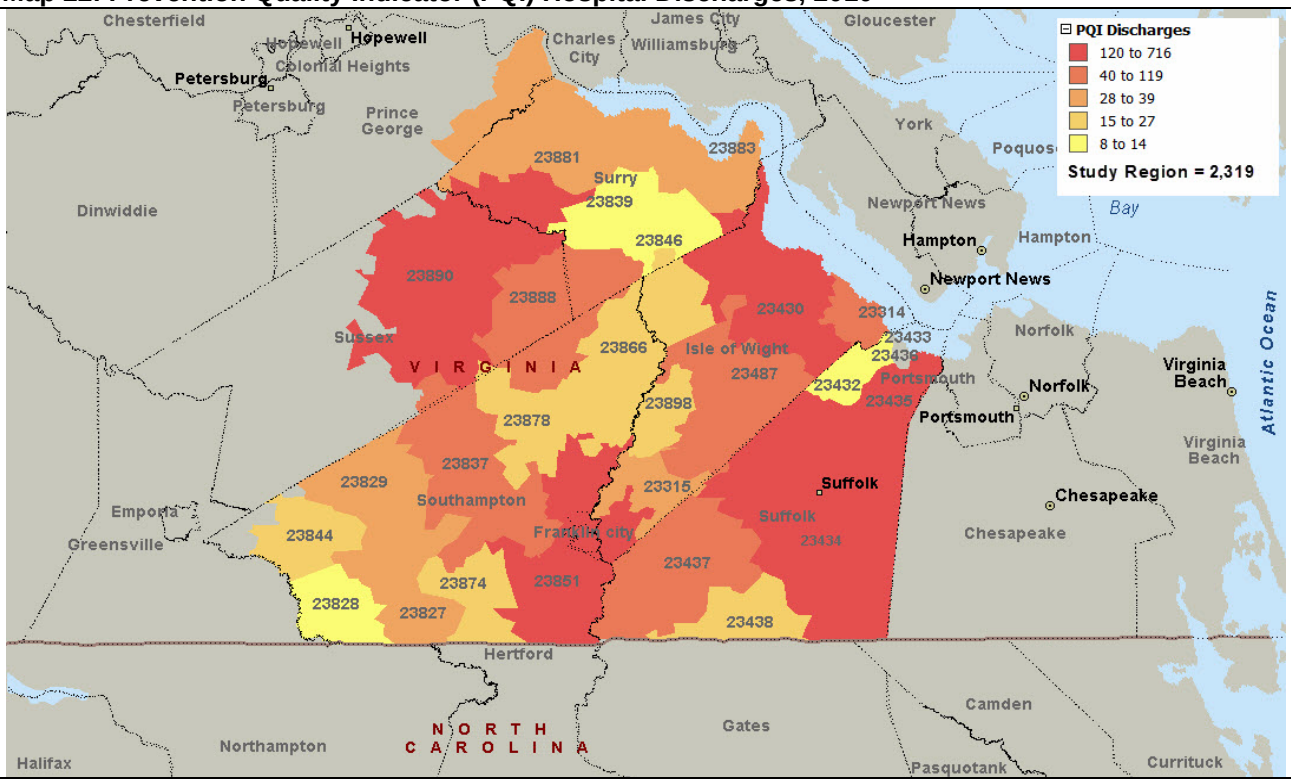
Map 20: Births Without Early Prenatal Care (No Prenatal Care in the First 13 Weeks), 2010



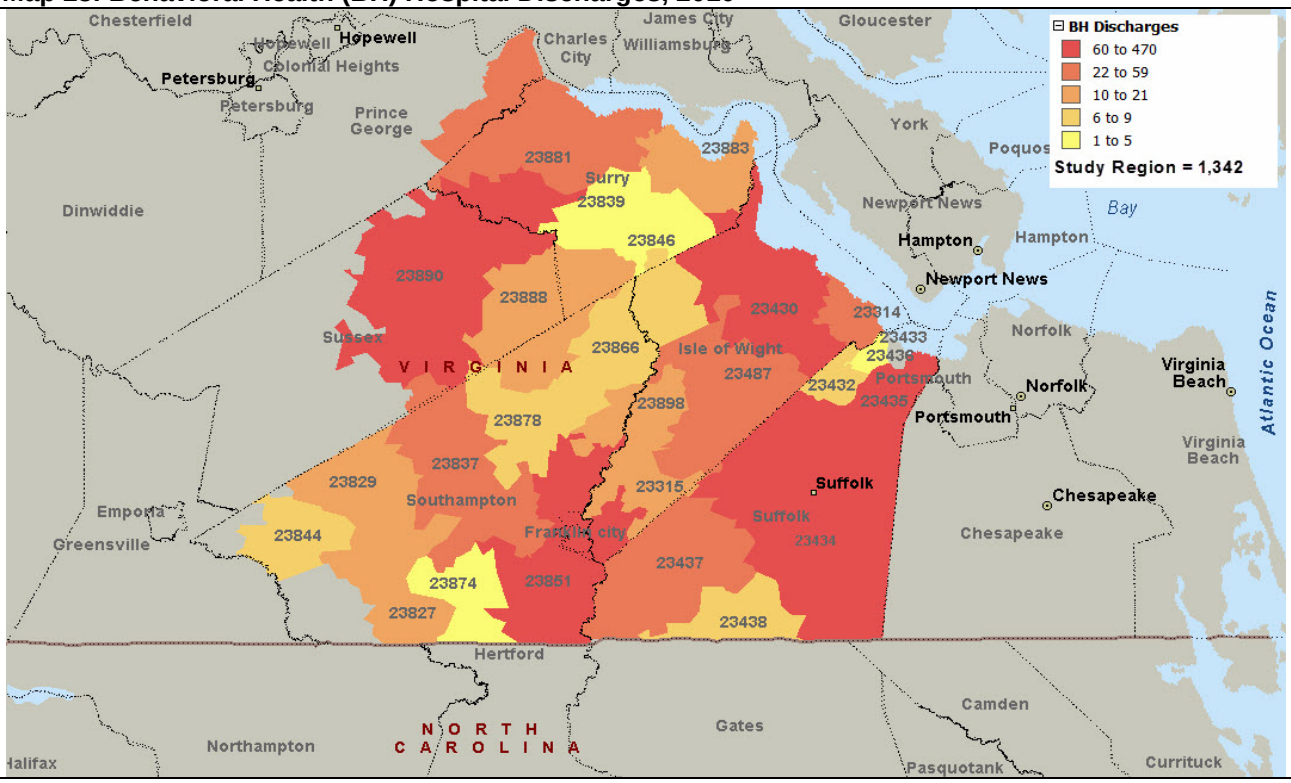
Map 21: Births to Teen Mothers Under Age 18, 2010



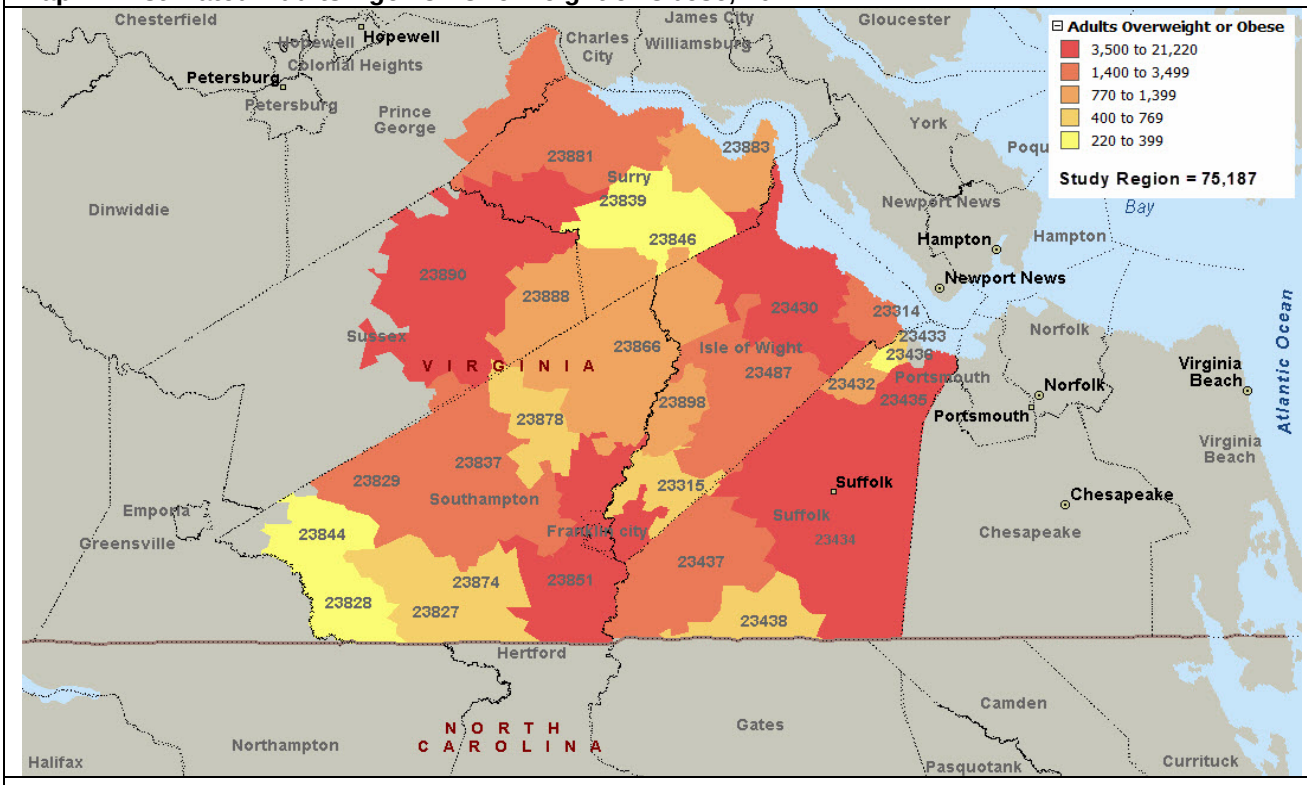
Map 22: Prevention Quality Indicator (PQI) Hospital Discharges, 2010



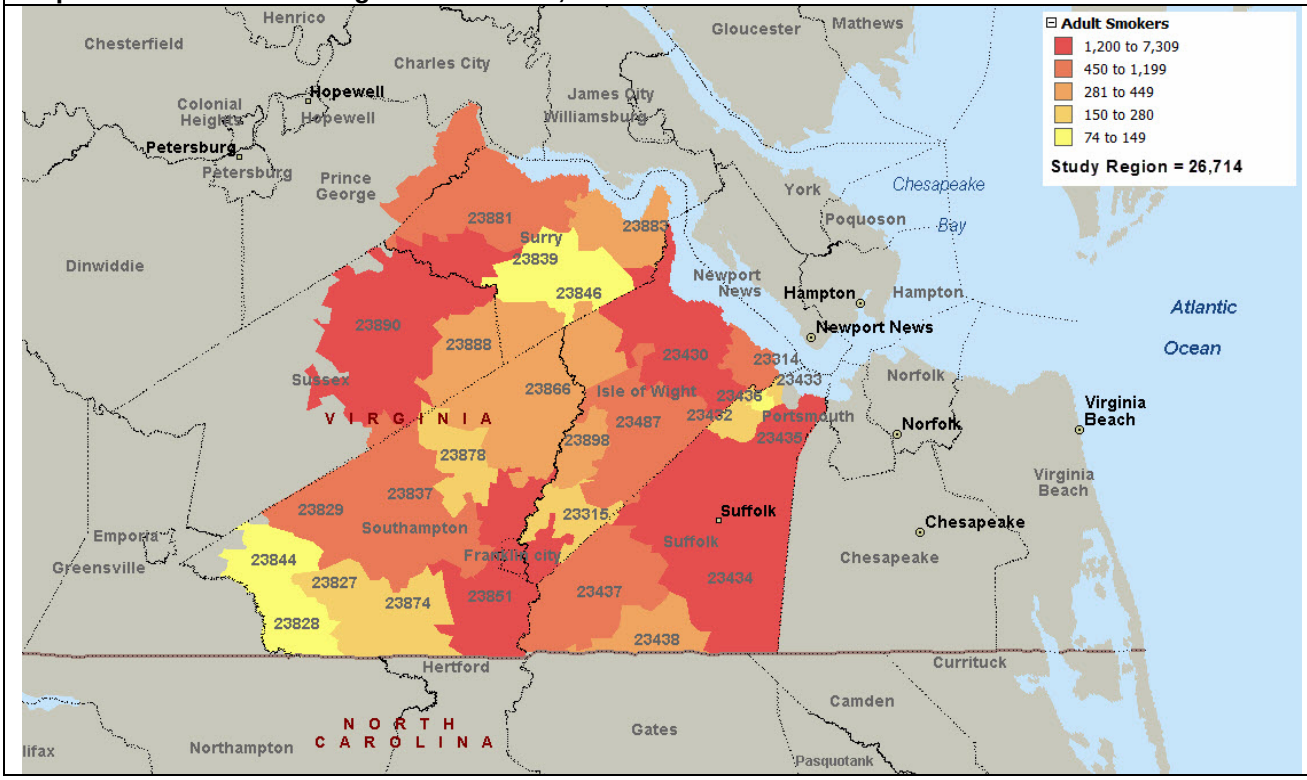
Map 23: Behavioral Health (BH) Hospital Discharges, 2010



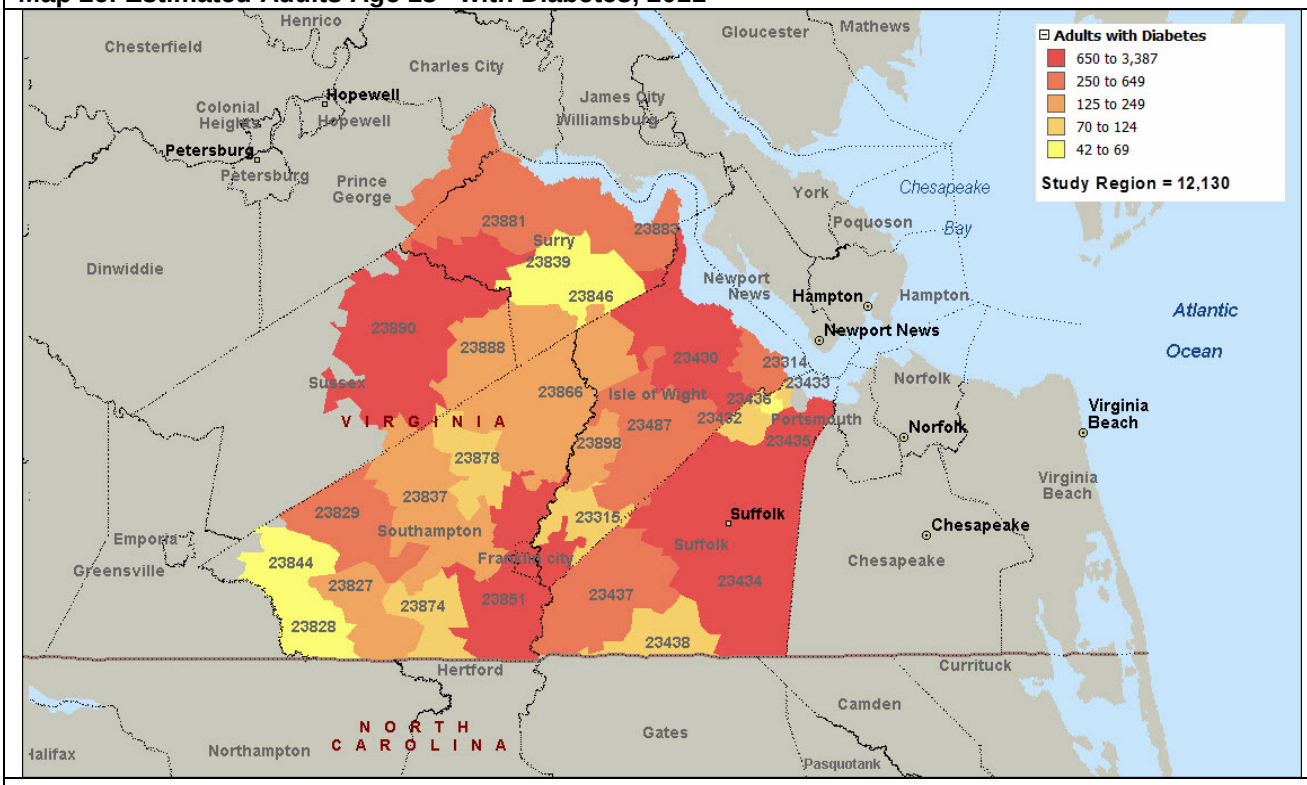
Map 24: Estimated Adults Age 18+ Overweight or Obese, 2011



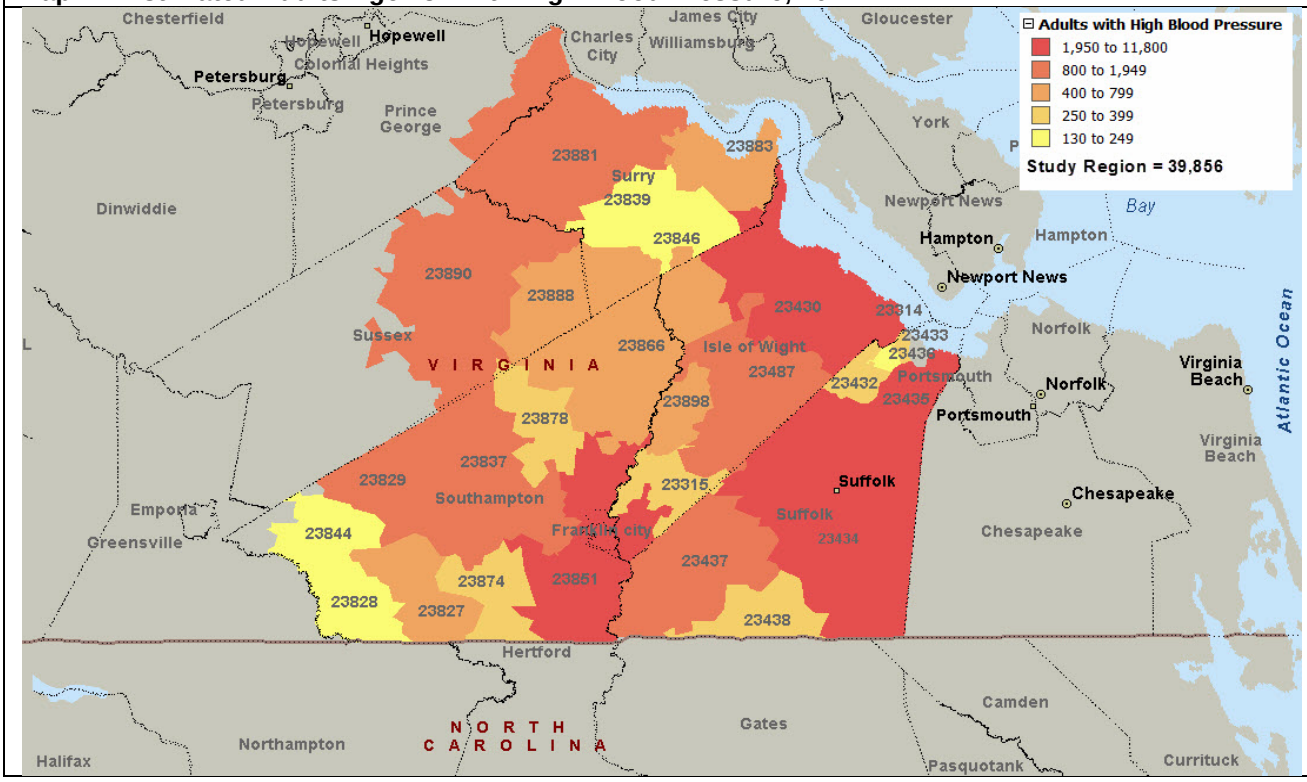
Map 25: Estimated Adult Age 18+ Smokers, 2011



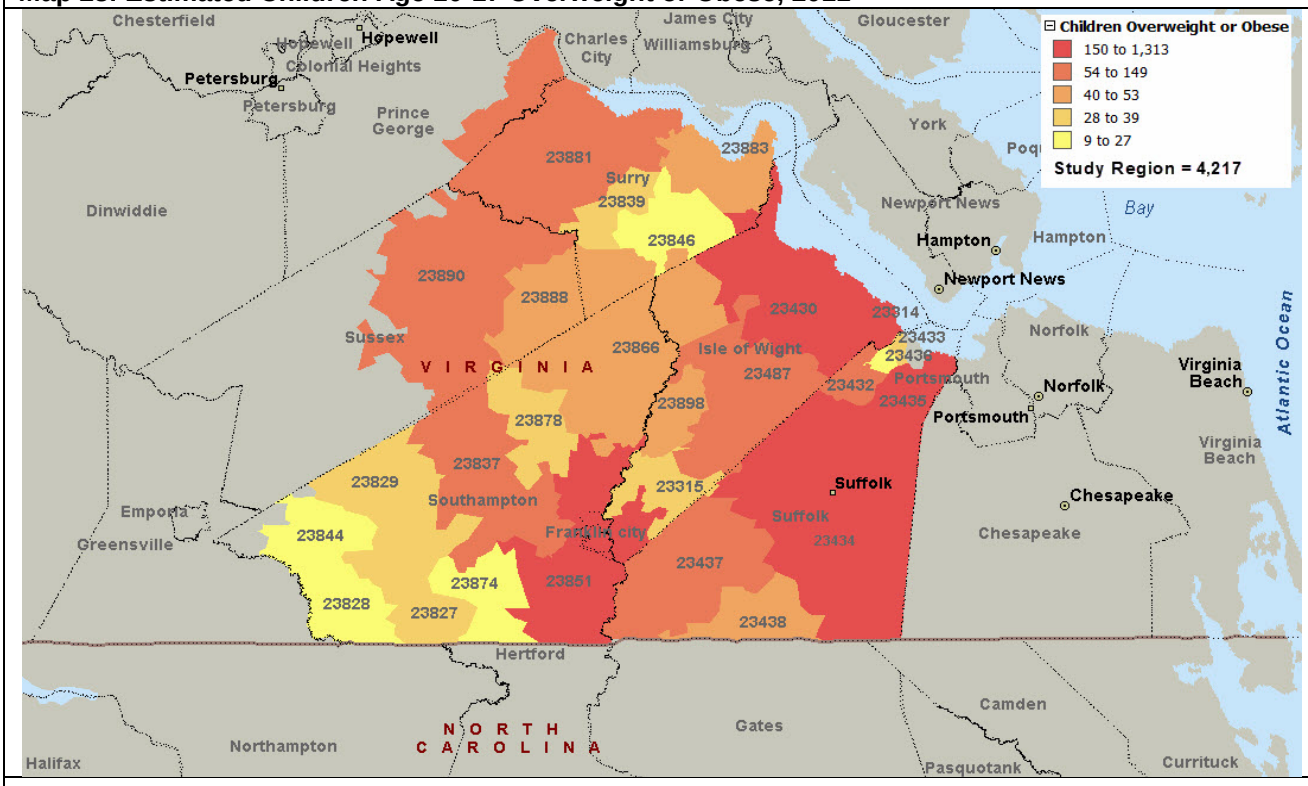
Map 26: Estimated Adults Age 18+ with Diabetes, 2011



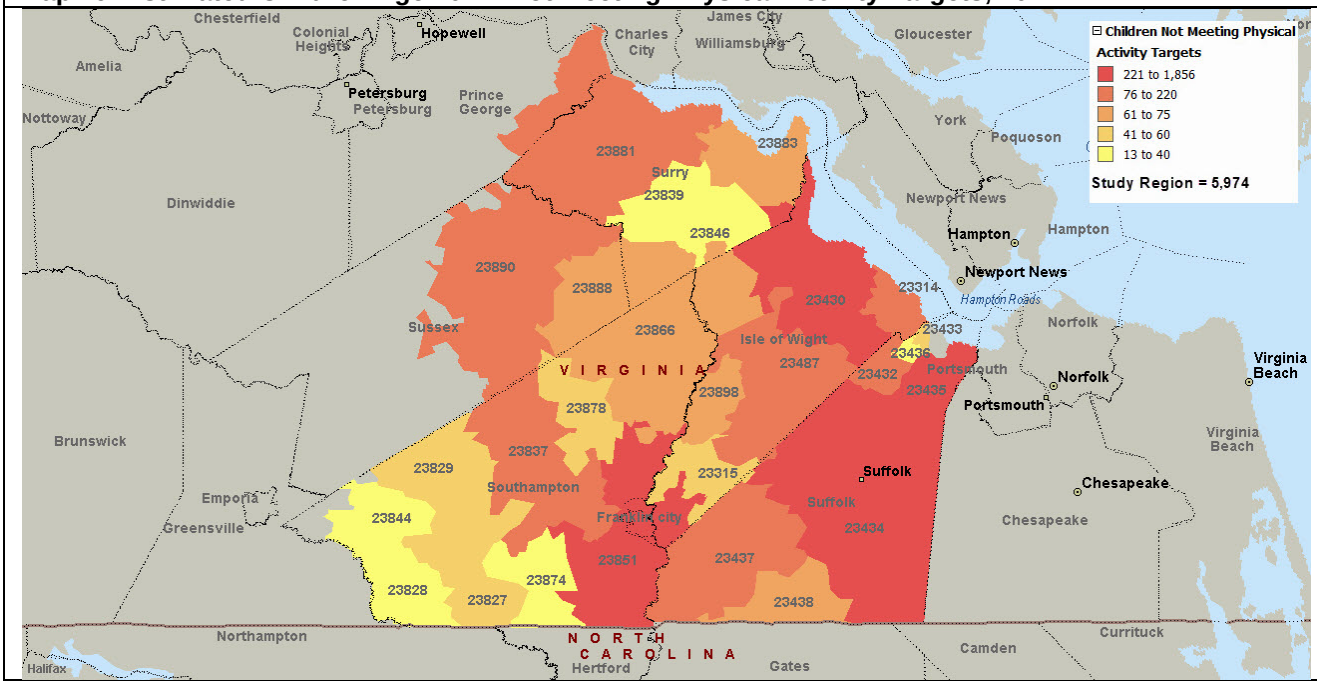
Map 27: Estimated Adults Age 18+ with High Blood Pressure, 2011



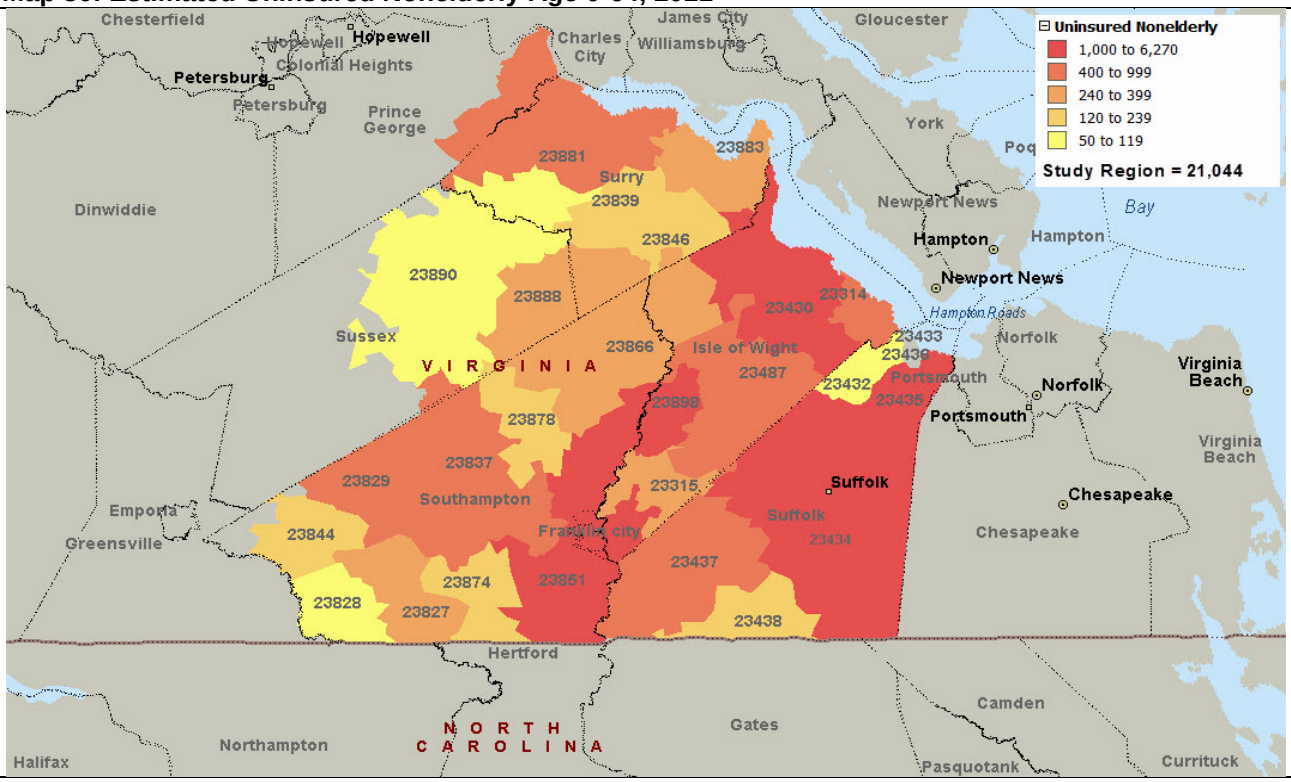
Map 28: Estimated Children Age 10-17 Overweight or Obese, 2011



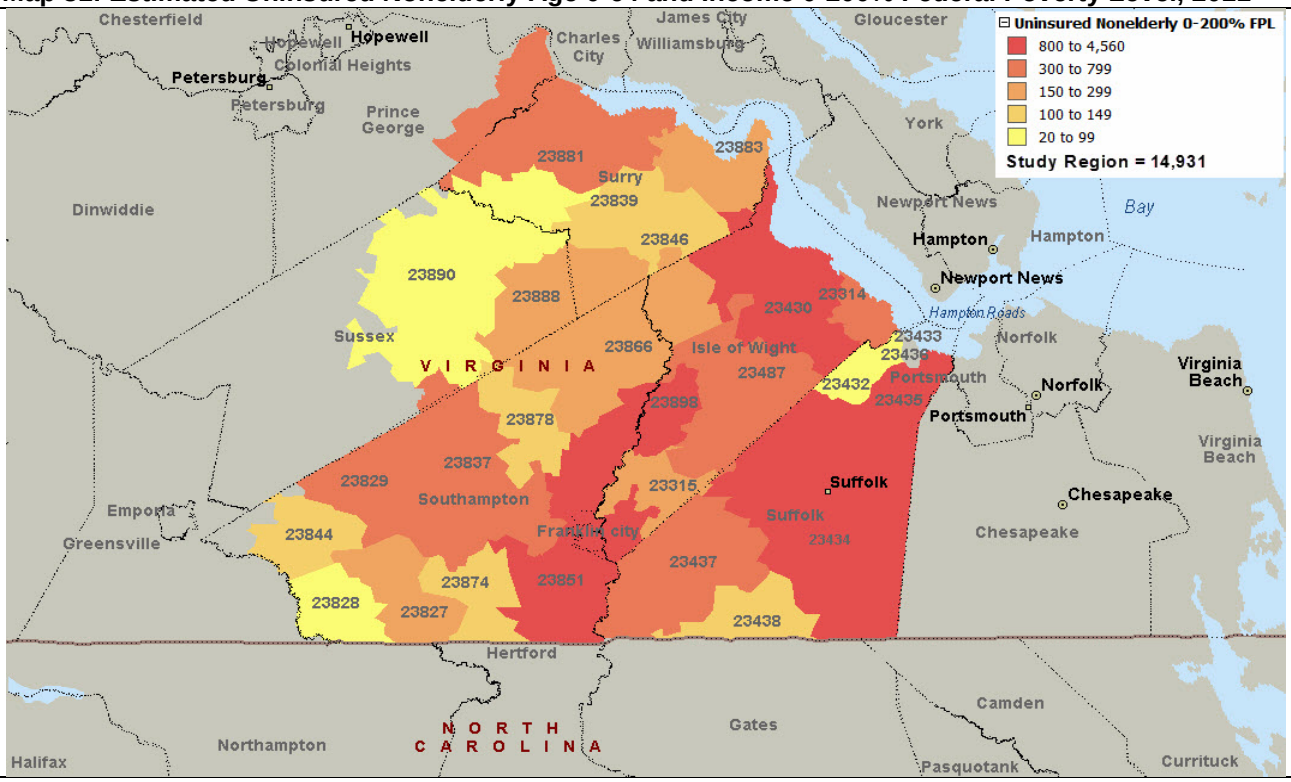
Map 29: Estimated Children Age 10-17 Not Meeting Physical Activity Targets, 2011



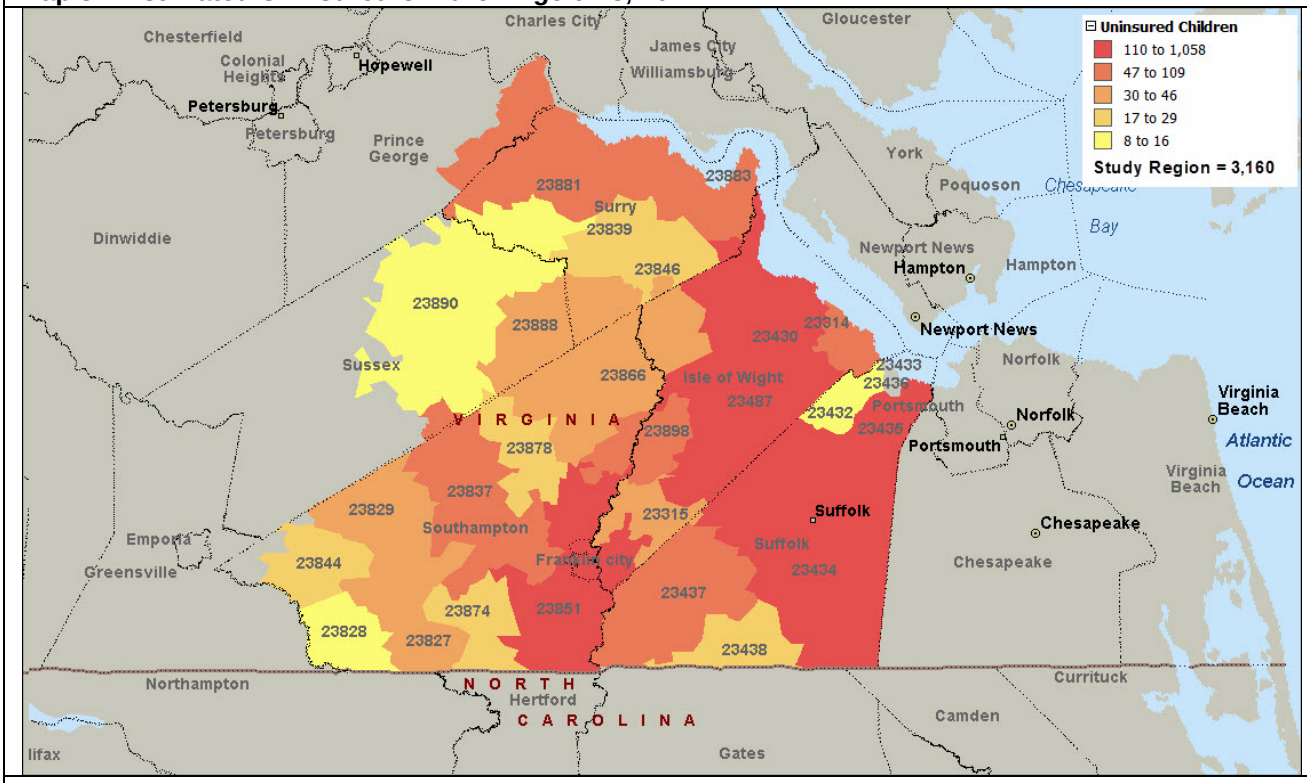
Map 30: Estimated Uninsured Nonelderly Age 0-64, 2011



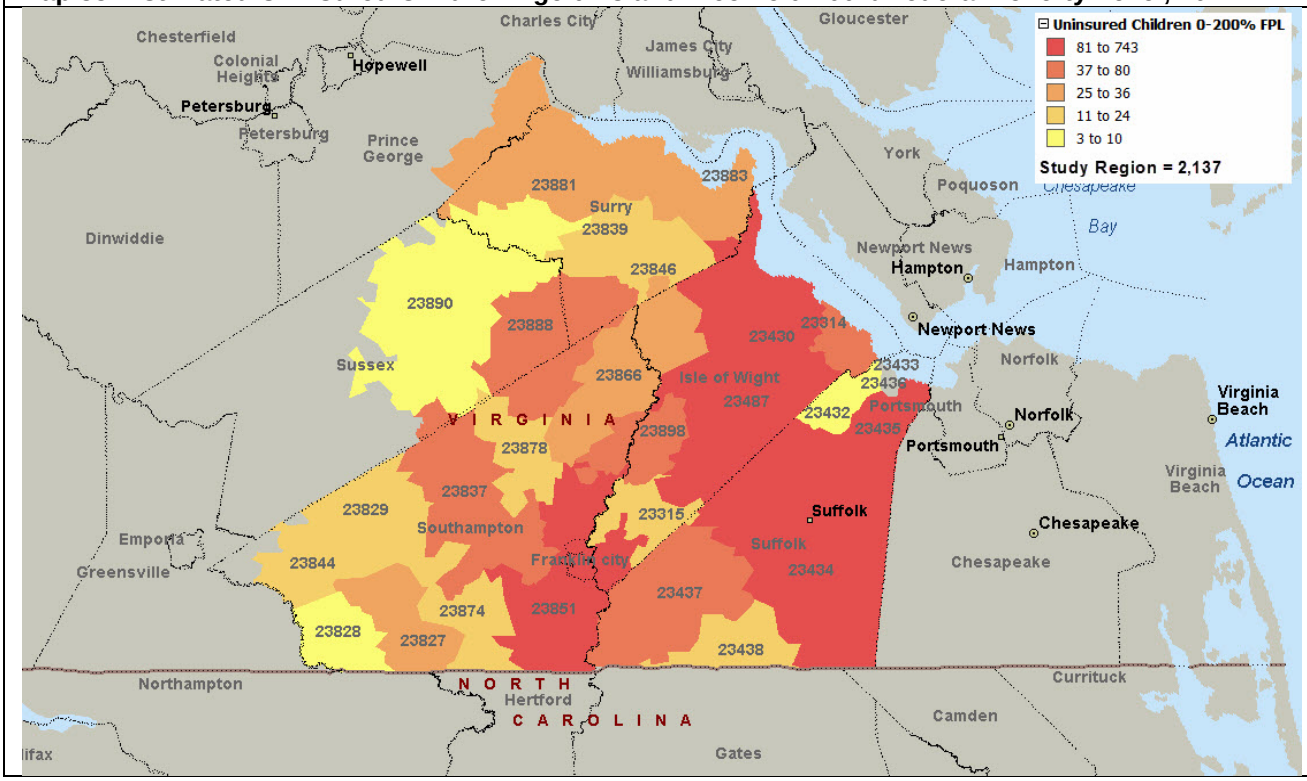
Map 31: Estimated Uninsured Nonelderly Age 0-64 and Income 0-200% Federal Poverty Level, 2011



Map 32: Estimated Uninsured Children Age 0-18, 2011



Map 33: Estimated Uninsured Children Age 0-18 and Income 0-200% Federal Poverty Level, 2011



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.

Ideas and Suggestions for Improving Community Health	
Response	
1	Put community service above profit. Keep Western Tidewater resources here and not in Norfolk and Virginia Beach.
2	Homelessness and a revolving door to mental health services is a major problem in this area. Limited bed space in mental health facilities often results in officers and mental health workers spending hours to try and find bed space. Once bed space is found, the consumer is in for 2 days and released without the time to regulate on medicines. Our mental health system has the ability to begin a drop off site for the mentally ill who need assistance early on, but the only thing standing in the way is funding for a 24 hour security guard. This would permit consumers to have a safe place to go and seek treatment without a forced committal.
3	Helping the community achieve improved health.
4	Sentara Obici is doing a great job. However, its reputation in the community still suffers. A PR campaign is needed to build pride and confidence.
5	Sentara is doing a great service in the community. Thank you for all you do for the citizens.
6	I have found finding a family health care physician to be difficult within the Sentara website. It needs to be more user-friendly. Finding a specialist appears to be much easier than a primary health care physician.
7	SH and SOH might work more closely with other healthcare organizations in the community, such as Obici Healthcare Foundation and Suffolk Partnership for a Healthy Community, in order to improve the health status of our citizens, improve the efficient delivery of healthcare and help keep expensive medical admissions out of the hospital.
8	Take lead in healthcare networking. Import doctors of new technology to provide healthcare professionals learning platforms. Build an environment that attracts volunteers - people that will make receiving health care needs more relaxing, and help alleviate the cost for patients.
9	Sentara should conduct symposium on a regular basis to all schools and government and private agencies regarding improving health.
10	Overall, I have been very impressed with Sentara Obici Hospital. In many ways, I would choose Obici as my choice for personal and family healthcare. Thank you!
11	I am not sure how Sentara can be more involved with oral health, but I think that is a major concern in our community. So many people do not have dental insurance and cannot afford the care that is necessary to maintain oral health. This is particularly true for older people. Also, most dentists do not want to take Medicaid patients. As we now know, the condition of the mouth may affect one's health in many ways. I think it is a serious problem as evidenced by the many, many people who line up at the dental free clinics that are held periodically in the region. While I know that the Western Tidewater Free Clinic has participating dentists, I do not think the scale is large enough to make a dent in the problem.
12	I think if there could be more group meetings or get-togethers on topics like healthy eating, healthy cooking and how to shop in grocery store for right items to feed families cheaply but also healthy. I think people just do not know how to get started.
13	Obesity education of physicians and the public.
14	Sentara Healthcare and Obici Hospital are making strides to improve health every day. Specifically anything related to strengthening access to healthcare services, health promotion and prevention education will help fulfill this mission.
15	Need a clinic environment for sick outpatient services rather than using the ER.
16	My compliments to SOH for your proactive stance on health care matters and your efforts to engage multiple community partners.
17	Maybe some website links for Medicare insurance and supplemental insurance information. (I may have missed them.)

APPENDIX C: Selected Health Indicators for Gates County, North Carolina

The tables in this Appendix include selected health indicators at the county-level for Gates County, North Carolina, as follows. The indicators were selected based on ready availability of data.

- Exhibit C-1 Health Demographic Trend for Gates County, NC (2000-2016)
- Exhibit C-2 Health Demographic Snapshot for Gates County, NC (2011)
- Exhibit C-3 Mortality Profile for Gates County, NC (2010)
- Exhibit C-4 Maternal and Infant Health Profile for Gates County, NC (2010)
- Exhibit C-5 Adult Health Risk Factor Profile for Gates County, NC (2010 Synthetic Estimates)
- Exhibit C-6 Uninsured Profile for Gates County, NC (2010 Synthetic Estimates)

Exhibit C-1
Health Demographic Trend
County-Level Data for Gates County, NC (2000-2016 Estimates)

Indicator	2000 Census	2011 Estimate	2016 Projection	% Change 2011 -2016
Total Population	10,516	12,489	13,655	9%
Population Density (per Sq Mile)	30.6	36.3	39.7	9%
Total Households	3,901	4,895	5,820	19%
Population by Age				
Children Age 0-17	2,457	2,955	2,938	-1%
Adults Age 18-29	1,202	1,779	2,283	28%
Adults Age 30-44	2,505	2,290	1,911	-17%
Adults Age 45-64	2,492	3,569	4,140	16%
Seniors Age 65+	1,514	1,895	2,382	26%
Population by Race/Ethnicity				
Asian	101	18	19	6%
Black/African American	8,071	4,140	4,521	9%
White	21,130	7,955	8,705	9%
Other or Multi-Race	426	376	410	9%
Hispanic Ethnicity[25]	267	192	267	39%

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

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

Exhibit C-2
Health Demographic Snapshot,
County-Level Data for Gates County, NC (2011)

Indicator	Gates County, NC
Population Counts	
Population	12,489
Children Age 0-17	2,955
Adults Age 18-29	1,779
Adults Age 30-44	2,290
Adults Age 45-64	3,569
Seniors Age 65+	1,895
Female	6,396
Male	6,093
Asian	18
Black/African American	4,140
White	7,955
Other or Multi-Race	376
Hispanic Ethnicity	192
Low Income Households (Households with Income < $25,000)	1,464
Population Age 25+ Without a High School Diploma	1,251
Population Rates	
Population Density (pop. per sq. mile)	36.3
Children Age 0-17 pct. of Total Pop.	24%
Adults Age 18-29 pct. of Total Pop.	14%
Adults Age 30-44 pct. of Total Pop.	18%
Adults Age 45-64 pct. of Total Pop.	29%
Seniors Age 65+ pct. of Total Pop.	15%
Female pct. of Total Pop.	51%
Male pct. of Total Pop.	49%
Asian pct. of Total Pop.	0%
Black/African American pct. of Total Pop.	33%
White pct. of Total Pop.	64%
Other or Multi-Race pct. of Total Pop.	3%
Hispanic Ethnicity pct. of Total Pop.	2%
Per Capita Income	$24,136
Median Household Income	$49,311
Low Income Households (Households with Income < $25,000) pct. of Total Households	30%
Pop. Age 25+ Without a High School Diploma pct. Total Pop. Age 25+	15%

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

Exhibit C-3
County-Level Mortality Profile for Gates County, NC (2010)

Indicators	Gates County, NC
Total Deaths	
Deaths by All Causes	129
Deaths by Top 14 Causes	
Malignant Neoplasms (Cancer) Deaths	152
Heart Disease Deaths	122
Cerebrovascular Disease (Stroke) Deaths	28
Unintentional Injury Deaths	33
Chronic Lower Respiratory Disease Deaths	38
Alzheimer's Disease Deaths	19
Diabetes Mellitus Deaths	35
Nephritis and Nephrosis Deaths	16
Septicemia Deaths	14
Influenza and Pneumonia Deaths	9
Chronic Liver Disease Deaths	6
Suicide Deaths	6
Age Adjusted Death Rates per 100,000 Population, 2006-2010[26]	
Total Deaths	949.3
Malignant Neoplasms (Cancer)	231.4
Heart Disease	188.2
Cerebrovascular Disease (Stroke)	45.0
Chronic Lower Respiratory Disease Deaths	59.6
Alzheimer's Disease Deaths	31.1
Diabetes Mellitus Deaths	53.3
Septicemia Deaths	22.4

Source: Community Health Solutions analysis of data from North Carolina Department of Health

Exhibit C-4
County-Level Maternal and Infant Health Profile for Gates County, NC (2010)

Indicators	Gates County, NC
Counts	
Induced Terminations of Pregnancy	28
Natural Fetal Deaths	3
Total Live Births	115
Low Weight Births (under 2,500 grams / 5 lb. 8 oz.)	12
Non-Marital Births	46
Total Infant Deaths	1
Rates	
Five-Year Average Infant Mortality Rate per 1,000 Live Births) 2006-2010	11.8

Source: Community Health Solutions analysis of data from North Carolina Department of Health.

[26] Unintentional Injuries and Nephritis and Nephrosis death age-adjusted rates are not included because the North Carolina data for these causes are reported differently than 2010 Virginia Department of Health data. http://www.schs.state.nc.us/schs/deaths/lcd/2010/

Exhibit C-5
County-Level Adult Health Risk Factor Profile for Gates County, NC (2010 Synthetic Estimates)

Indicators	Gates County, NC Estimates (count)	Gates County, NC Estimates (percent)
Estimated adults age 18+	9,533	100%
Risk Factors. Adults Age 18+ estimated to…		
Eat Less Than Five Servings of Fruits and Vegetables Per Day	7,309	77%
Have No Physical Activity in the Past 30 Days	2,498	26%
Be Overweight or Obese	5,880	62%
Be a Smoker	2,083	22%
Be at Risk for Binge Drinking	1,239	13%
Chronic Conditions. Adults Age 18+ estimated to…		
Have High Cholesterol (told by a doctor or other health professional)	2,876	30%
Have High Blood Pressure (told by a doctor or other health professional)	3,070	32%
Have Arthritis (told by a doctor or other health professional)	2,873	30%
Have Asthma (told by a doctor or other health professional)	1,220	13%
Have Diabetes (told by a doctor or other health professional)	969	10%
General Health Status. Adults Age 18+ estimated to…		
Be Limited in any Activities because of Physical, Mental or Emotional Problems	1,764	19%
Have Fair or Poor Health Status	1,695	18%

Source: Community Health Solutions synthetic estimates.

Exhibit C-6
County-Level Uninsured Profile for Gates County, NC (2010 Synthetic Estimates)

Indicators	Gates County, NC
Estimated Population Counts	
Total Nonelderly Population Age 0-64	10,593
Total Child Population Age 0-18	3,150
Total Adult Population Age 19-64	7,443
Estimated Uninsured Counts	
Uninsured Nonelderly Age 0-64	1,511
Uninsured Children Age 0-18	243
Uninsured Children and Income 0- 200% Federal Poverty Level (FPL)	161
Uninsured Children and Income <100% FPL	76
Uninsured Children and Income 100-200% FPL	253
Uninsured Children and Income 201-300% FPL	207
Uninsured Children and Income 301%+ FPL	182
Uninsured Adults Age 19-64	1,267
Uninsured Adults 0-200% FPL	878
Uninsured Adults and Income <100% FPL	625
Uninsured Adults and Income 100-200% FPL	253
Uninsured Adults and Income 201-300% FPL	207
Uninsured Adults and Income 301%+ FPL	182
Uninsured Adults 19-64 and Income under 133% FPL	652
Uninsured Adults 19-64 and Income 133-300% FPL	263
Estimated Uninsured Rates	
Uninsured Nonelderly Percent pct. of Total Nonelderly Population Age 0-64	14%
Uninsured Children Percent pct. of Total Child Population Age 0-18	8%
Uninsured Adults Percent pct. of Total Adult Population Age 19-64	17%

Source: Community Health Solutions synthetic estimates.