

A Community Health Needs Assessment
Prepared for the Hospital for Extended Recovery
By Community Health Solutions
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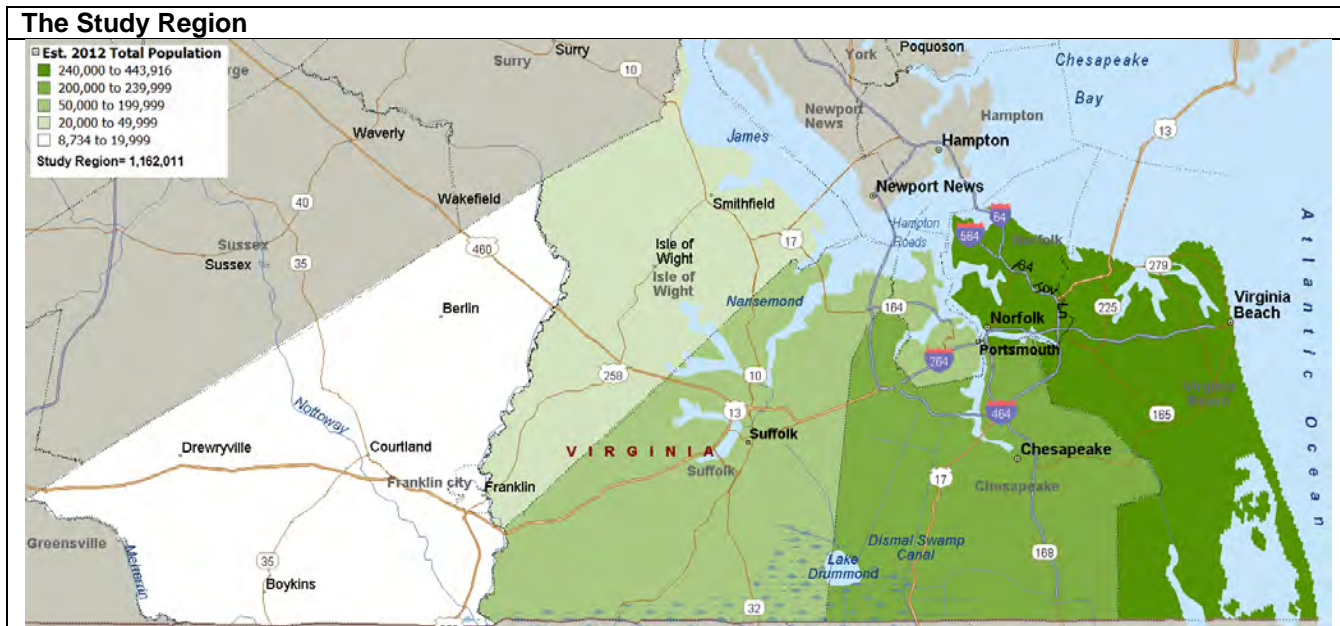
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Executive Summary

The mission of the Hospital for Extended Recovery (HER) is "to improve health every day." With this mission in mind, HER commissioned Community Health Solutions to conduct this community health needs assessment.

The study focuses on eight localities identified by HER as its study region: the cities of Chesapeake, Franklin, Norfolk, Portsmouth, Suffolk and Virginia Beach; and the counties of Isle of Wight and Southampton. 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 HER. 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 132 community stakeholders identified by HER. A total of 28 (21%) 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 problems such as chronic disease, adult obesity, Alzheimer's disease, dementia, mental health conditions, substance abuse of illegal drugs, and more.
- The respondents reported more than two dozen specific community services in need of strengthening. Commonly identified services included homeless services, behavioral health services, adult day care services, transportation, aging services, and more.

Thirteen respondents offered open-ended responses with additional ideas and suggestions for improving community health. These responses are listed in *Appendix B* on page 36.

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 1,162,011 people. The population is expected to increase to 1,192,274 by 2017. Compared to the Commonwealth of Virginia as a whole, the study region is more densely populated and has (proportionally) more Black/African American residents. The study region also has lower income levels and (proportionally) more adults with a high school education than Virginia as a whole.
- *Mortality Profile.* The study region had 8,584 total deaths in 2011. The leading causes of death were malignant neoplasms (cancer), heart disease, and cerebrovascular disease (stroke). The age-adjusted death rates for the study region were higher than the Virginia statewide rates overall, and for most of the top fourteen causes of death.
- *Maternal and Infant Health Profile.* The study region had 22,175 pregnancies and 16,031 total live births in 2011. Compared to Virginia as a whole, the study region had higher rates of non-marital births, teen pregnancies and infant mortality.
- *Preventable Hospitalization Discharge Profile.* The Agency for Healthcare Research and Quality (AHRQ) identifies a defined set of conditions (called Prevention Quality Indicators, or 'PQIs') for which hospitalization should be avoidable with proper outpatient health care. PQI measures can be used with hospital inpatient discharge data to identify quality of care for "ambulatory care sensitive conditions." 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 12,113 PQI hospital discharges in 2011. The age-adjusted PQI discharge rates for the study region were higher than the Virginia statewide rates overall, and for multiple PQI diagnoses.
- *Behavioral Health Hospitalization Discharge Profile.* Behavioral health (BH) hospitalizations provide another important indicator of community health status. Residents of the study region had 10,056 hospital discharges from Virginia community hospitals for behavioral health conditions in 2011. The leading diagnoses for these discharges were affective psychoses, general symptoms, and schizophrenic disorders. The age-adjusted BH discharge rates for the study region were higher than the statewide rates overall, and for multiple BH diagnoses.
- *Adult and Youth Health Risk Profiles.* The profiles contain a set of estimates of adult and youth health risk. The local estimates indicate that substantial numbers of adults (age 18+) and youth (age 14-19) in the study region may have health risks related to nutrition, physical activity, weight, tobacco, and alcohol.
- *Uninsured Profile.* An estimated 143,045 (14%) nonelderly residents of the study region were uninsured at any given time in 2012. 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).
- *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 eight localities in the study region have been fully or partially designated as MUA/MUPs.

Accompanying File of City/County-Level Indicators

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

Appendix A: Zip Code Level Maps

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

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

Thirteen survey respondents offered open-ended responses with additional ideas and suggestions for improving community health. These responses are listed in *Appendix B* on page 36.

Appendix C: Data Sources

Appendix C provides a list of the data sources used in the analysis of 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 HER. 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 132 community stakeholders identified by HER. A total of 28 (21%) 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**

Beach Health Clinic
Foodbank of Southeastern Virginia
Forms Unlimited, Inc.
Hampton Convention & Visitor Bureau
Hanger Clinic (Prosthetics and Orthotics)
HomeChoice Partners
Hope Haven Adult Home
LEAD Hampton Roads
Maxim Healthcare Services
Naval Medical Center Portsmouth
Odyssey Hospice
Roche
Senior Services of Southeastern Virginia
Sentara (2)
Sentara Healthcare (2)
Sentara Leigh Hospital (2)
Sentara Norfolk General Hospital (3)
Sentara PACE
Sentara Virginia Beach General Hospital
The Brian Center Health & Rehabilitation
Towne Bank
Union Mission Ministries
Virginia Department of Health

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
Diabetes	82%	23
Heart Disease	71%	20
Adult Obesity	68%	19
High Blood Pressure	64%	18
Alzheimer's Disease	61%	17
Cancer	57%	16
Dementia	57%	16
Stroke	57%	16
Mental Health Conditions	54%	15
Substance Abuse - Illegal Drugs	54%	15
Renal (kidney) Disease	50%	14
Alcohol Use	46%	13
Neurological Disorders (seizures, multiple sclerosis)	46%	13
Respiratory Diseases (other than asthma)	46%	13
Chronic Pain	43%	12
Physical Disabilities	43%	12
Tobacco Use	43%	12
Substance Abuse - Prescription Drugs	39%	11
Infectious Diseases	36%	10
Orthopedic Problems	36%	10
Childhood Obesity	32%	9
Domestic Violence	32%	9
Immobility (i.e. skin breakdown)	32%	9
Asthma	25%	7
Arthritis	25%	7
HIV/AIDS	21%	6
Injuries	21%	6
Dental Care/Oral Health	18%	5
Post-Operative Complications	18%	5
Vision	18%	5
Autism	11%	3
Intellectual/Developmental Disabilities	11%	3
Sexually Transmitted Diseases	11%	3
Environmental Quality	4%	1
Hearing/Speech	4%	1
<i>Other Health Problems (list in box below)</i>	7%	2
Open-Ended Responses		
<ul style="list-style-type: none"> • 1) Access to primary care 2) Lack of health insurance • Vascular disease 		

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.

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 ¹	Response Count
Homeless Services	70%	19
Behavioral Health Services (including mental health, substance use and intellectual disability)	63%	17
Adult Day Care Services	59%	16
Transportation	59%	16
Aging Services	56%	15
Community Services for the Elderly	48%	13
Health Care Coverage	48%	13
Care Coordination Services	41%	11
Caregiver Education Support	41%	11
Patient Self Management Services(e.g. nutrition, exercise, taking medications)	41%	11
Chronic Pain Management Services	37%	10
Chronic Disease Services (including screening and early detection)	33%	9
Housing (senior living, independent living, assisted living, retirement communities, etc)	33%	9
Public Health Services	33%	9
Respite Care Services	33%	9
Dental Care/Oral Health Services	30%	8
Disability Services	30%	8
Health Promotion and Prevention Services	30%	8
Hospice Services	30%	8
Long Term Care Services	30%	8
Primary Health Care Services	30%	8
Social Services	26%	7
Assistive Technology	22%	6
Home Health Services	22%	6
Cancer Services (screening, diagnosis, treatment)	19%	5
Hospital Services (including emergency, inpatient and outpatient)	19%	5
Job/Vocational Retraining	19%	5
Domestic Violence Services	15%	4
Physical Rehabilitation (physical, occupational, speech, vision, etc)	15%	4
Pharmacy Services	11%	3
Rehabilitation Ventilation Services	11%	3
School Health Services	11%	3
Food Safety Net (food bank, community gardens)	7%	2
Specialty Medical Care (e.g. cardiologists, oncologists, etc.)	7%	2
Environmental Health Services	4%	1
Workplace Health and Safety Services	4%	1
<i>Other Community Health Services (list in box below)</i>	4%	1
Open-Ended Responses		
<ul style="list-style-type: none"> 1) Health care literacy, 2) Transition planning 		

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.

¹ Twenty-seven (27) of the 28 survey respondents answered this question.

Part II. Community Indicator Profile

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

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

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

1. Health Demographic Trend Profile

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

As shown in *Exhibit II-1*, as of 2012, the study region included 1,162,011 people. The population is expected to increase to 1,192,274 by 2017. It is projected that population growth will occur in all age groups, including a 10% increase in seniors age 65+. Focusing on racial background, growth is projected for all populations, including a 6% increase in the Asian population. The Hispanic population is also expected to grow by 4%.

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

Indicator	2010 Census	2012 Estimate	2017 Projection	% Change 2012-2017
Total Population	1,145,548	1,162,011	1,192,274	3%
Population Density (per Sq Mile)	530.1	537.7	551.7	3%
Total Households	424,685	427,822	440,974	3%
Population by Age				
Children Age 0-17	276,466	271,083	274,440	1%
Adults Age 18-29	222,929	226,516	229,384	1%
Adults Age 30-44	226,763	228,959	233,791	2%
Adults Age 45-64	295,194	303,538	309,481	2%
Seniors Age 65+	124,196	131,915	145,178	10%
Population by Race/Ethnicity				
Asian	43,911	45,465	48,107	6%
Black/African American	364,354	369,845	378,288	2%
White	673,797	681,137	697,619	2%
Other or Multi-Race	63,486	65,564	68,260	4%
Hispanic Ethnicity ²	61,173	63,134	65,395	4%

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

² Classification of ethnicity; therefore, Hispanic individuals are also included in the race categories.

2. Health Demographic Snapshot

Community health is driven in part by community demographics. The age, sex, race, ethnicity, income and education status of a population are strong predictors of community health status and community health needs. *Exhibit II-2* presents a snapshot of key health-related demographics of the study region. As of 2012, the study region included an estimated 1,162,011 people. Compared to the Commonwealth of Virginia as a whole, the study region is more densely populated and has (proportionally) more Black/African American residents. The study region also has lower income levels and (proportionally) more adults with a high school education than Virginia as a whole. *Note: Maps 1-13 in Appendix A show the geographic distribution of the population by zip code.*

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

Indicator	Study Region	Virginia
Population Counts		
Population	1,162,011	8,154,815
Children Age 0-17	271,083	1,857,225
Adults Age 18-29	226,516	1,375,674
Adults Age 30-44	228,959	1,642,637
Adults Age 45-64	303,538	2,233,940
Seniors Age 65+	131,915	1,045,339
Female	587,220	4,148,680
Male	574,791	4,006,135
Asian	45,465	459,660
Black/African American	369,845	1,579,659
White	681,137	5,573,480
Other or Multi-Race	65,564	542,016
Hispanic Ethnicity	63,134	655,986
Low Income Households (Households with Income < \$25,000)	81,398	553,382
Population Age 25+ Without a High School Diploma	75,792	675,228
Population Rates		
Population Density (pop. per sq. mile)	537.7	202.2
Children Age 0-17 pct. of Total Pop.	23%	23%
Adults Age 18-29 pct. of Total Pop.	19%	17%
Adults Age 30-44 pct. of Total Pop.	20%	20%
Adults Age 45-64 pct. of Total Pop.	26%	27%
Seniors Age 65+ pct. of Total Pop.	11%	13%
Female pct. of Total Pop.	51%	51%
Male pct. of Total Pop.	49%	49%
Asian pct. of Total Pop.	4%	6%
Black/African American pct. of Total Pop.	32%	19%
White pct. of Total Pop.	59%	68%
Other or Multi-Race pct. of Total Pop.	6%	7%
Hispanic Ethnicity pct. of Total Pop.	5%	8%
Per Capita Income	\$27,896	\$34,307
Median Household Income	\$57,008	\$64,118
Low Income Households (Households with Income < \$25,000) pct. of Total Households	19%	18%
Pop. Age 25+ Without a High School Diploma pct. of Total Pop. Age 25+	10%	12%

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

3. Mortality Profile

As shown in *Exhibit II-3*, the study region had 8,584 total deaths in 2011. The leading causes of death were malignant neoplasms (cancer) (1,974), heart disease (1,848), and cerebrovascular disease (stroke) (441). The age-adjusted death rates for the study region were higher than the Virginia statewide rates overall, and for most of the top fourteen causes of death. *Note: Maps 14-17 in Appendix A show the geographic distribution of deaths by zip code.*

**Exhibit II-3.
Mortality Profile, 2011**

Indicators	Study Region	Virginia
Total Deaths		
Deaths by All Causes	8,584	60,325
Deaths by Top 14 Causes		
Malignant Neoplasms (Cancer) Deaths	1,974	14,261
Heart Disease Deaths	1,848	13,201
Cerebrovascular Disease (Stroke) Deaths	441	3,327
Chronic Lower Respiratory Disease Deaths	440	3,097
Unintentional Injury Deaths	353	2,726
Alzheimer's Disease Deaths	293	1,800
Diabetes Mellitus Deaths	259	1,628
Nephritis and Nephrosis Deaths	220	1,425
Septicemia Deaths	191	1,372
Influenza and Pneumonia Deaths	170	1,404
Suicide Deaths	151	1,052
Chronic Liver Disease Deaths	110	725
Primary Hypertension and Renal Disease Deaths	94	569
Pneumonitis Disease Deaths	78	560
Age Adjusted Death Rates per 100,000 Population		
Total Deaths	798.3	735.8
Malignant Neoplasms (Cancer) Deaths	182.1	169.5
Heart Disease Deaths	172.7	161.3
Cerebrovascular Disease (Stroke) Deaths	41.7	41.4
Chronic Lower Respiratory Disease Deaths	42.5	38.4
Unintentional Injury Deaths	31.5	33.4
Alzheimer's Disease Deaths	28.5	23.0
Diabetes Mellitus Deaths	24.0	19.4
Nephritis and Nephrosis Deaths	20.9	17.6
Septicemia Deaths	17.9	16.8
Influenza and Pneumonia Deaths	16.0	17.4
Suicide Deaths	13.0	12.5
Chronic Liver Disease Deaths	9.4	8.1
Primary Hypertension and Renal Disease Deaths	8.5	6.9
Pneumonitis Disease Deaths	7.4	7.0

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

4. Maternal and Infant Health Profile

As shown in *Exhibit II-4*, the study region had 22,175 pregnancies, 16,031 total live births, and 125 infant deaths in 2011. Compared to Virginia as a whole, the study region had higher rates of non-marital births, teen pregnancies and infant mortality. *Note: Maps 18-21 in Appendix A show the geographic distribution of births by zip code.*

**Exhibit II-4
Maternal and Infant Health Profile, 2011**

Indicators	Study Region	Virginia
Counts		
Total Pregnancies	22,175	132,429
Induced Terminations of Pregnancy	5,330	23,635
Natural Fetal Deaths	814	6,269
Total Live Births	16,031	102,525
Low Weight Births (under 2,500 grams / 5 lb. 8 oz.)	1,455	8,204
Births Without Early Prenatal Care (No Prenatal Care in First 13 Weeks)	1,990	13,500
Non-Marital Births	6,538	36,390
Total Teenage (age 10-19) Pregnancies	1,800	9,630
Live Births to Teens Age 10-19	1,146	6,572
Live Births to Teens Age 18-19	857	4,807
Live Births to Teens Age 15-17	282	1,708
Live Births to Teens Age <15	7	57
Total Infant Deaths	125	685
Rates		
Live Birth Rate per 1,000 Population	13.9	12.7
Low Weight Births pct. of Total Live Births	9%	8%
Births Without Early Prenatal Care (No Prenatal Care in First 13 Weeks) pct. of Total Live Births	12%	13%
Non-Marital Births pct. of Total Live Births	41%	35%
Teenage (age 10-19) Pregnancy Rate per 1,000 Teenage Female Population	24.4	18.6
Five-Year Average Infant Mortality Rate per 1,000 Live Births) 2007-2011	8.7	7.0

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

5. Preventable Hospitalization Discharge Profile

The Agency for Healthcare Research and Quality (AHRQ) identifies a defined set of conditions (called Prevention Quality Indicators, or 'PQIs') for which hospitalization should be avoidable with proper outpatient health care. 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 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 12,113 PQI hospital discharges in 2011.⁴ The leading diagnoses for these discharges were congestive heart failure (3,255), bacterial pneumonia (2,025), and diabetes (1,989). The age-adjusted PQI discharge rates for the 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 PQI discharges by zip code.*

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

Indicators	Study Region	Virginia
Total PQI Discharges		
Total PQI Discharges by All Diagnoses	12,113	83,392
PQI Discharges by Diagnosis		
Congestive Heart Failure PQI Discharges	3,255	18,990
Bacterial Pneumonia PQI Discharges	2,025	16,221
Diabetes PQI Discharges	1,989	11,326
Urinary Tract Infection PQI Discharges	1,346	10,496
Chronic Obstructive Pulmonary Disease (COPD) PQI Discharges	1,302	11,439
Adult Asthma PQI Discharges	1,033	6,419
Hypertension PQI Discharges	428	2,898
Dehydration PQI Discharges	416	3,401
Perforated Appendix PQI Discharges	187	1,487
Angina PQI Discharges	132	715
Age Adjusted PQI Discharge Rates per 100,000 Population		
All Diagnoses	1,113.4	1,006.8
Congestive Heart Failure	307.7	233.0
Bacterial Pneumonia	190.1	197.4
Diabetes	171.1	133.2
Urinary Tract Infection	129.7	131.0
Chronic Obstructive Pulmonary Disease (COPD)	120.5	134.2
Adult Asthma	89.3	75.3
Hypertension	38.1	34.8
Dehydration	39.0	41.4
Perforated Appendix	16.0	18.1
Angina	11.9	8.3

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

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 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

⁴ Data include discharges for Virginia residents from Virginia community hospitals reporting to Virginia Health Information, Inc. These data do not include discharges from state behavioral health facilities or federal (military) facilities. Data reported are based on the primary diagnosis.

6. Behavioral Health Hospitalization Discharge Profile

Behavioral health (BH) hospitalizations provide another important indicator of community health status. *Exhibit II-6* shows behavioral health hospital discharges for study region residents in 2011. Residents of the study region had 10,056 hospital discharges from Virginia community hospitals for behavioral health conditions in 2011.⁵ The leading diagnoses for these discharges were affective psychoses (4,064), general symptoms (1,714) and schizophrenic disorders (1,711). The age-adjusted BH discharge rates for the study region were higher than the statewide rates overall, and for multiple BH diagnoses. *Note: Map 23 in Appendix A shows the geographic distribution of BH discharges by zip code.*

**Exhibit II-6.
Behavioral Health Hospital Discharges, 2011**

Indicators	Study Region	Virginia
BH Discharges		
Total BH Discharges by All Diagnoses	10,056	64,892
BH Discharges by Diagnosis		
Affective Psychoses ⁶	4,064	27,277
General Symptoms ⁷	1,714	11,135
Schizophrenic Disorders	1,711	8,042
Alcoholic Psychoses	458	3,283
Depressive Disorder, Not Elsewhere Classified	336	2,785
Other Nonorganic Psychoses	324	2,148
Drug Psychoses	260	1,321
Alcoholic Dependence Syndrome	259	2,161
Adjustment Reaction	223	2,123
Neurotic Disorders	175	1,351
Age Adjusted BH Discharge Rates per 100,000 Population		
All Diagnoses	871.1	786.8
Affective Psychoses	346.1	332.7
General Symptoms	157.7	136.4
Schizophrenic Disorders	144.6	95.0
Alcoholic Psychoses	39.0	38.0
Depressive Disorder, Not Elsewhere Classified	28.7	34.2
Other Nonorganic Psychoses	27.9	26.2
Drug Psychoses	22.4	16.0
Alcoholic Dependence Syndrome	21.9	25.2
Adjustment Reaction	18.6	26.2
Neurotic Disorders	15.3	16.4

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

⁵ 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 Includes major depressive, bipolar affective and manic depressive disorders.

⁷ This diagnosis includes symptoms, signs, abnormal results of laboratory or other investigative procedures, and ill-defined conditions regarding which no diagnosis classifiable elsewhere is recorded.

7. Adult Health Risk Factor Profile

This section examines health risks for adults age 18+. *Exhibit II-7* show estimates indicating that substantial numbers of adults in the study region have health risks related to nutrition, physical activity, weight, tobacco and alcohol. In addition, substantial numbers of adults may have chronic conditions such as high blood pressure, arthritis, high cholesterol, diabetes and asthma. These estimates were developed by Community Health Solutions.⁸ *Note: Maps 24-28 in Appendix A show the geographic distribution of selected adult health risks by zip code.*

**Exhibit II-7.
Adult Health Risk Factors (Estimates) 2011**

Indicators	Study Region Estimates (count)	Study Region Estimates (percent)
Estimated adults age 18+	890,928	100%
Less Than Five Servings of Fruits and Vegetables Per Day	700,043	79%
High Blood Pressure (told by a doctor or other health professional)	257,724	29%
Not Meeting Recommendations for Physical Activity in the Past 30 Days	459,539	52%
Arthritis (told by a doctor or other health professional)	213,388	24%
High Cholesterol (was checked, and told by a doctor or other health professional it was high)	316,222	35%
Overweight or Obese ⁹	548,778	62%
At Risk for Binge Drinking	174,015	20%
Limited in any Activities because of Physical, Mental or Emotional Problems	173,263	19%
Smoker	182,908	21%
Fair or Poor Health Status	139,238	16%
Diabetes (told by a doctor or other health professional)	83,200	9%
Asthma (told by a doctor or other health professional)	63,606	7%

Source: Community Health Solutions estimates.

⁸ Estimates are used when there are no primary sources of data available at the local level. 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. See Appendix B for detailed methods.

⁹ 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. The selected 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 estimates indicating that substantial numbers of youth in the study region have health risks related to nutrition, weight, physical activity, tobacco and alcohol. These estimates were developed by Community Health Solutions.¹⁰ *Note: Map 29 in Appendix A shows the geographic distribution of estimated overweight or obese youth by zip code.*

**Exhibit II-8.
Youth Health Risk Factors (Estimates), 2011**

Indicators	Study Region Estimates (count)	Study Region Estimates (percent)
Estimated youth age 14-19	91,678	100%
Less than the Recommended Intake of Vegetables	81,307	89%
Less than the Recommended Intake of Fruit	78,410	86%
Be Overweight or Obese ¹¹	27,829	30%
Have at least One Drink of Alcohol at least One Day in the Past 30 Days	25,738	28%
Feel Sad or Hopeless (almost every day for two or more weeks in a row so that they stopped doing some usual activities)	22,589	25%
Used Tobacco in the Past 30 Days	17,488	19%
Have No Physical Activity in the Past Week	14,366	16%

Source: Community Health Solutions estimates.

¹⁰ Estimates are used when there are no primary sources of data available at the local level. 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. See Appendix B for detailed methods.

¹¹ 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 estimates of the number of uninsured individuals in the study region as of 2012.¹² An estimated 143,045 (14%) nonelderly residents of the study region were uninsured at any given time in 2012. This includes an estimated 21,587 children and 121,458 adults. 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).¹³ *Note: Maps 30-33 in Appendix A show the geographic distribution of the uninsured population by zip code.*

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

Indicators	Study Region
Estimated Uninsured Counts	
Uninsured Nonelderly Age 0-64	143,045
Uninsured Children Age 0-18	21,587
Uninsured Children <100% FPL	6,563
Uninsured Children 100-200% FPL	8,371
Uninsured Children 201-300% FPL	3,220
Uninsured Children 301%+ FPL	3,432
Uninsured Adults Age 19-64	121,458
Uninsured Adults <100% FPL	56,429
Uninsured Adults 100-200% FPL	33,598
Uninsured Adults 201-300% FPL	19,316
Uninsured Adults 301%+ FPL	12,115
Uninsured Adults Under 133% FPL ¹⁴	60,293
Estimated Uninsured Rates	
Uninsured Nonelderly Percent	14%
Uninsured Children Percent	8%
Uninsured Adults Percent	16%

Source: Community Health Solutions estimates.

¹² Estimates are used when there are no primary sources of data available at the local level. 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. See Appendix B for detailed methods

¹³ Two hundred percent of the federal poverty level is defined as an annual income of \$46,100 for a family of four. For more information, please see: <http://aspe.hhs.gov/poverty/12poverty.shtml>

¹⁴ 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 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 eight localities in the study region have been fully or partially designated as MUA/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	Census Tracts
Chesapeake, City of	Partial	8 of 41 Census Tracts
Franklin, City of	Full	2 of 2 Census Tracts
Isle of Wight County	Full	15 of 15 Census Tracts
Norfolk, City of	Partial	31 of 80 Census Tracts
Portsmouth, City of	Partial	11 of 31 Census Tracts
Southampton County	Full	5 of 5 Census Tracts
Suffolk, City of	Full	28 of 28 Census Tracts
Virginia Beach, City of	Partial	5 of 99 Census Tracts

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

APPENDIX A: Zip Code Level Maps for the Study Region

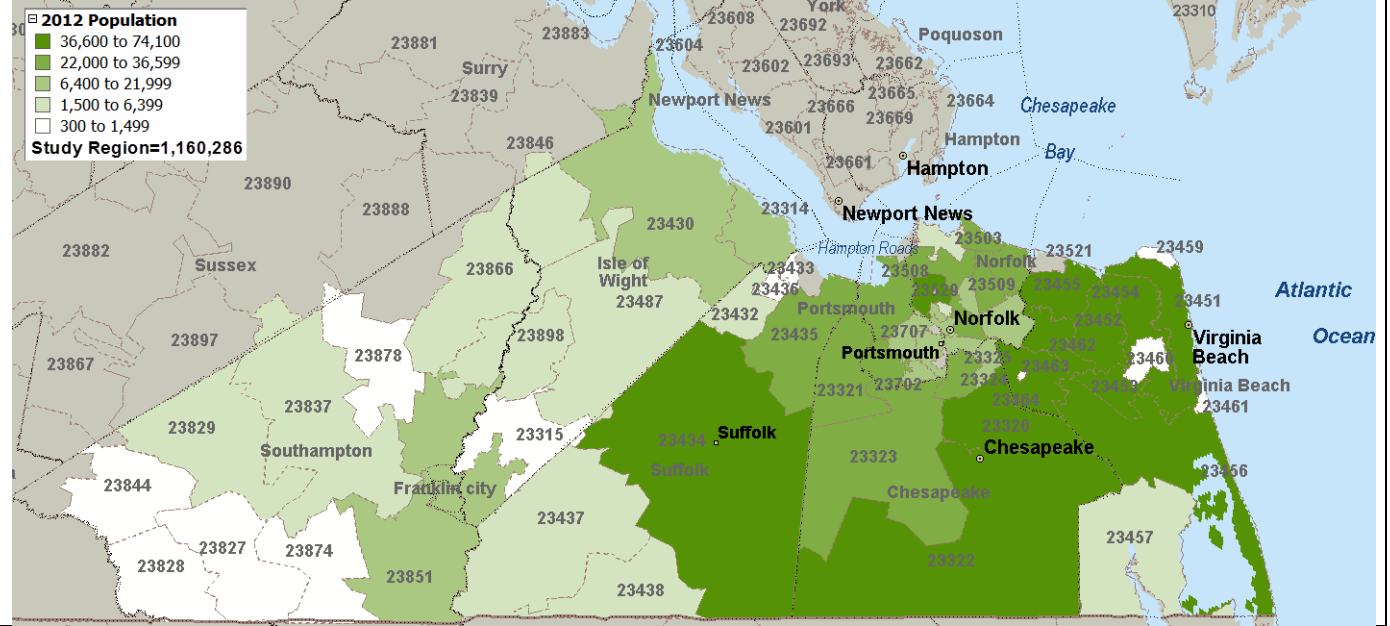
The zip code level maps in this section illustrate the geographic distribution of the zip code-level study region population on key demographic and health indicators. The results can also be used alongside the Community Insight Survey (Part I) and the Community Indicator Profile (Part II) to help inform 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 2011/2012:

1. Total Population, 2012	17. Cerebrovascular Disease (Stroke) Deaths, 2011
2. Population Density, 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. Estimates Adults Age 18+ Limited in any Activities because of Physical, Mental or Emotional Problems
13. Population Age 25+ Without a High School Diploma, 2012	29. Estimated Youth Age 14-19 Overweight or Obese, 2012
14. Total Deaths, 2011	30. Estimated Uninsured Nonelderly Age 0-64, 2012
15. Malignant Neoplasm (Cancer) Deaths, 2011	31. Estimated Uninsured Adults Age 19-64, 2012
16. Heart Disease Deaths, 2011	

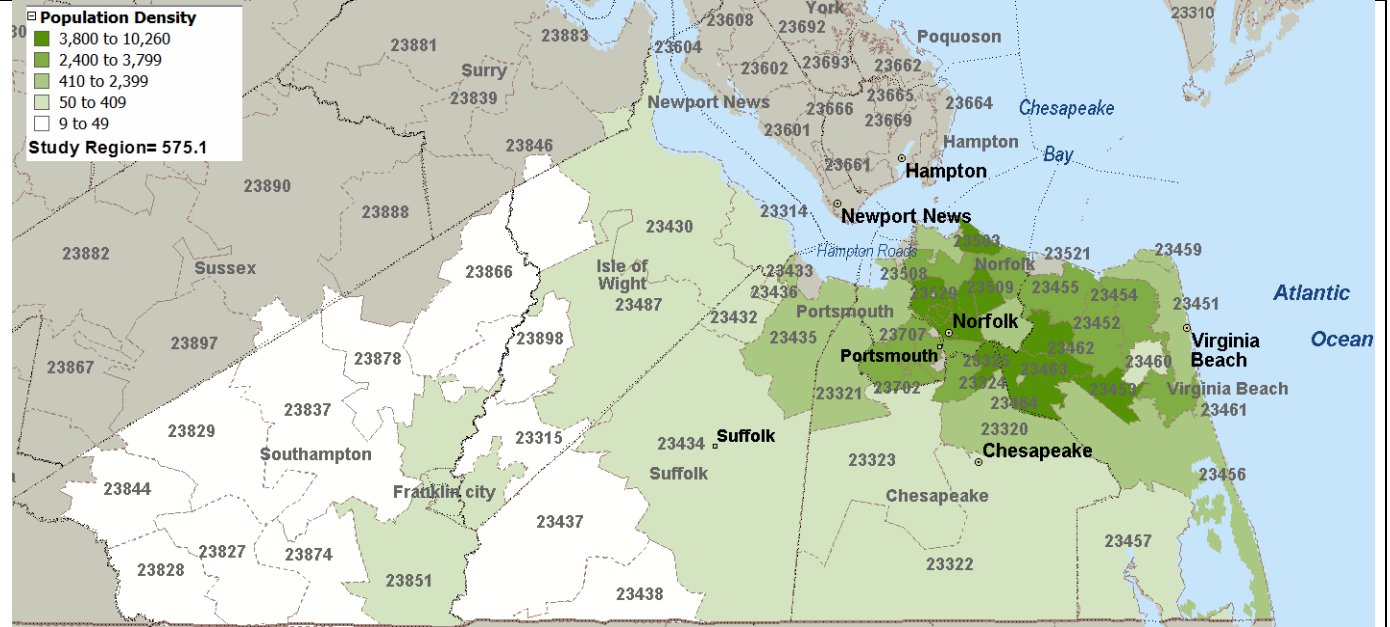
Technical Notes

1. The maps and data include 58 zip codes, as identified by the Hospital for Extended Recovery, most of which fall within the cities of Chesapeake, Franklin, Norfolk, Portsmouth, Suffolk and Virginia Beach; and the counties of Isle of Wight and Southampton. 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, hospital discharges, etc. differ from the study region totals listed throughout the body of the report.
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.

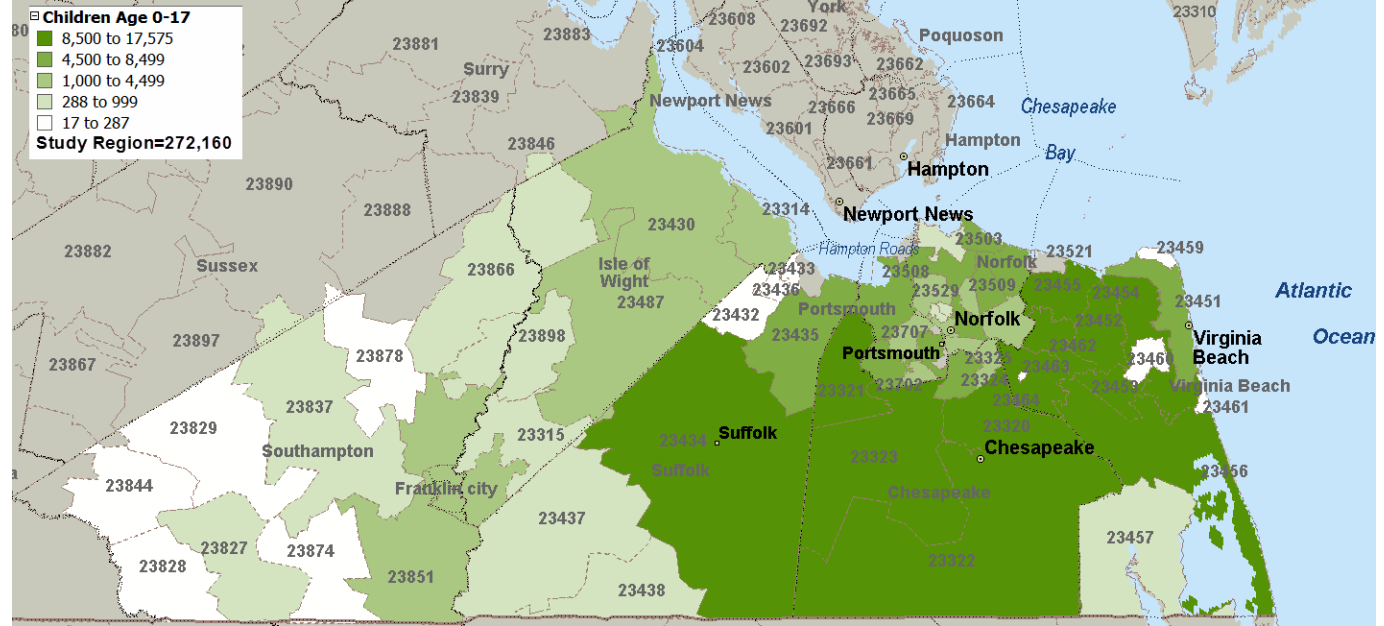
Map 1: Total Population, 2012



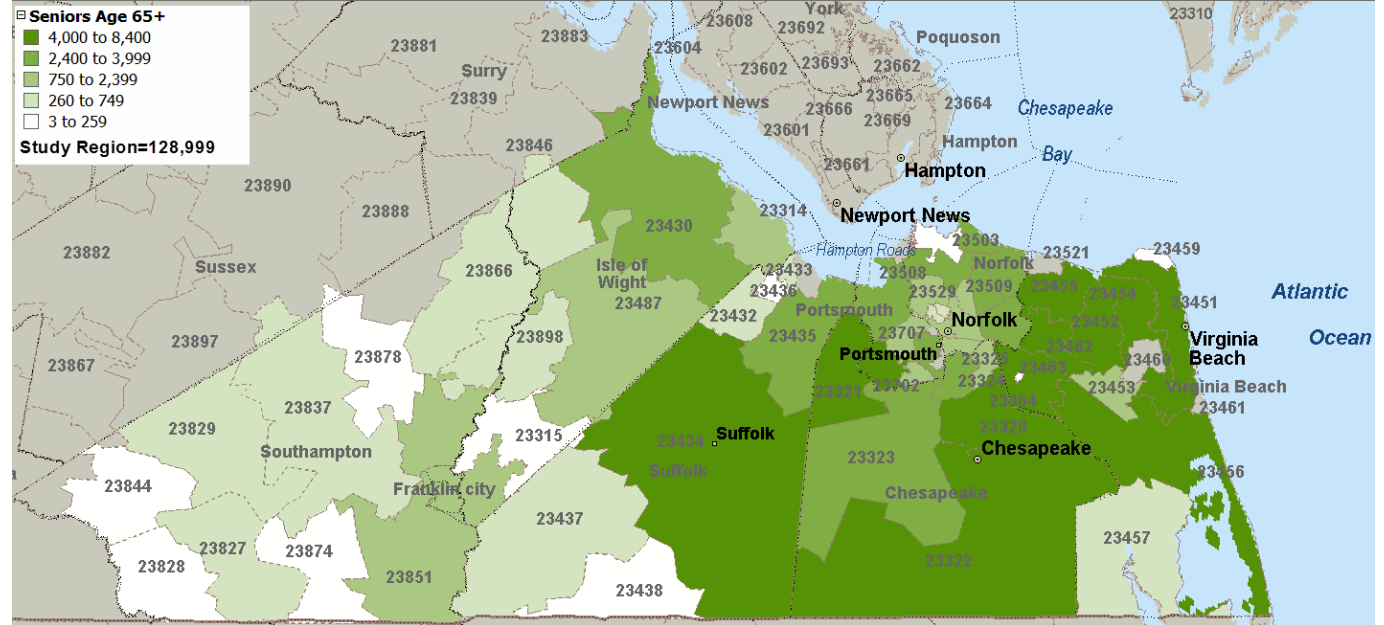
Map 2: Population Density (population per square mile), 2012



Map 3: Child Population Age 0-17, 2012

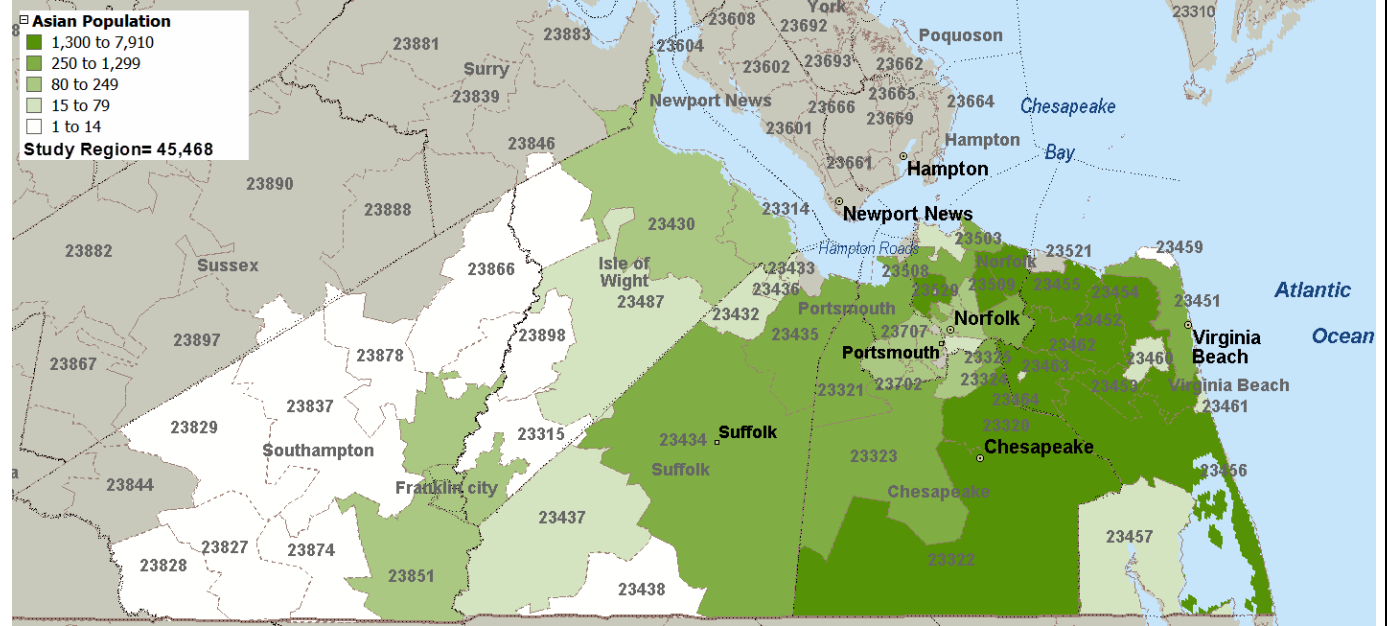


Map 4: Senior Population Age 65+, 2012*

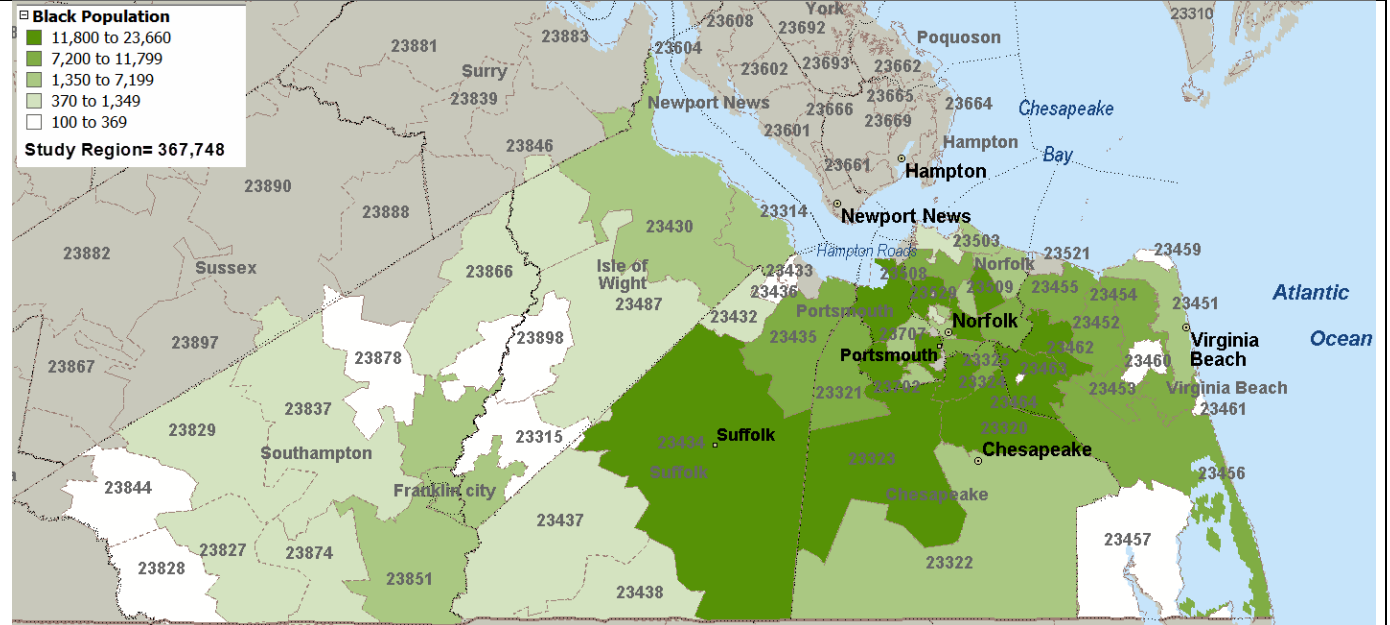


*Note: There were no estimated seniors age 65+ for zip codes 23460 and 23461.

Map 5: Asian Population, 2012*

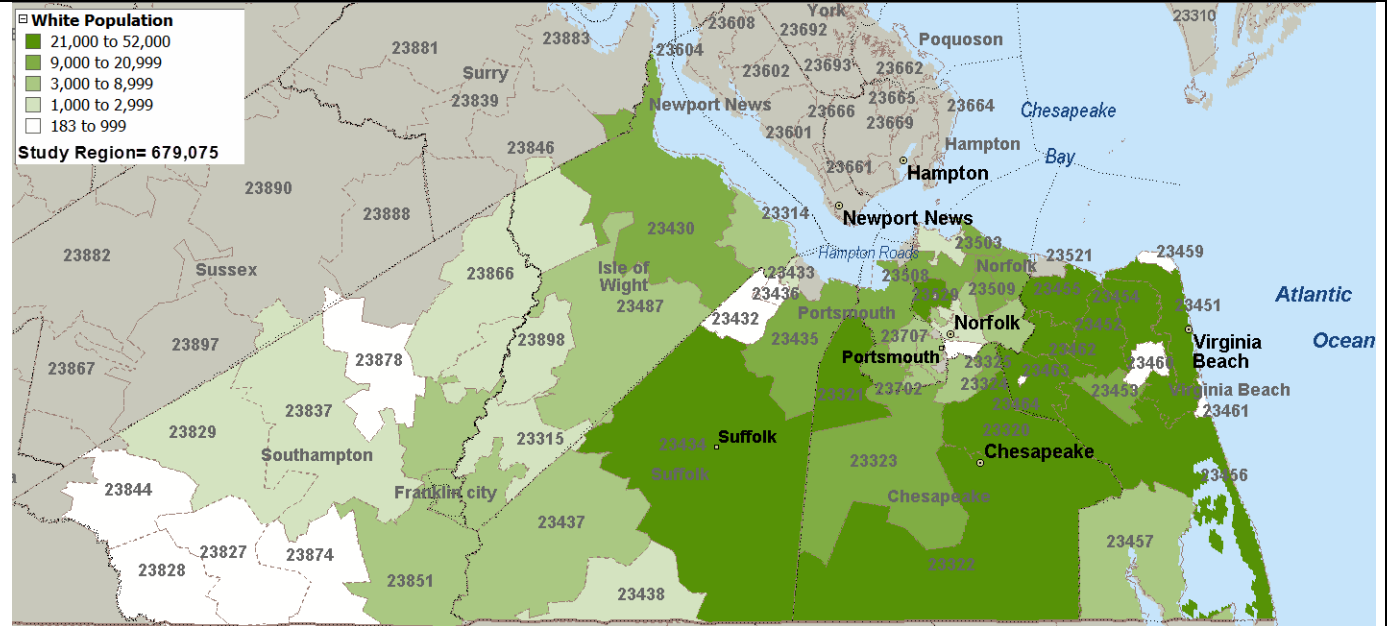


Map 6: Black/African American Population, 2012

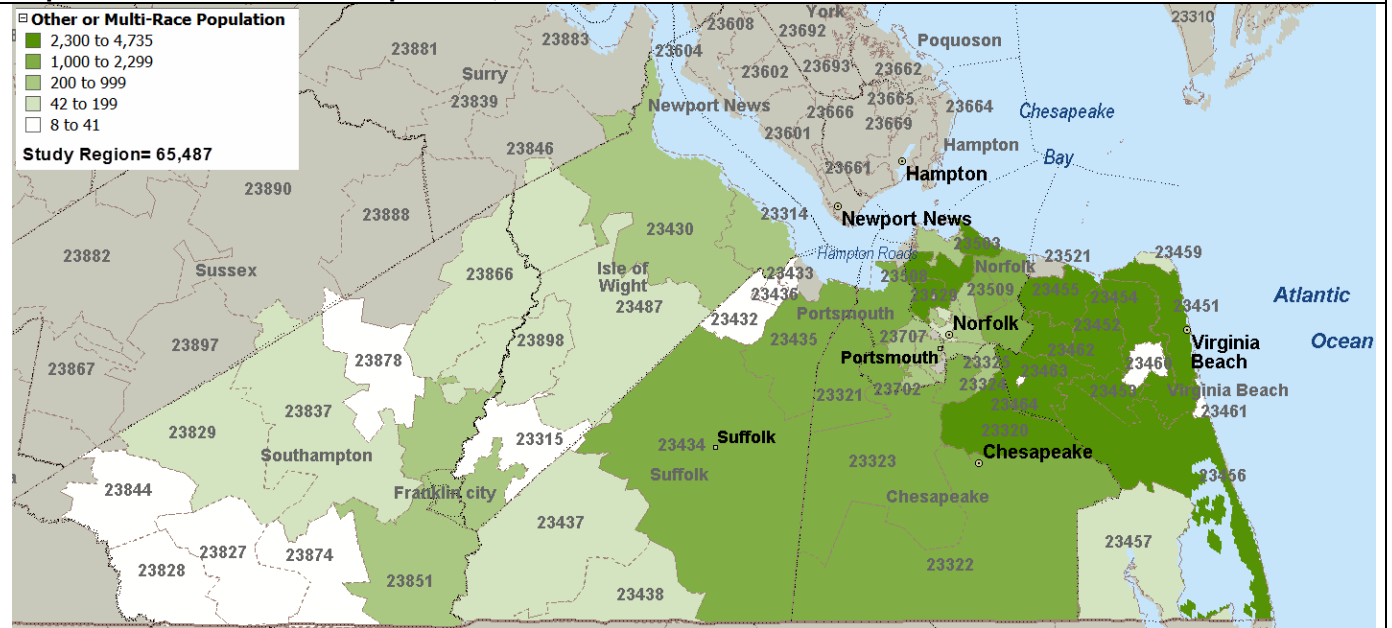


*Note: There were no estimated residents in this racial group for zip code 23844.

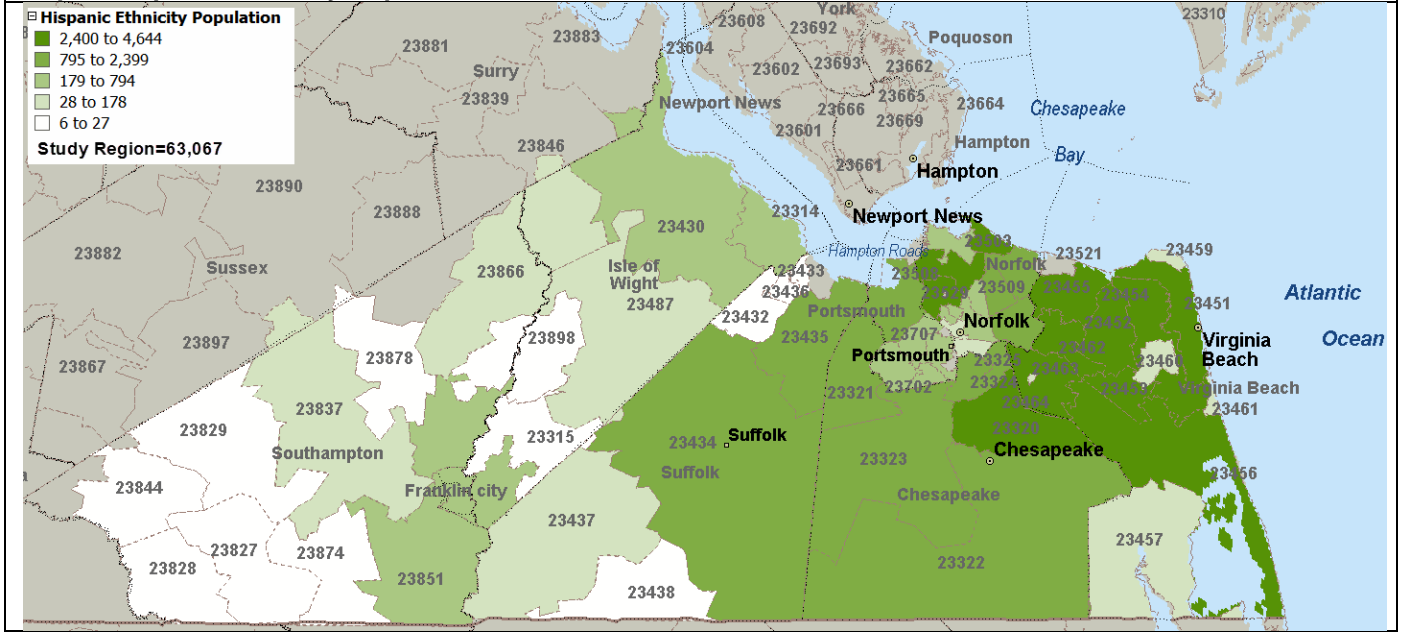
Map 7: White Population, 2012



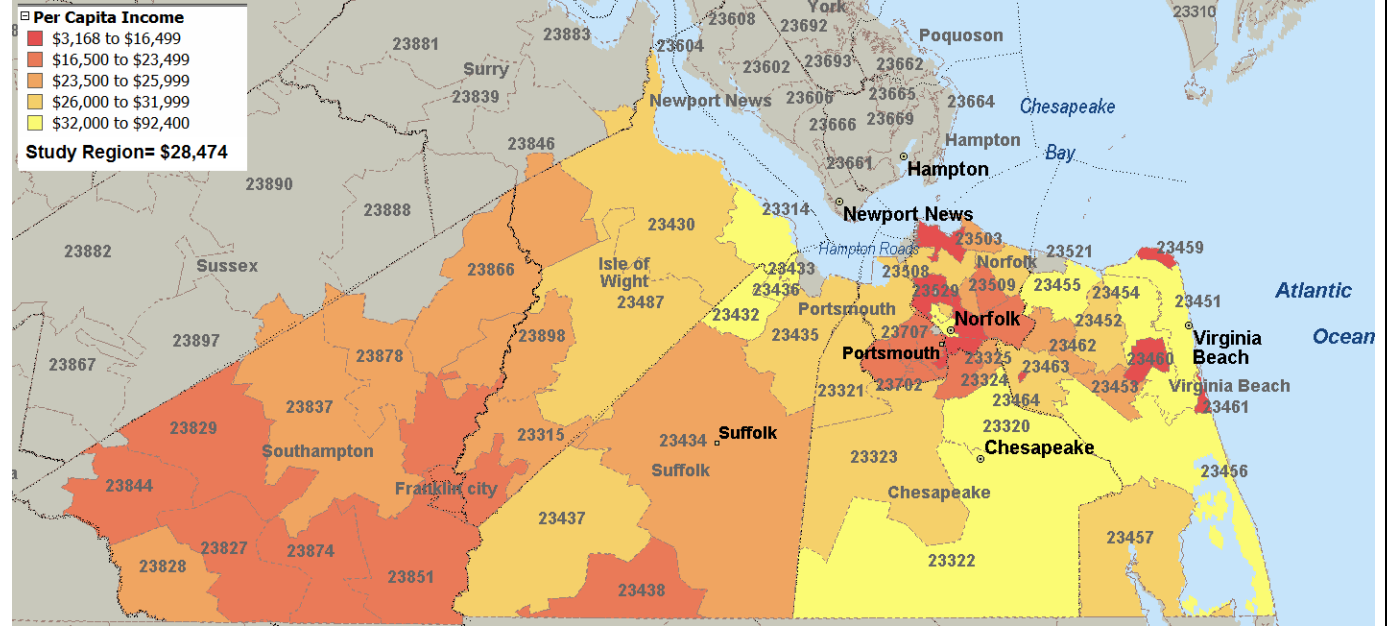
Map 8: Other or Multi-Race Population, 2012



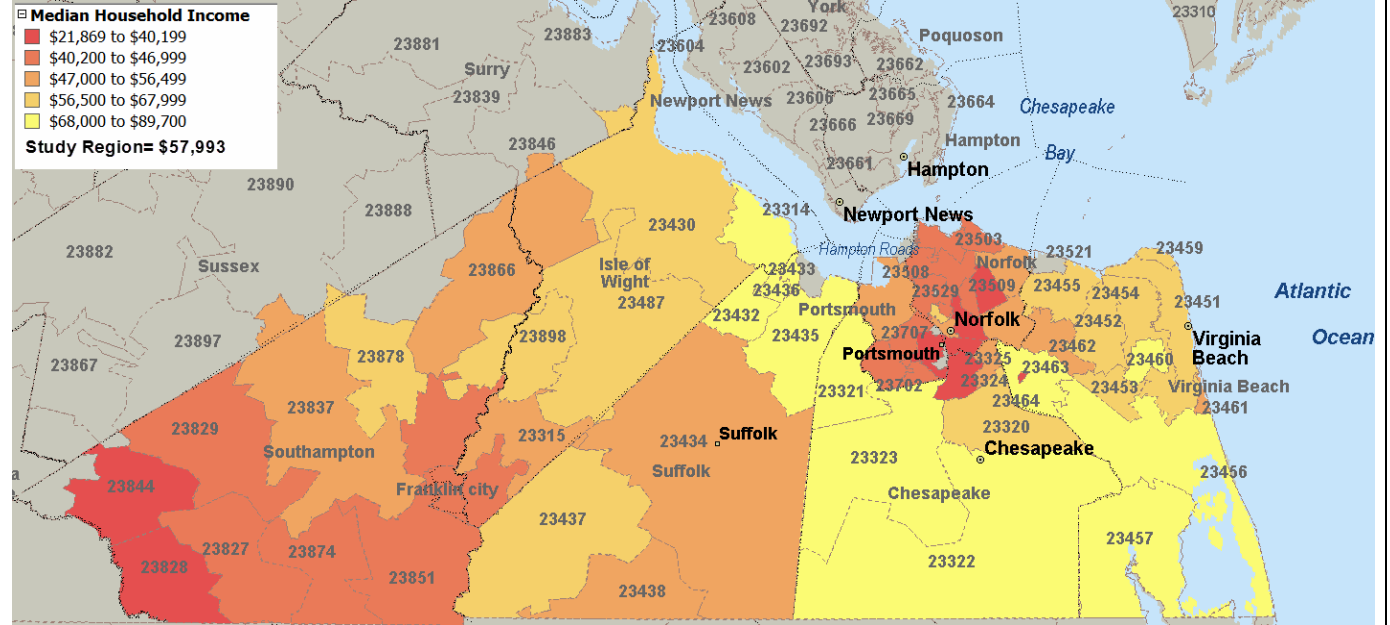
Map 9: Hispanic Ethnicity Population, 2012



Map 10: Per Capita Income, 2012

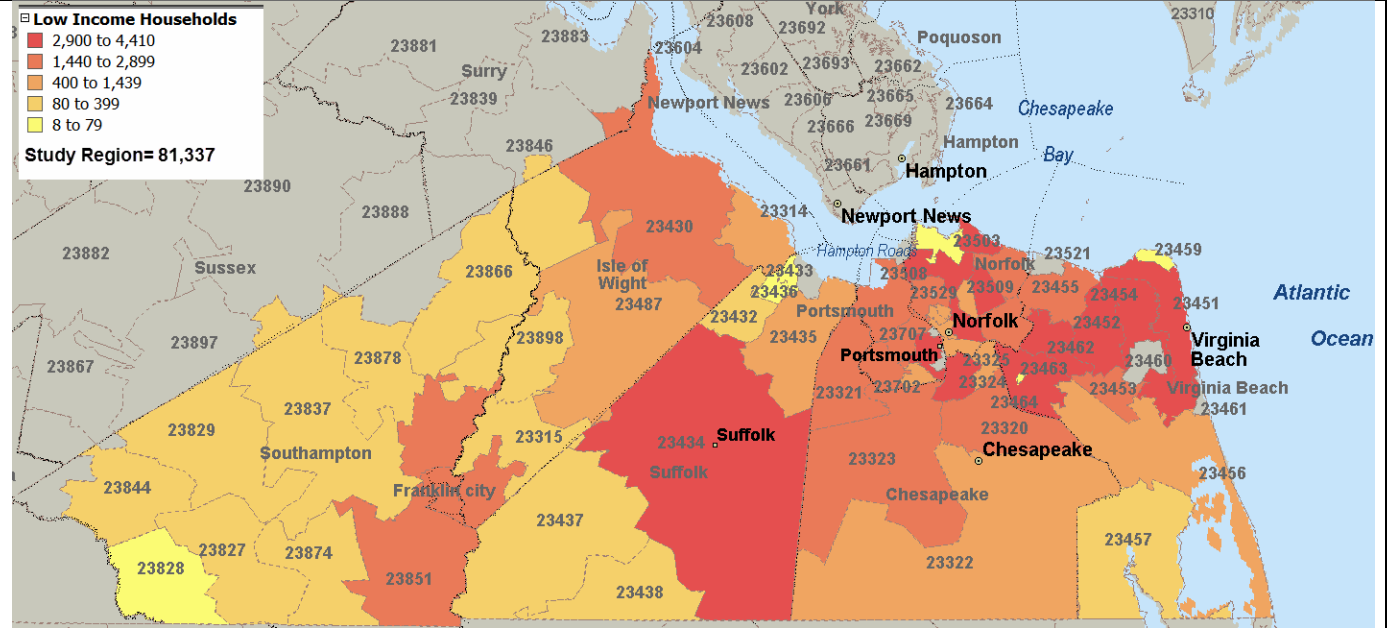


Map 11: Median Household Income, 2012

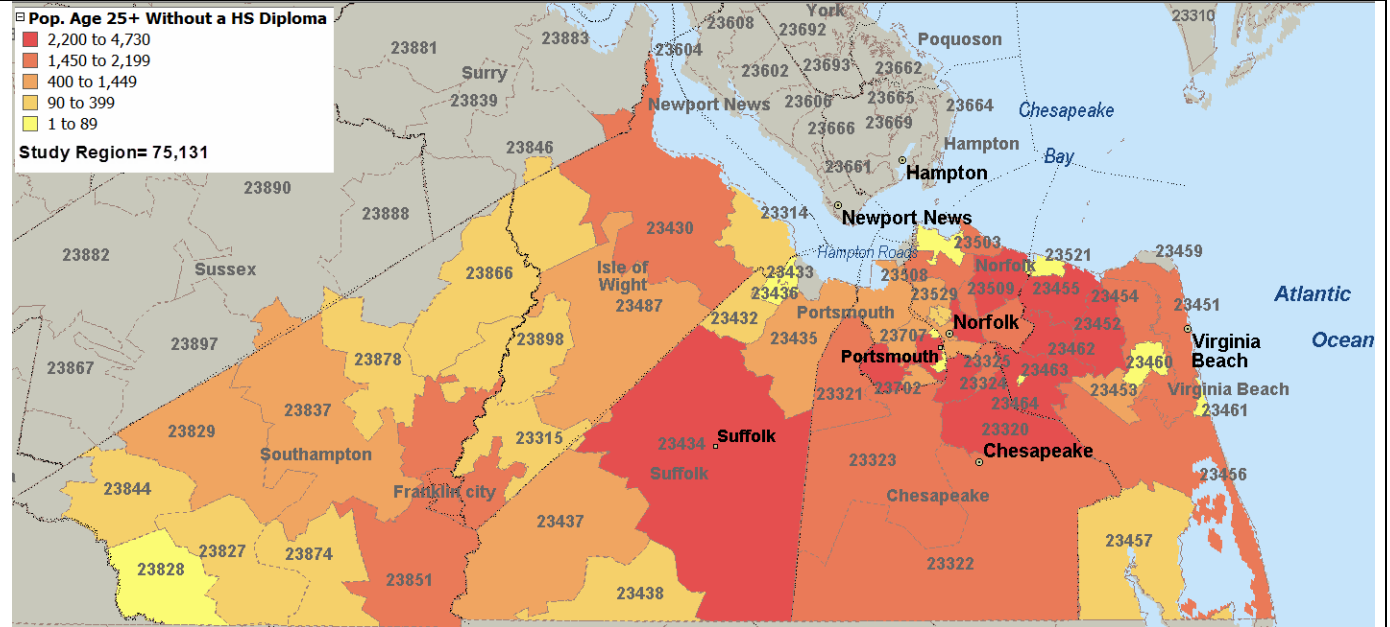


Note: Red indicates an area of higher risk on these maps.

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



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

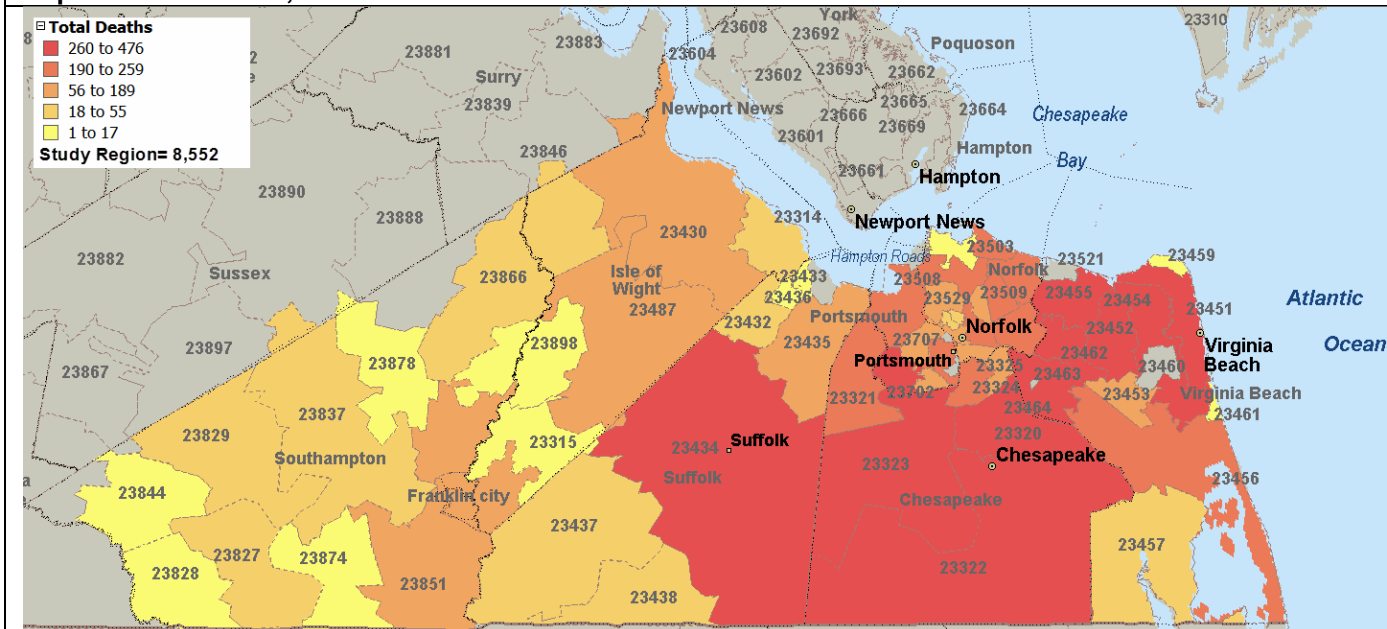


Note: Red indicates an area of higher risk on these maps.

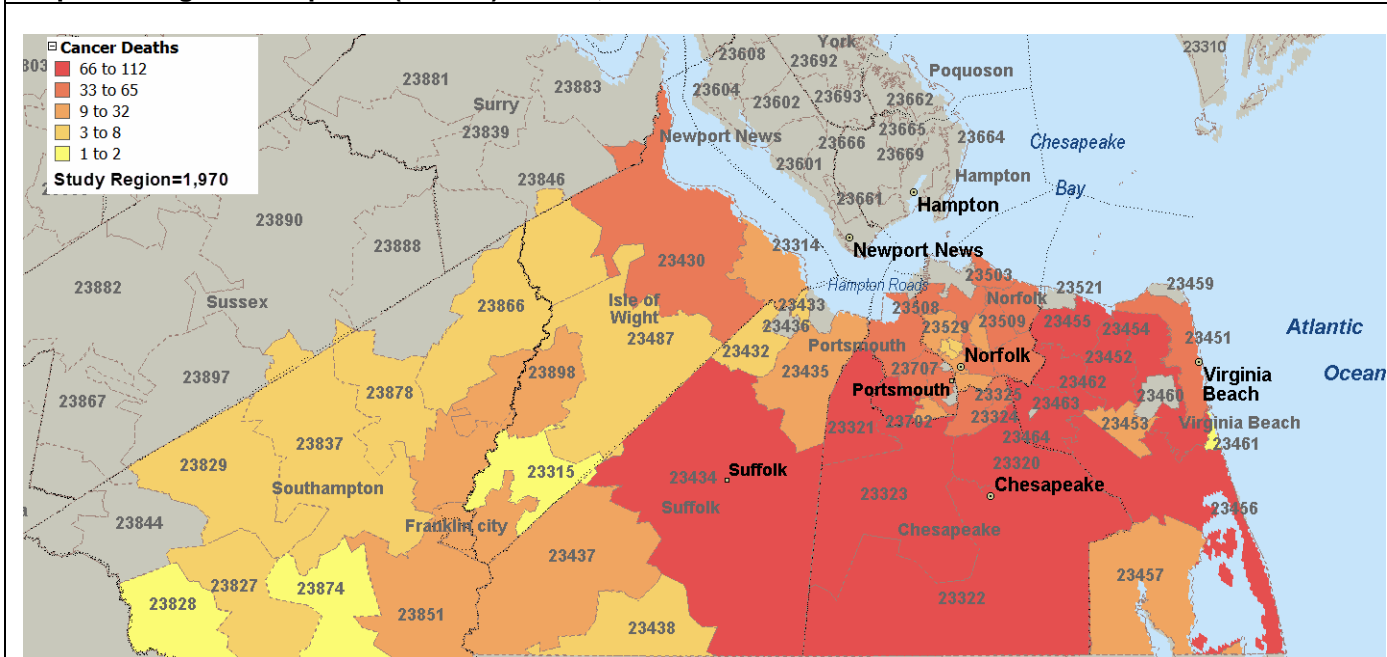
*There were no low income households estimated for zip codes 23460 and 23461.

**There were no persons age 25+ without a HS diploma estimated for zip code 23459.

Map 14: Total Deaths, 2011*



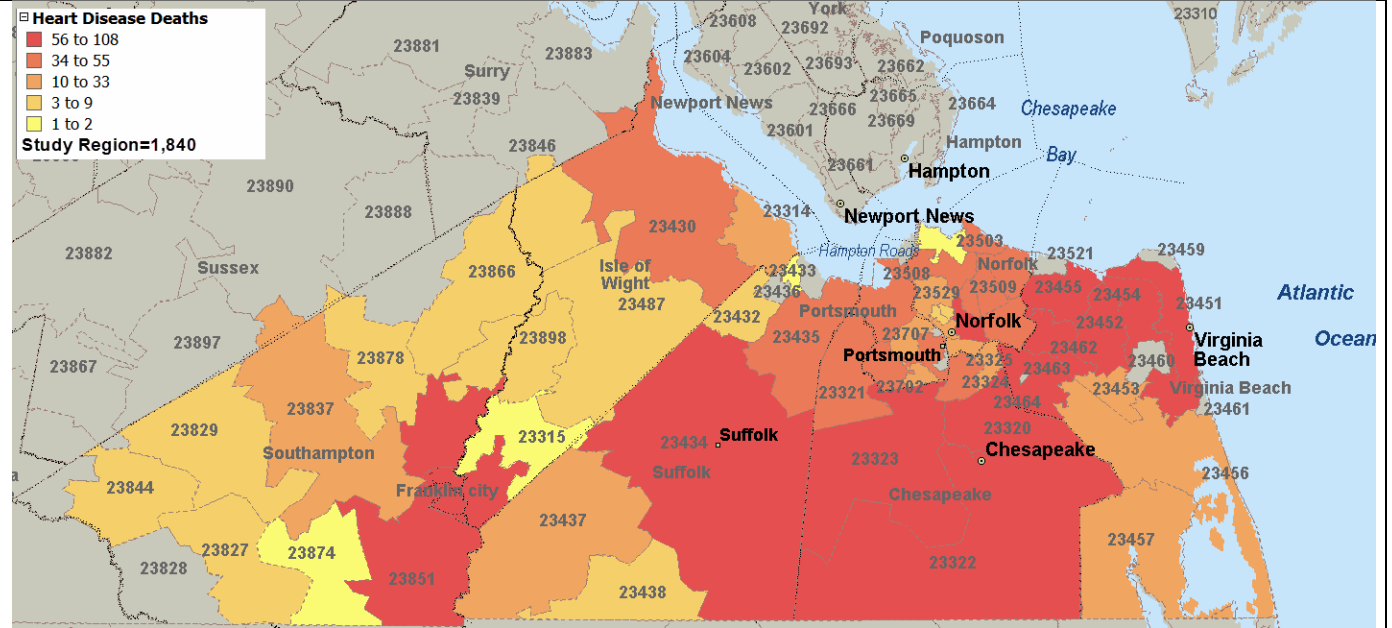
Map 15: Malignant Neoplasm (Cancer) Deaths, 2011**



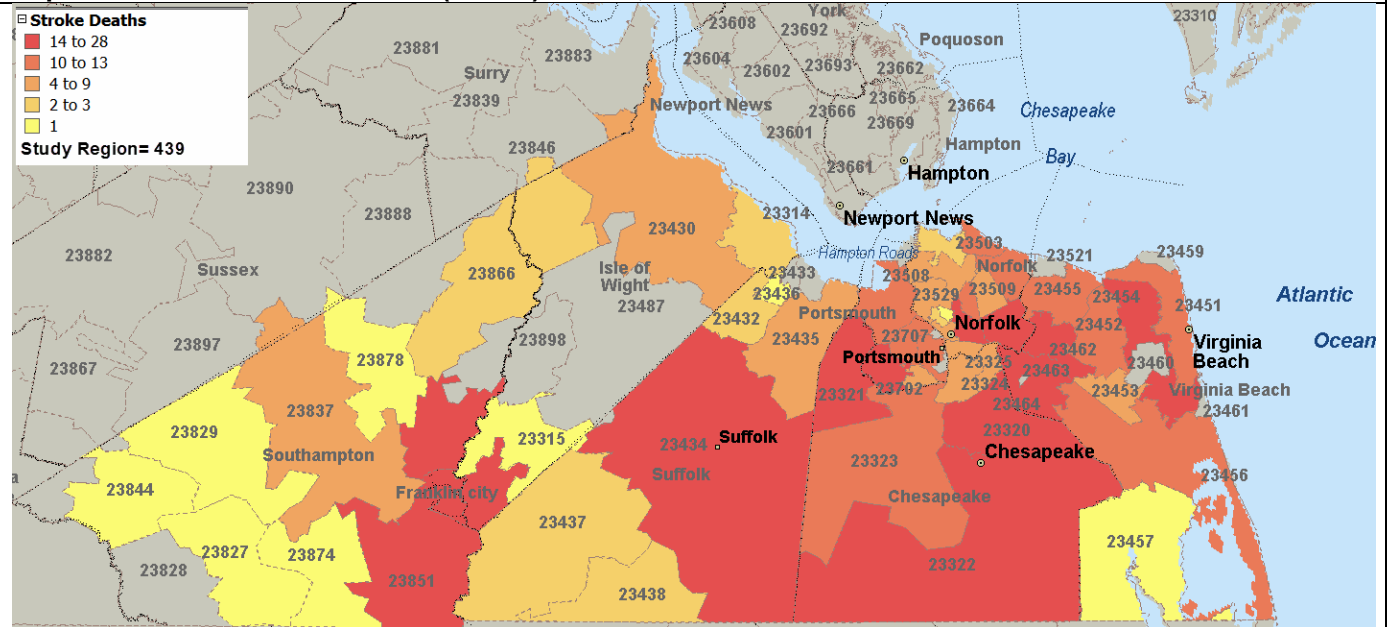
* There were no reported deaths for zip codes 23460 and 23463.

** There were no reported cancer deaths for zip codes 23460, 23463, 23459, 23511, 23436, and 23844.

Map 16: Heart Disease Deaths, 2011*



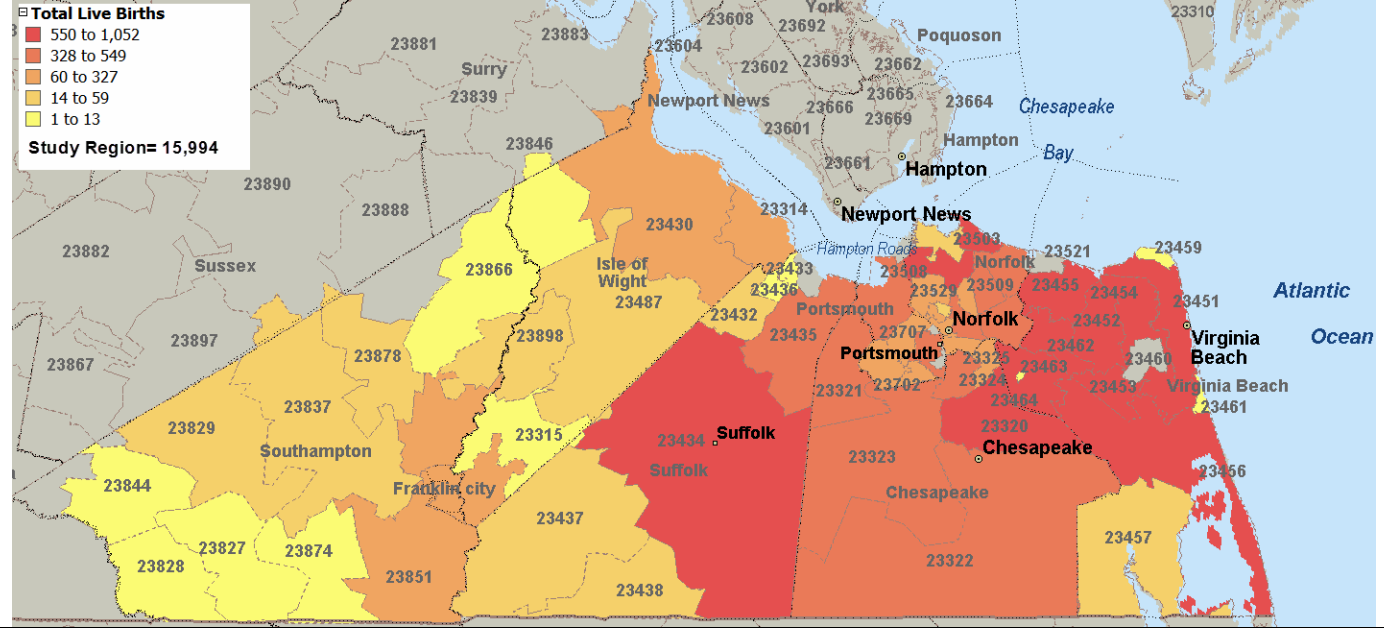
Map 17: Cerebrovascular Disease (Stroke) Deaths, 2011**



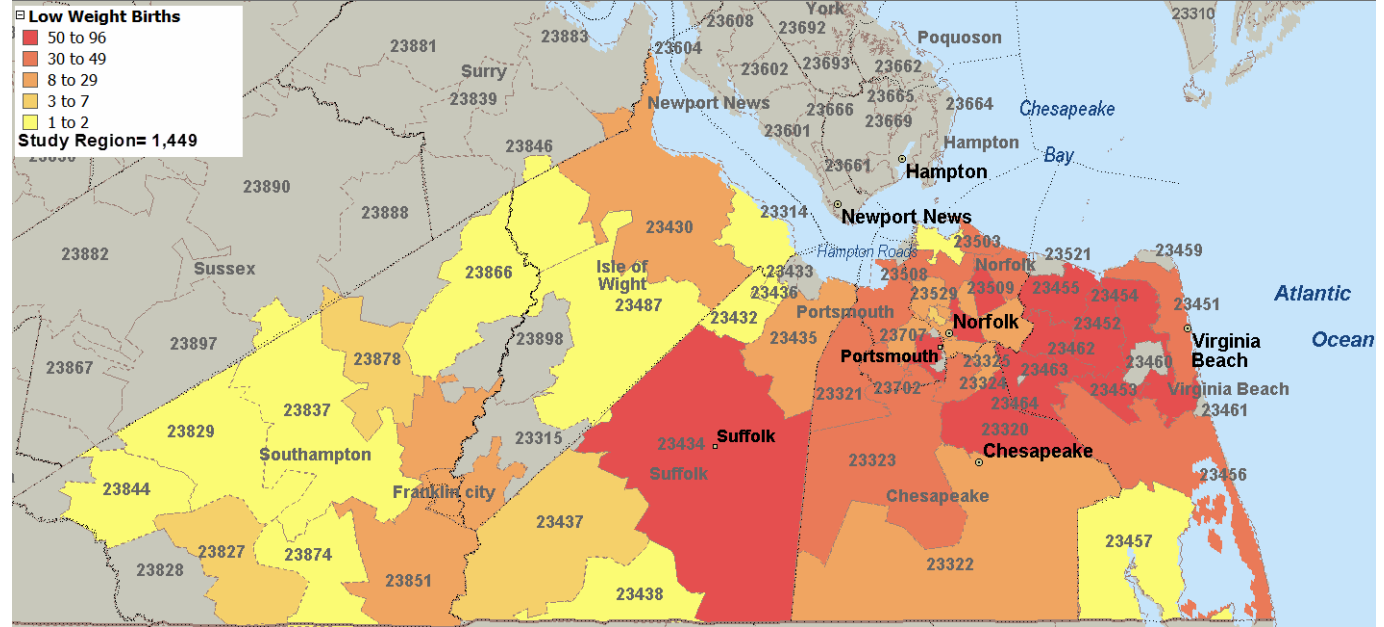
* There were no reported heart disease deaths for zip codes 23460, 23463, 23459, 23436, 23461, and 23828.

** There were no reported stroke deaths for zip codes 23460, 23463, 23459, 23461, 23828, 23433, 23898, and 23487.

Map 18: Total Live Births, 2011*



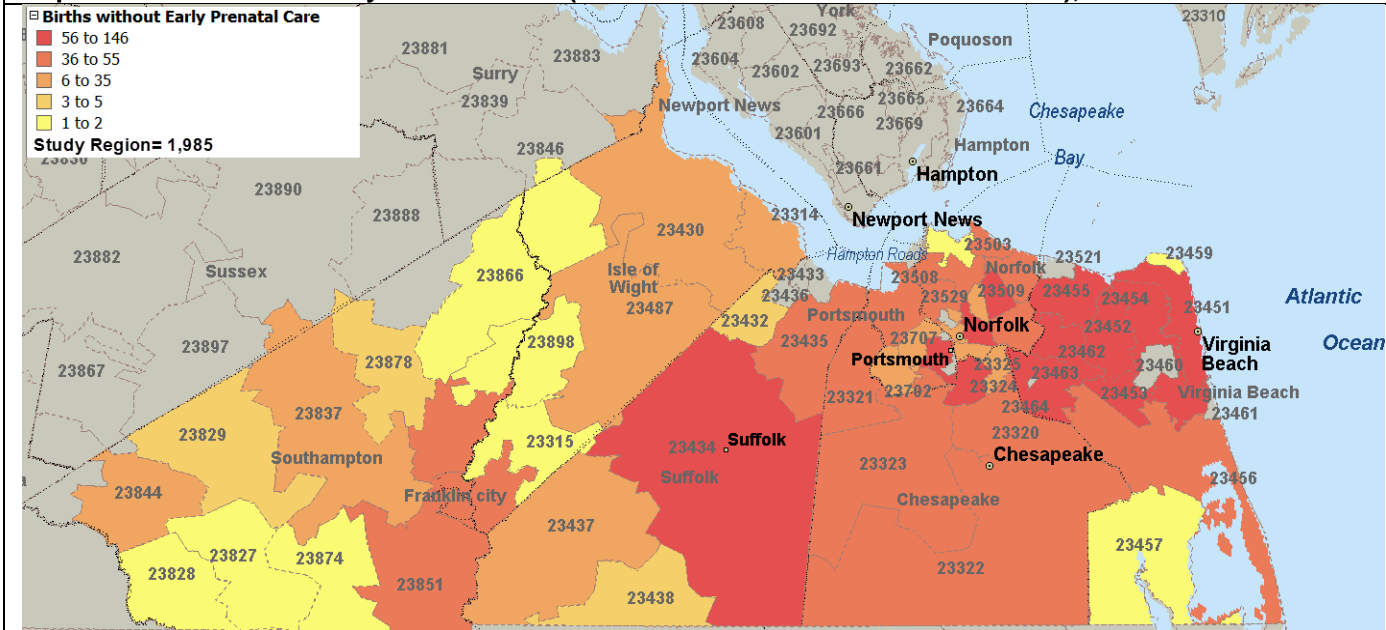
Map 19: Low Weight Births, 2011**



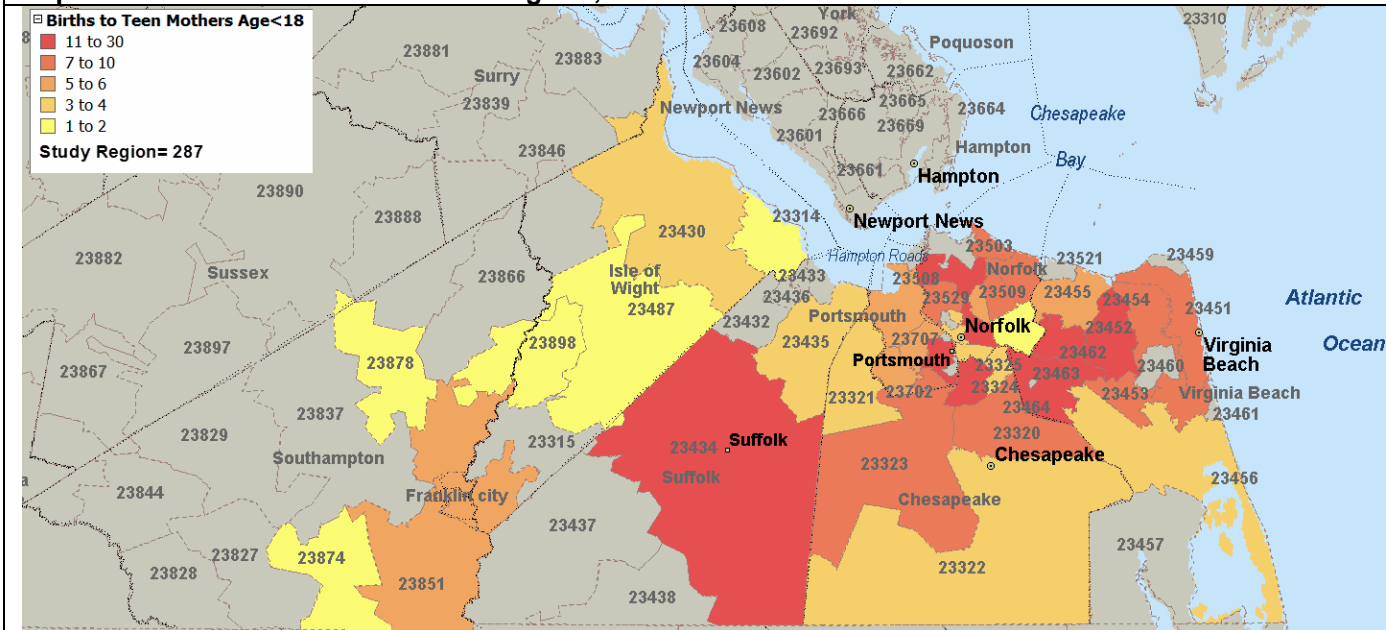
* There were no reported live births for zip codes 23460.

** There were no reported low weight births for zip codes 23460, 23461, 23828, 23463, 23459, 23315, 23433, and 23898.

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



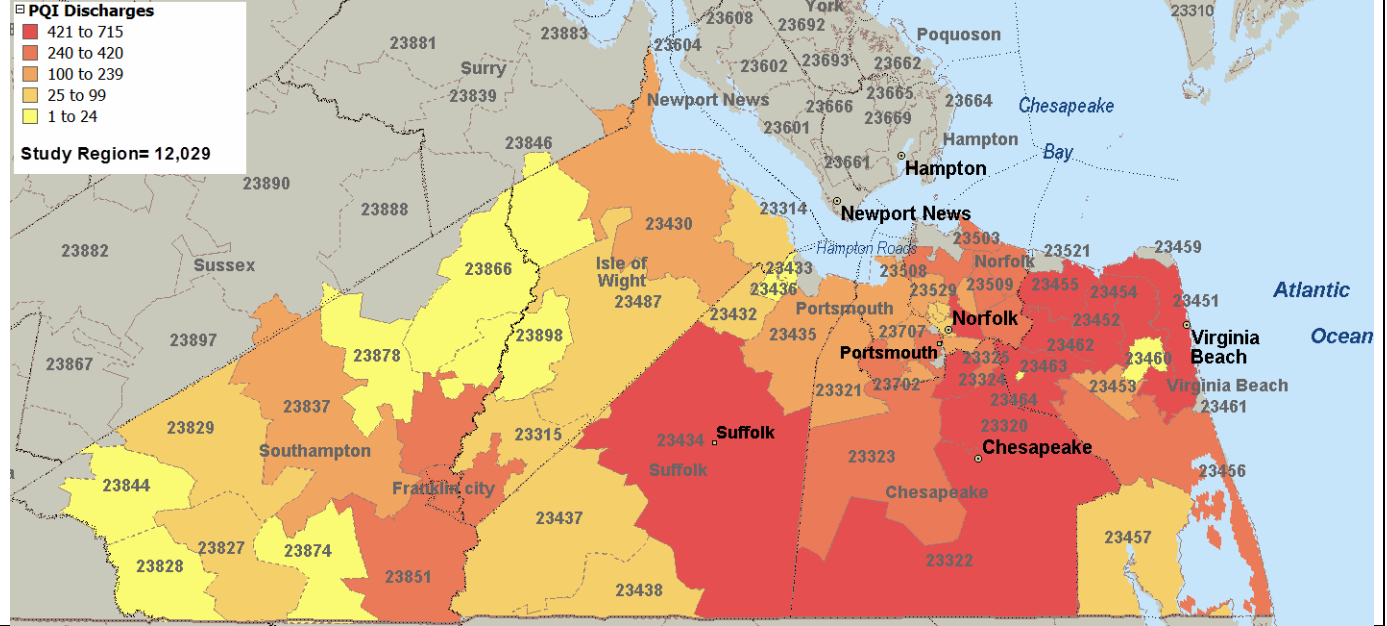
Map 21: Births to Teen Mothers Under Age 18, 2011**



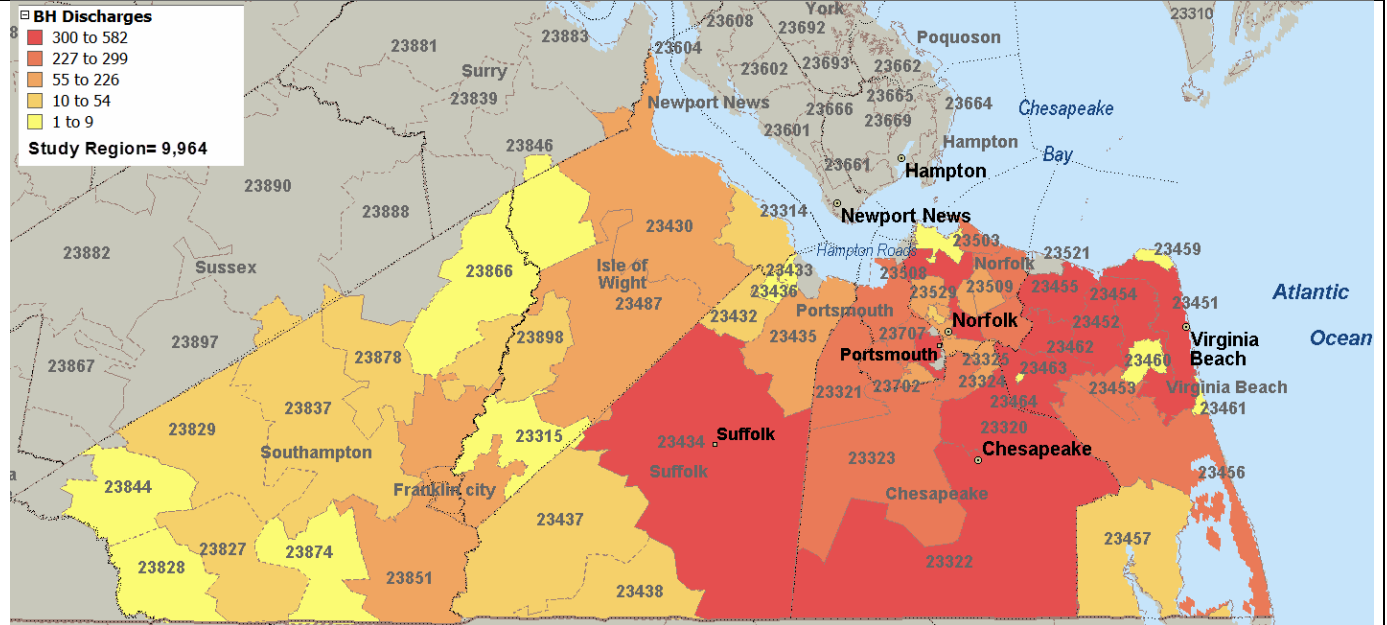
* There were no reported births without early prenatal care for zip codes 23460, 23461, 23463, 23433, 23436, and 23507.

** There were no reported births to teen mothers under age 18 for zip codes 23460, 23461, 23463, 23433, 23436, 23507, 23828, 23459, 23315, 23457, 23827, 23866, 23511, 23829, 23432, 23438, 23844, 23837, and 23437.

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

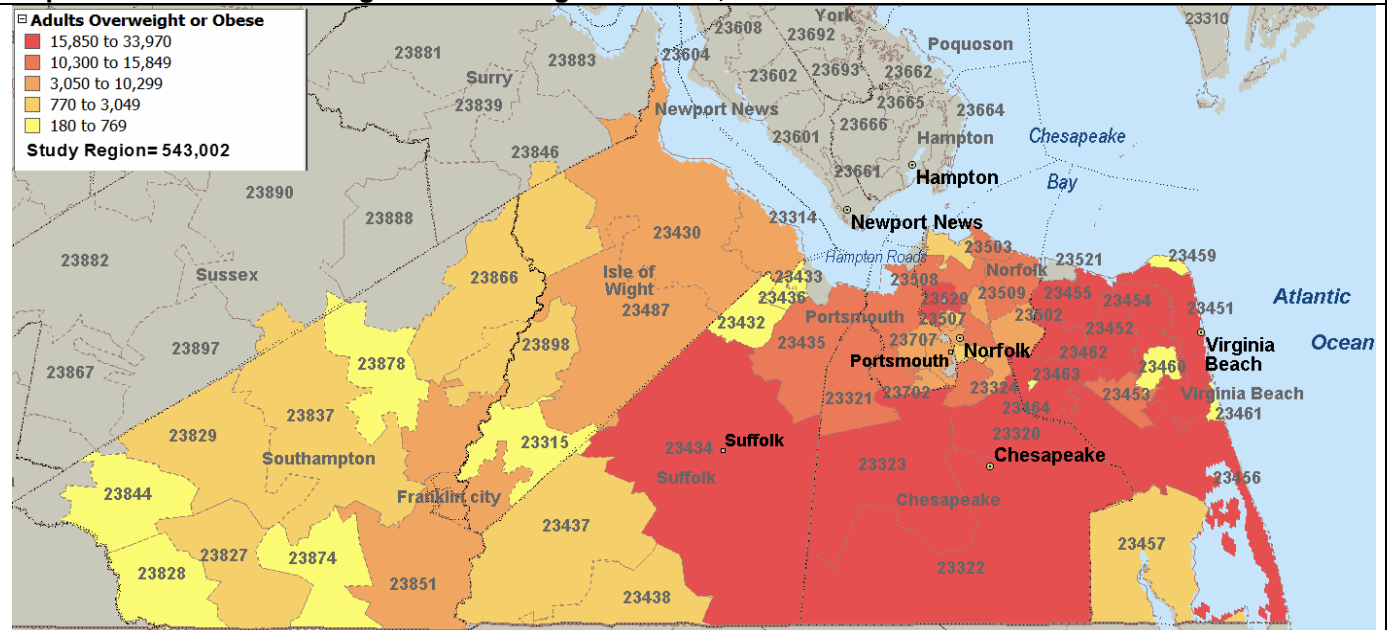


Map 23: Behavioral Health Hospital Discharges, 2011

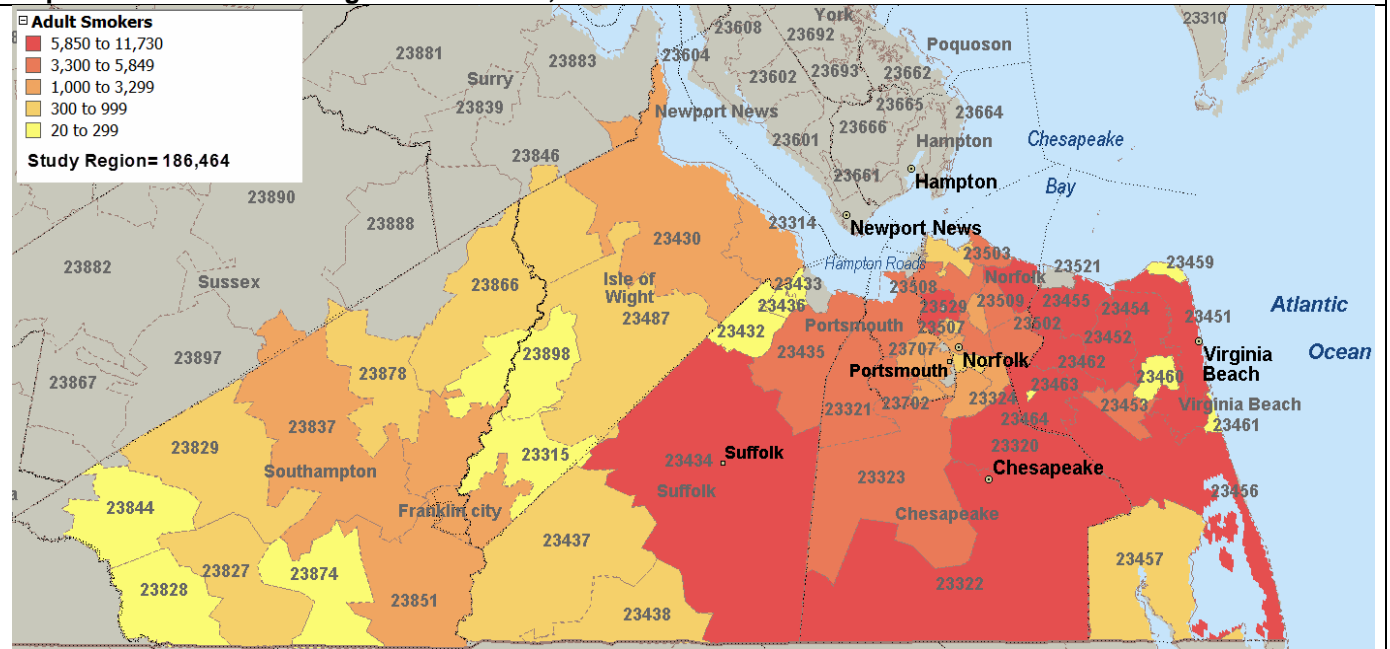


* There were no reported PQI discharges for zip codes 23461, 23459, and 23511.

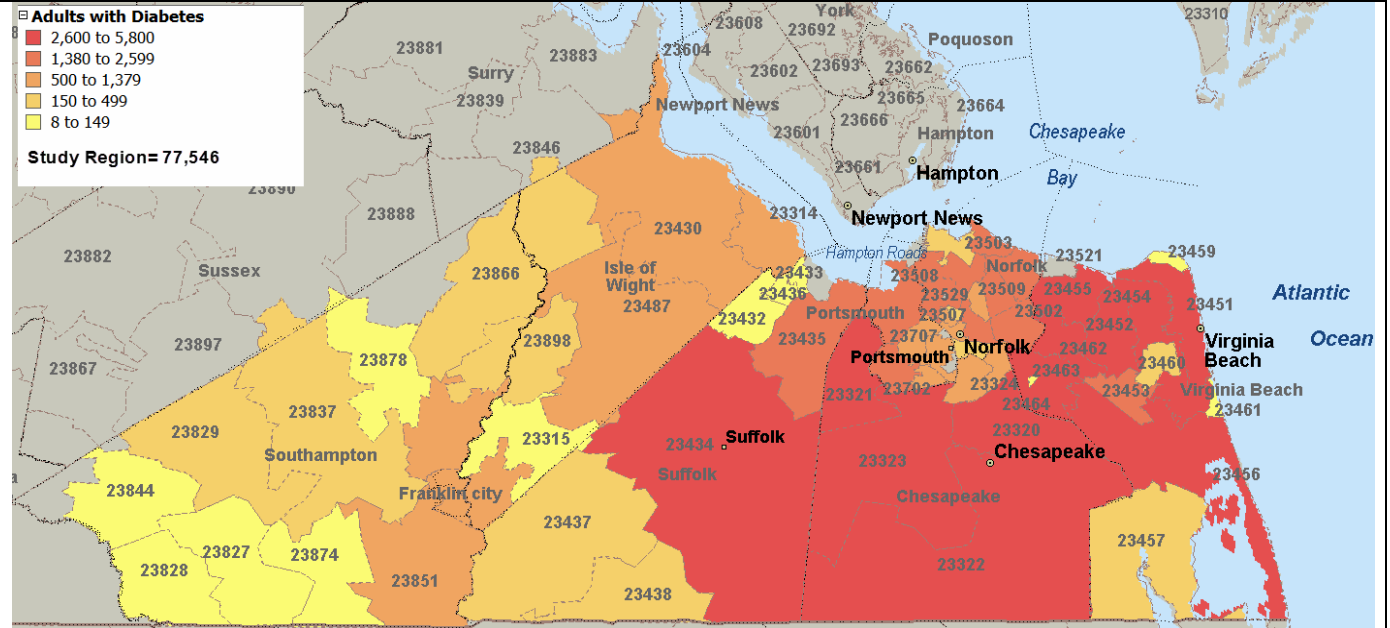
Map 24: Estimated Adults Age 18+ Overweight or Obese, 2012



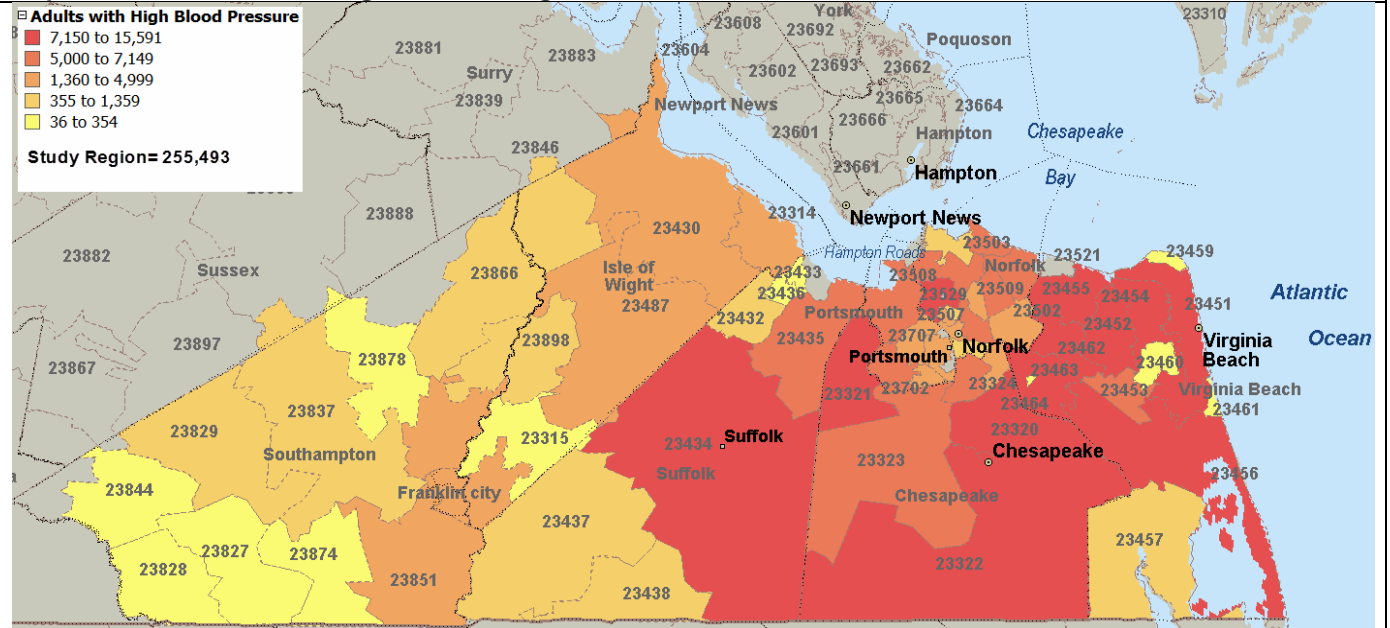
Map 25: Estimated Adult Age 18+ Smokers, 2012



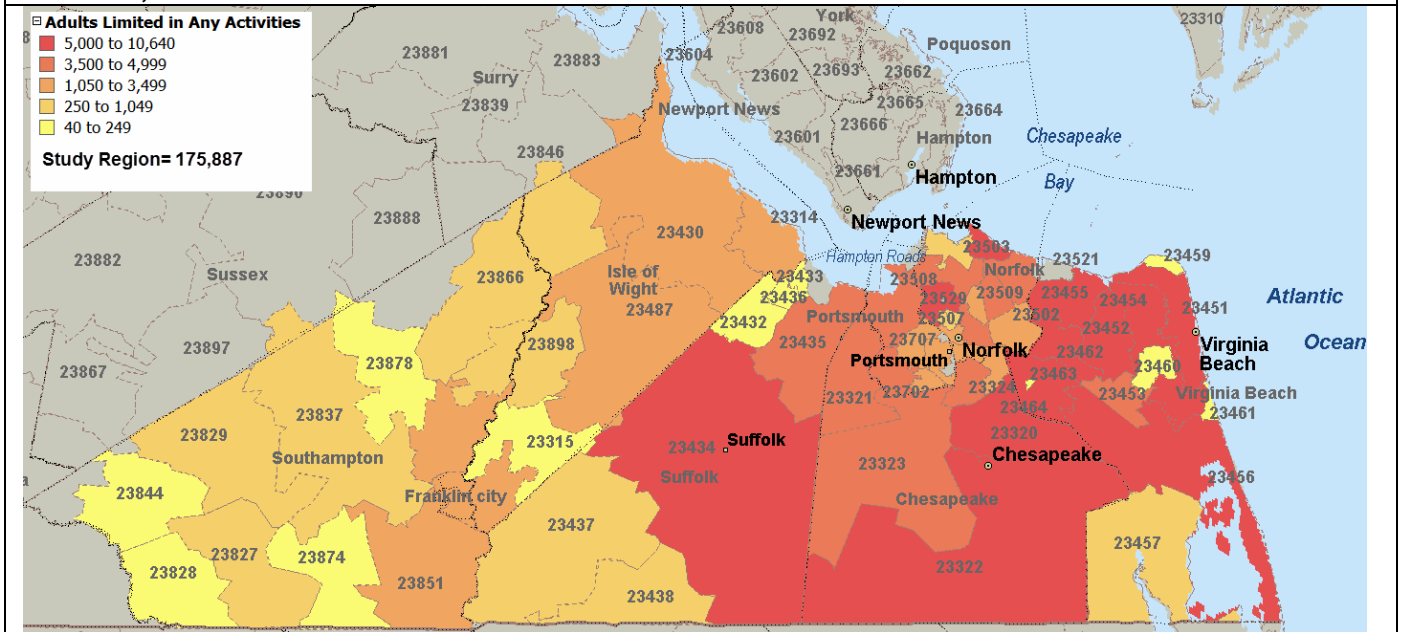
Map 26: Estimated Adults Age 18+ with Diabetes, 2012



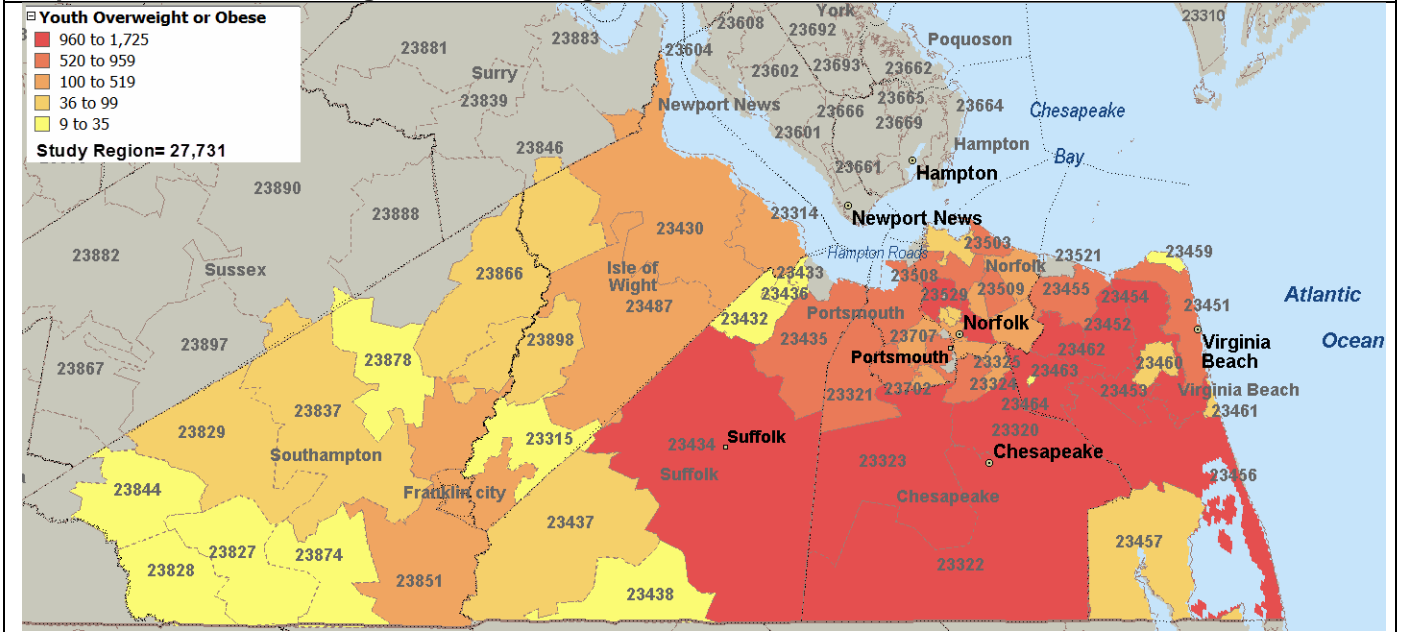
Map 27: Estimated Adults Age 18+ with High Blood Pressure, 2012



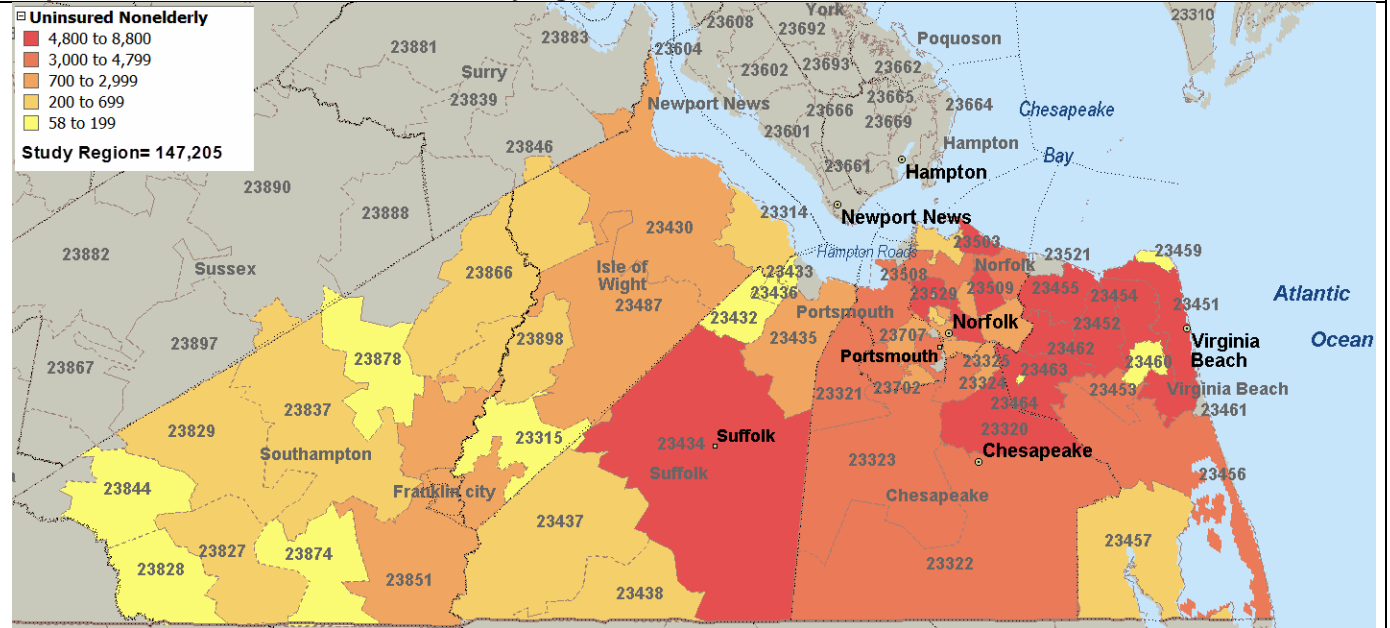
Map 28: Estimated Adults Age 18+ Limited in Any Activities because of Physical, Mental or Emotional Problems, 2012



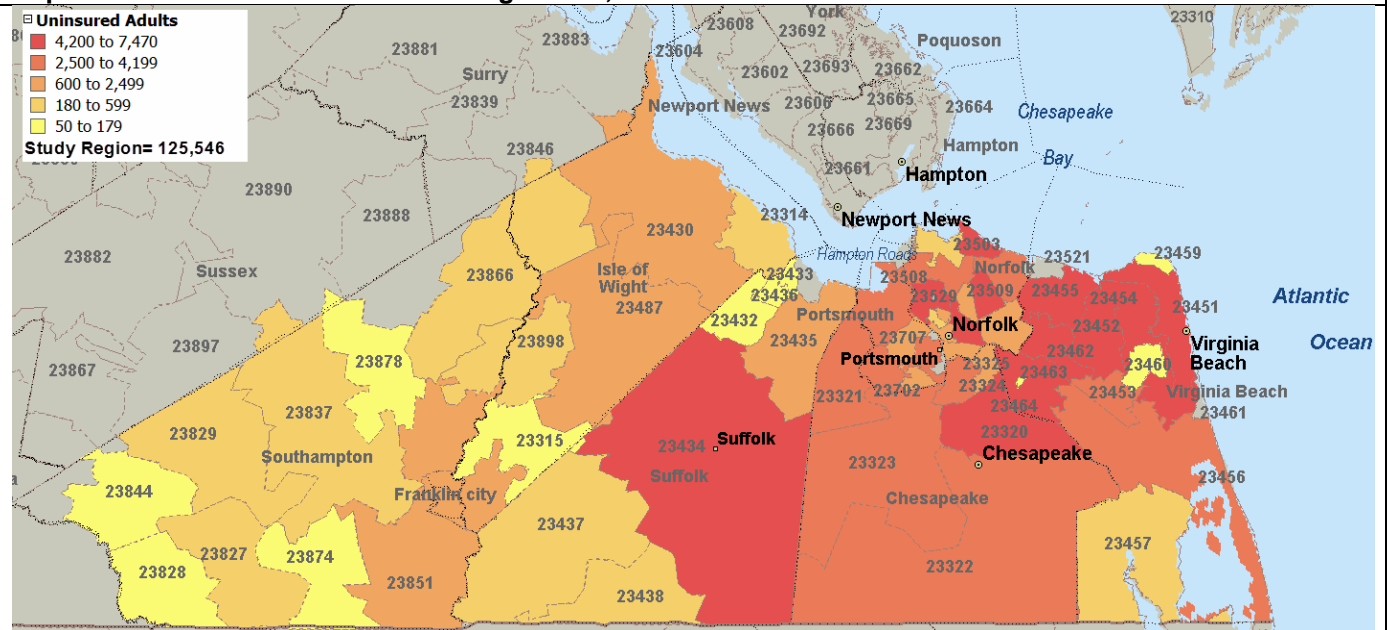
Map 29: Estimated Youth Age 14-19 Overweight or Obese, 2012



Map 30: Estimated Uninsured Nonelderly Age 0-64, 2012*



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



*There were no uninsured nonelderly residents (age 0-64) or adult residents (age 19-64) estimated for zip code 23461.

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	Ability to accept patients without insurance or with Medicaid.
2	1) Be able to take Medicaid patients. 2) Be willing to take [an] occasional self-pay patient. 3) Be able and willing to accept patient in need of both dialysis and mechanical ventilation.
3	Be more willing to work with other services in area. (Hospice, Home Health, Senior Living)
4	Can't think of any!
5	Community education needed with MD's and families about the service availability.
6	Continue to offer your great services by maintaining the facility and retaining the best staff.
7	Evaluation on how the HER can provide services to patients in Sentara hospitals, who will benefit from LTAC services but have financial constraints. This is a major issue.
8	Greater awareness in community of HER's role in healthcare delivery.
9	Marketing your hospital specialty and criteria more to healthcare professionals and general public.
10	1) Mental health needs are critically needed for all areas of Hampton Roads. 2) The availability of short and long term residential is horrible. 3) The homeless issue is definitely a part of the need for mental health services.
11	Partner with community based organizations to be sure that upon discharge the patient is connected with support services that they may need. For example our agency is implementing a pilot with Sentara Leigh to provide Care Transition services.
12	Publish a list of the type of patients that are appropriate, along with exclusions.
13	1) This is an excellent service for our patients. 2) More awareness in the community of the services that you offer. 3) More education of doctors that you are not a SNF or rehab unit but the purpose of the program.

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 <ul style="list-style-type: none"> • Appendix A: Maps 1-13 	Community Health Solutions analysis of population estimates from Alteryx, Inc. (2012 and 2017). Alteryx, Inc., a commercial vendor of demographic data. Note that demographic estimates may vary from other sources of local demographic indicators.
3) Mortality Profile <ul style="list-style-type: none"> • Appendix A: Maps 14-17 	Community Health Solutions analysis of Virginia Department of Health birth record data and rates (2011).
4) Maternal and Infant Health Profile <ul style="list-style-type: none"> • Appendix A: Maps 18-21 	Community Health Solutions analysis of Virginia Department of Health death record data and rates (2011).
5) Preventable Hospitalization Profile <ul style="list-style-type: none"> • Appendix A: Map 22 6) Behavioral Health Hospitalization Profile <ul style="list-style-type: none"> • 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 demographic data from Alteryx, Inc. (2011). 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 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 <ul style="list-style-type: none"> • Appendix A: Maps 24-28 	<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) • Demographic data from Alteryx, Inc. (2012) <p>Estimates are used when there are no primary sources of data available at the local level. 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. The statistical model to produce the estimates was developed by Community Health Solutions. Synthetic estimates are for planning purposes only and are not guaranteed for accuracy.</p>

<p>8) Youth Health Risk Factor Profile</p> <ul style="list-style-type: none"> Appendix A: Map 29 	<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 Survey from the Centers for Disease Control (2011); and Demographic data from Alteryx, Inc. (2012). <p>Estimates are used when there are no primary sources of data available at the local level. 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. The statistical model to produce the estimates was developed by Community Health Solutions. Synthetic estimates are for planning purposes only and are not guaranteed for accuracy.</p>
<p>9) Uninsured Profile</p> <ul style="list-style-type: none"> Appendix A: Maps 30-31 	<p>Estimates of uninsured nonelderly age 0-64 are based on Community Health Solutions analysis of:</p> <ul style="list-style-type: none"> Synthetic estimates for this profile were developed based on the <i>Profile of the Uninsured</i> report produced for Virginia Health Care Foundation by the Urban Institute (2011); and Demographic data from Alteryx, Inc. (2012) <p>Estimates are used when there are no primary sources of data available at the local level. 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. The statistical model to produce the estimates was developed by Community Health Solutions. Synthetic estimates are for planning purposes only and are not guaranteed for accuracy.</p>
<p>10) Medically Underserved Profile</p>	<p>Community Health Solutions analysis of U.S. Health Resources and Services Administration data.</p>