

# Community Health Needs Assessment

*Prepared for*  
INOVA LOUDOUN HOSPITAL

*By*  
VERITÉ HEALTHCARE  
CONSULTING, LLC

May 31, 2013

## ABOUT VERITÉ HEALTHCARE CONSULTING

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Verité Healthcare Consulting, LLC (Verité) was founded in May 2006 and is located in Alexandria, Virginia. The firm serves as a national resource that helps hospitals conduct community health needs assessments (CHNAs) and develop implementation strategies that address priority needs. The firm also helps hospital associations and policy makers with community benefit reporting, planning, program assessment, and policy and guidelines development. Verité is a recognized, national thought leader in community benefit and in the evolving expectations that tax-exempt healthcare organizations are being required to meet.

The CHNA prepared for Inova Loudoun Hospital was directed by the firm's president and managed by a senior-level consultant. Associates and research analysts supported the work. The firm's president, as well as all senior-level consultants and associates, hold graduate degrees in relevant fields.

More information on the firm and its qualifications can be found at [www.VeriteConsulting.com](http://www.VeriteConsulting.com).

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*Verité Healthcare Consulting's work reflects fundamental concerns regarding the health of vulnerable people and the organizations that serve them*

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# TABLE OF CONTENTS

<b>ABOUT VERITÉ HEALTHCARE CONSULTING</b> .....	<b>I</b>
<b>TABLE OF CONTENTS</b> .....	<b>II</b>
<b>INTRODUCTION</b> .....	<b>1</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>3</b>
Community-Wide Priority Needs .....	4
<b>APPENDIX</b> .....	<b>A-2</b>
<b>METHODOLOGY</b> .....	<b>A-3</b>
Analytic Methods.....	A-3
Prioritization Process and Criteria .....	<b>A-Error! Bookmark not defined.</b>
Information Gaps .....	<b>A-Error! Bookmark not defined.</b>
Collaborating Organizations .....	<b>A-Error! Bookmark not defined.</b>
<b>DEFINITION OF COMMUNITY ASSESSED</b> .....	<b>A-3</b>
<b>SECONDARY DATA ASSESSMENT</b> .....	<b>A-9</b>
Demographics .....	A-9
Economic Indicators .....	A-18
1. People in Poverty .....	A-18
2. Unemployment Rates.....	A-20
3. Homelessness.....	A-22
4. Crime.....	A-23
5. Commonwealth of Virginia and Local Budget Cuts.....	A-23
6. Utilization of Government Assistance Programs.....	A-25
7. Household Income .....	A-28
8. Insurance Status .....	A-29
County-Level Health Status and Access Indicators.....	A-33
1. County Health Rankings.....	A-34
2. Community Health Status Indicators Project.....	A-36
3. Virginia Department of Health .....	A-37
4. Behavioral Risk Factor Surveillance System.....	A-44
Ambulatory Care Sensitive Conditions .....	A-48
1. County-Level Analysis .....	A-48
2. ZIP Code-Level Analysis.....	A-49
3. Hospital-Level Analysis.....	A-49
Dignity Health’s Community Needs Index.....	A-53
Food Deserts .....	A-54
Chronic Disease .....	A-54
Medically Underserved Areas and Populations.....	A-56
Health Professional Shortage Areas.....	A-58
Description of Other Facilities and Resources within the Community .....	A-58
Findings of Other Recent Community Health Needs Assessments.....	A-60
1. The Commonwealth Institute for Fiscal Analysis .....	A-60
2. Loudoun County Board of Supervisors .....	A-61
3. Northern Virginia Health Foundation.....	A-61
4. Virginia Department of Health .....	A-62
5. The Center for Nonprofit Development and Pluralism (Washington Aids	

Partnership) .....	A-63
6. Loudoun County Health Department.....	A-63
7. Metropolitan Washington Council of Governments and Washington Regional Association of Grantmakers .....	A-64
8. Voices for Virginia’s Children.....	A-65
Secondary Data Indicators of Concern .....	A-66
<b>PRIMARY DATA ASSESSMENT .....</b>	<b>A-68</b>
Interview Findings .....	A-68
Community Survey Findings .....	A-70
1. Respondent Characteristics.....	A-71
2. Health Issues .....	A-71
3. Barriers to Access .....	A-72
4. Health Behaviors.....	A-76
Individuals Providing Community Input .....	A-79
1. Public Health Experts .....	A-79
2. Health or Other Departments or Agencies.....	A-79
3. Community Leaders and Representatives.....	A-80
4. Persons Representing the Broad Interests of the Community .....	A-82
<b>SOURCES.....</b>	<b>A-83</b>

## INTRODUCTION

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This community health needs assessment (CHNA) was conducted by Inova Loudoun Hospital (Inova Loudoun or the hospital) because the hospital wants to understand better community health needs and to develop an effective implementation strategy to address priority needs. The hospital also has assessed community health needs to respond to community benefit regulatory requirements.

Federal regulations require that tax-exempt hospitals provide and report community benefits to demonstrate that they merit exemption from taxation. As specified in the instructions to IRS Form 990, Schedule H, community benefits are programs or activities that provide treatment and/or promote health and healing as a response to identified community needs.

Community benefit activities or programs seek to achieve objectives, including:

- improving access to health services,
- enhancing public health,
- advancing increased general knowledge, and
- relief of a government burden to improve health.<sup>1</sup>

To be reported, community need for the activity or program must be established. Need can be established by conducting a community health needs assessment.

The 2010 Patient Protection and Affordable Care Act (PPACA) requires each tax-exempt hospital to “conduct a [CHNA] every three years and adopt an implementation strategy to

meet the community health needs identified through such assessment.”<sup>2</sup>

CHNAs seek to identify priority health status and access issues for particular geographic areas and populations by focusing on the following questions:

- **Who** in the community is most vulnerable in terms of health status or access to care?
- **What** are the unique health status and/or access needs for these populations?
- **Where** do these people live in the community?
- **Why** are these problems present?

The question of **how** the organization can best use its limited charitable resources to address priority needs will be the subject of the hospital’s Implementation Strategy.

This assessment considers multiple data sources, including secondary data (regarding demographics, health status indicators, and measures of health care access), assessments prepared by other organizations in recent years, and primary data derived from a community survey and from interviews with persons who represent the broad interests of the community, including those with expertise in public health.

The following topics and data are assessed in this report:

- Demographics, e.g., numbers and locations of vulnerable people;

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<sup>1</sup> Instructions for IRS Form 990, Schedule H, 2011.

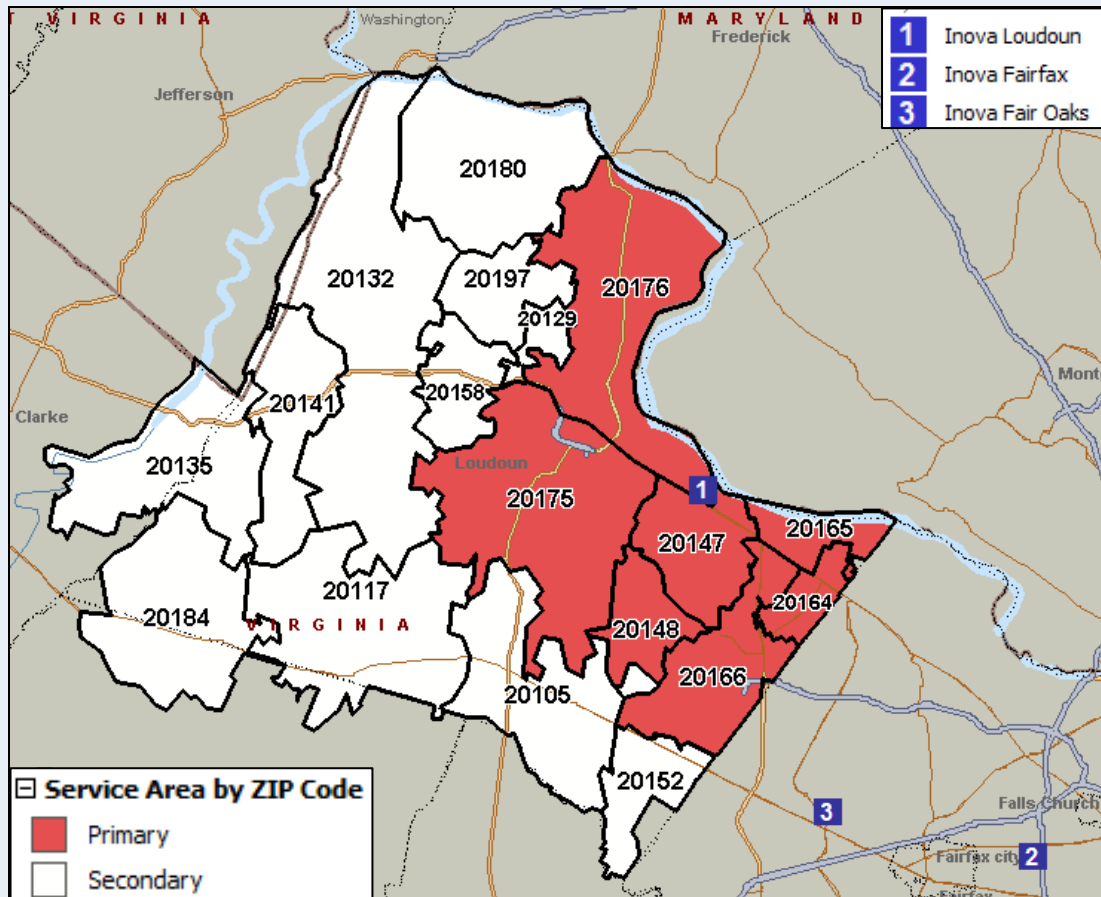
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<sup>2</sup> Patient Protection and Affordable Care Act.

- Economic issues, e.g., poverty and unemployment rates, and impacts of state or local budget changes;
- Community issues, e.g., homelessness, housing, environmental concerns, crime, and availability of social services;
- Health status indicators, e.g. morbidity rates for various diseases and conditions, and mortality rates for leading causes of death;
- Health access indicators, e.g., uninsurance rates, discharges for ambulatory care sensitive conditions (ACSC), and use of emergency departments for non-emergent care;
- Health disparities indicators; and
- Availability of healthcare facilities and resources.

This assessment identifies a prioritized list of community health needs. Inova Loudoun Hospital will be preparing an Implementation Strategy that describes how the hospital plans to address the identified needs.

## EXECUTIVE SUMMARY



### Inova Loudoun Hospital Community By the Numbers

- 19 ZIP codes in 2 counties: Loudoun and Fauquier
- 5 subregions: Ashburn/Arcola, Leesburg, South Riding/Aldie, Sterling/Dulles, West Loudoun
- Estimated Population (2012): 350,081
- 77% of community population resides in the primary service area (2012)
- Projected population change (2013-2018):
  - Growth of 5% in primary service area and 6% in secondary service area
  - 10% increase in 65+ population
- Below average poverty rates with pockets of low-income people
- Disparities:
  - Black and Hispanic (or Latino) populations more likely to be unemployed and/or living in poverty
- Growing diversity:
  - Rapidly growing Asian and Hispanic (or Latino) populations
  - 38% non-White by 2018
- 13% of Inova Loudoun Hospital discharges for ambulatory care sensitive conditions (ACSC)

The Inova Loudoun community benchmarks favorably on a variety of health indicators compared to national and Virginia averages. However, health status and access problems are present and this assessment seeks to identify the most pressing issues.

The county is expecting the highest population growth in the Northern Virginia area. Such rapid growth will increase demand for health services. Overall, the population living in the community is anticipated to increase 26.2 percent between 2008 and 2013 and is anticipated to increase by another 5.1 percent between 2013 and 2018. Asian and Hispanic (or Latino) populations are expected to increase at higher rates than other cohorts.

Loudoun County is comparatively wealthy, but problematic health disparities exist for low-income populations and racial and ethnic minorities.

Poverty and unemployment can create barriers to access (to health services, healthy food, and other necessities) and thus contribute to poor health. Although overall the community had lower overall poverty and unemployment rates than the Virginia average, lower income and uninsured people are located in West Loudoun and Sterling/Dulles (ZIP codes 20166 and 20164). These areas are home to relatively high proportions of non-White residents.

Parts of Loudoun County contain Medically Underserved Areas and Populations (MUAs/MUPs).

Virginia has enacted budget reductions that affect health and human service providers. These reductions affect children and youth services, aging and elderly services, mental health programs and services, health services for indigent and low-income populations, and public health departments.

Thirteen percent of Inova Loudoun Hospital discharges were found to be for ambulatory care sensitive conditions (ACSC) or potentially preventable if patients were accessing primary care resources at optimal rates. About half are for patients 65 years of age and older; the most common conditions for those patients were congestive heart failure, chronic obstructive pulmonary disease, urinary tract infection, and bacterial pneumonia.

## **Community-Wide Priority Needs**

Poor health status can result from a complex interaction of challenging social, economic, environmental, and behavioral factors combined with a lack of access to care. Addressing these “root” causes is an important way to improve a community’s quality of life and to reduce mortality and morbidity.

The table that follows describes the community health needs identified throughout the assessment as priorities across the community served by the hospital. The needs are listed by category in alphabetical order.



## Access to Health and Human Services

- **Insufficient Collaboration and Coordination Among Organizations Providing Health and Social Services**

Health needs in the community would be better addressed if collaboration among community-wide health care providers, facilities, and agencies providing health and social services were enhanced. Stakeholders expressed a need for comprehensive integration and coordination of care across the community-wide system of services and providers. Effective communication and active relationships between these organizations would be beneficial, especially to vulnerable populations.

- **Lack of Affordable and Accessible Primary and Specialty Care and Insurance**

Certain groups in Loudoun County's rapidly growing population have difficulty accessing health care services and insurance. These groups include people living in Ashburn/Arcola, Leesburg, South Riding/Aldie, and West Loudoun. Access to specialty care is particularly problematic for Medicaid and uninsured patients.

- **Lack of Access to Preventive Care**

Residents in Leesburg and the western part of Loudoun County experience comparatively high rates of ambulatory care sensitive hospital admissions that could be avoided with improved access to primary and preventive care.

- **Lack of Transportation to Health and Human Services**

Community residents experience difficulty accessing services due to gaps in Loudoun County's public transportation systems and traffic congestion.

- **Language Barriers and Need for Additional Culturally Competent Care Providers**

Culturally competent health services and health system navigation services are needed as diversity within Loudoun County increases.

## Chronic Disease

- **Disparities in Cancer Mortality**

Cancer mortality is comparatively high in certain non-White populations. Loudoun County reports comparatively high mortality rates for prostate cancer in the "Other"<sup>3</sup> population (people who do not identify as White or Black) and for Leukemia, lung, and pancreatic cancers in the Black population.

- **Disparities in Chronic Liver Disease and Cirrhosis Mortality**

Chronic liver disease and cirrhosis mortality is comparatively high in Black and "Other"<sup>3</sup> (non-White, non-Black) populations.

- **Disparities in Diabetes Mortality**

Loudoun County reports comparatively high rates of diabetes mortality in the "Other"<sup>3</sup> (non-White, non-Black) population. Stakeholders are concerned about the prevalence of diabetes in the community.

## Dental Health

- **Lack of Access to Dental Care and Poor Dental Health Status**

Additional, affordable dental care services are needed for low-income adults to improve dental health outcomes.

## Health Behaviors

- **Alcohol Abuse**

Efforts to reduce alcohol misuse are needed due to comparatively high rates of heavy drinking in Loudoun County.

## Maternal and Child Health

- **Disparities in Infant Health Outcomes**

Services (including enhanced prenatal care in the first trimester) are needed to reduce comparatively high infant mortality rates in Black, Hispanic (or Latino), and other non-White population groups. Services also

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<sup>3</sup> "The "Other" population includes residents who identify as American Indian/Native American, Asian/Pacific Islander, two or more races, or some other race.

are needed to reduce the number of low birth weight infants for minority groups.

### **Mental Health**

- **Lack of Access to Mental Health Services and Poor Mental Health Status**

Additional, comprehensive mental health services are needed to address the needs of children/adolescents, uninsured/underinsured residents, individuals with substance abuse issues, and persons with chronic/severe mental illness.

### **Morbidity**

- **High Rates of Lyme Disease**

Interventions are needed to respond to relatively high rates of Lyme disease.

- **High Rates of Overweight/Obesity**

Interventions are needed to reduce rates of obesity and overweight status in adults and children.

- **High Rates of Tuberculosis**

While Loudoun County has fewer than 20 people annually diagnosed with Tuberculosis, the county's incidence rate is above the Virginia average.

### **Physical Environment**

- **Poor Air Quality**

Loudoun County has comparatively high concentrations of airborne particulate matter and ozone.

### **Social and Economic Factors**

- **Basic Needs Insecurity**

The economic downturn, combined with a comparatively high cost of living, has led to difficulties accessing affordable food and shelter, especially for residents in Sterling/Dulles. The economic downturn also has led to pockets of unemployment and community concerns about homelessness.

# APPENDIX

# METHODOLOGY

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## Analytic Methods

This Appendix begins by identifying the communities served by Inova Loudoun. Findings based on various quantitative analyses regarding health needs in those areas are discussed, followed by a review of health assessments conducted by other organizations in recent years.

The Appendix then presents information obtained from interviews with stakeholders who represent the broad interests of the community, including public health officials and experts, and Inova Loudoun-affiliated clinicians, administrators, and staff. Interviews were conducted from March through August of 2012. The assessment also considers information obtained from a public community survey.

Identifying priority community health needs involves benchmarking and trend analysis. Statistics for several health status and health access indicators are analyzed and compared to state-wide and national benchmarks or goals. The assessment considers multiple data sources, including indicators from local, state, and federal agencies. Including multiple data sources and stakeholder views is important when assessing the level of consensus that exists regarding community health needs. If alternative data sources including interviews support similar conclusions, then confidence is increased regarding the most problematic health needs in a community.

## Prioritization Process and Criteria

Verité applied a ranking methodology to help prioritize the community health needs identified by the assessment. Verité listed the identified health issues and assigned to each a severity score based on the extent to which indicators exceeded Virginia or U.S. averages. An average severity score was calculated for each category of data (secondary data, previous assessments, interviews, and survey data) to account for the number of sources that measured each health issue. These averages were assigned a weight: 40 percent, 10 percent, 40 percent, and 10 percent, respectively. A final score was calculated by summing the weighted averages. **Exhibit 1** illustrates this process for three example indicators.

**Exhibit 1: Example Prioritization Process by Data Source and Indicator, Loudoun County**

Data Source	Alcohol Use	Lyme Disease	Language Barriers
County Health Rankings	2	-	-
Community Health Status Indicators Project	-	-	-
Virginia Public Health Data	-	-	-
Healthy People 2010	-	-	-
Behavioral Risk Factor Surveillance Survey	2	-	-
U.S. Census	-	-	2
<b>Secondary Data - Weighted Average (40%)</b>	<b>0.8</b>	-	<b>0.8</b>
Previous Assessments	-	2	-
<b>Previous Assessments - Weighted Average (10%)</b>	-	<b>0.2</b>	-
Interviews	1	2	2
<b>Interviews - Weighted Average (40%)</b>	<b>0.4</b>	<b>0.8</b>	<b>0.8</b>
Community Survey	-	0	2
<b>Community Survey - Weighted Average (10%)</b>	-	<b>0.0</b>	<b>0.2</b>
<b>Final Score</b>	<b>1.2</b>	<b>1.0</b>	<b>1.8</b>

Source: Verité Analysis, 2012.

The methodology takes into account severity scores for each health issue and the number of sources that measure each issue.

### Information Gaps

No information gaps have affected Inova Loudoun’s ability to reach reasonable conclusions regarding community health needs.

### Collaborating Organizations

For this assessment, Inova Loudoun Hospital collaborated with Inova Alexandria Hospital, Inova Fairfax Medical Campus, Inova Fair Oak Hospital, and Inova Mt. Vernon Hospital.

## DEFINITION OF COMMUNITY ASSESSED

This section identifies the community assessed by Inova Loudoun. Verité relied on Inova Loudoun’s current service area definitions to identify the communities to be assessed. The definitions were based on the geographic origins of hospital discharges.

Inova Loudoun’s community is comprised of 19 ZIP codes (and five subregions) that extend into (and overlap with) Loudoun and Fauquier counties (**Exhibits 2 and 3**). The hospital is located in Leesburg (ZIP code 20176).

### Exhibit 2: Community Population, 2012

Service Area and Subregion	2012 Population*	Percent of Population 2012
<b>Primary Service Area</b>		
Ashburn/Arcola	97,202	27.8%
Leesburg	77,760	22.2%
Sterling/Dulles	95,127	27.2%
<b>Primary Service Area Total</b>	<b>270,089</b>	<b>77.2%</b>
<b>Secondary Service Area</b>		
South Riding/Aldie	33,970	9.7%
West Loudoun (Fauquier)	1,112	0.3%
West Loudoun (Loudoun)	44,910	12.8%
<b>Secondary Service Area Total</b>	<b>79,992</b>	<b>22.8%</b>
<b>Combined Service Areas Total</b>	<b>350,081</b>	<b>100.0%</b>

*77.2% of the Inova Loudoun community population resided in the primary service area*

...

*Loudoun County accounts for 99.7% of the community population*

Source: The Metropolitan Washington Council of Governments, 2012.  
 \*2012 projections based on Verité analysis of 2008 and 2013 population data.

In 2012, the Inova Loudoun community had an estimated population of approximately 350,000 persons. Approximately 77 percent of the population resided in the primary service area (**Exhibit 2**).

Some health indicators only are available at a county-wide or city-wide level of detail. When assessing these indicators, it is important to take into account the percentage of the total community population that resides in each county. **Exhibit 3** shows that Inova Loudoun community ZIP codes account for less than two percent of Fauquier County’s total population. Accordingly, caution should be used when assessing data available only for Fauquier County as a whole.

### Exhibit 3: Community and County Population Overlap, 2012

County	Community Population*	Percent of Community Population	Total County Population*	Community Percent of Total County
Fauquier County	1,112	0.3%	66,849	1.7%
Loudoun County	348,969	99.7%	320,160 <sup>4</sup>	100.0%
<b>Total</b>	<b>350,081</b>	<b>100.0%</b>	<b>387,010</b>	<b>90.5%</b>

Sources: The Metropolitan Washington Council of Governments, 2012, and U.S. Census Bureau, 2011.

\* County population estimates were based on Verité analysis of data from the U.S. Census Bureau, American Community Survey, 5 Year Estimates 2006-2010. Community population estimates are based on Verité analysis of 2008 demographic data.

\*\* Fauquier County contains a low percentage of Inova Loudoun patients. Therefore, Fauquier County is excluded from county-level analyses throughout this report.

The community was defined based on the geographic origins of Inova Loudoun inpatients. In 2010, approximately 72 percent of the hospital's inpatients originated from the primary service area (**Exhibit 4**). Loudoun County collectively accounted for 87 percent of the hospital's inpatient discharges.

The community definition was confirmed by examining the geographic origin of emergency department encounters. In 2010, nearly 84 percent of Inova Loudoun's emergency department visits originated from ZIP codes in its primary and secondary service areas (**Exhibit 4**).

### Exhibit 4: Inova Loudoun Inpatient Discharges and Emergency Department Visits by Subregion, 2010

Service Area and Subregion	Percent of Discharges	Percent of ED Visits
<b>Primary Service Area</b>		
Ashburn/Arcola	21.1%	22.5%
Leesburg	31.2%	29.4%
Sterling/Dulles	19.7%	17.9%
<b>Primary Service Area Total</b>	<b>72.0%</b>	<b>69.7%</b>
<b>Secondary Service Area</b>		
South Riding/Aldie	2.4%	2.1%
West Loudoun (Fauquier)	0.0%	0.1%
West Loudoun (Loudoun)	12.8%	11.9%
<b>Secondary Service Area Total</b>	<b>15.3%</b>	<b>14.0%</b>
<b>Combined Service Areas Total</b>	<b>87.3%</b>	<b>83.7%</b>
<b>Other Areas</b>	<b>12.7%</b>	<b>16.3%</b>
<b>All Discharges</b>	<b>10,048</b>	<b>66,114</b>

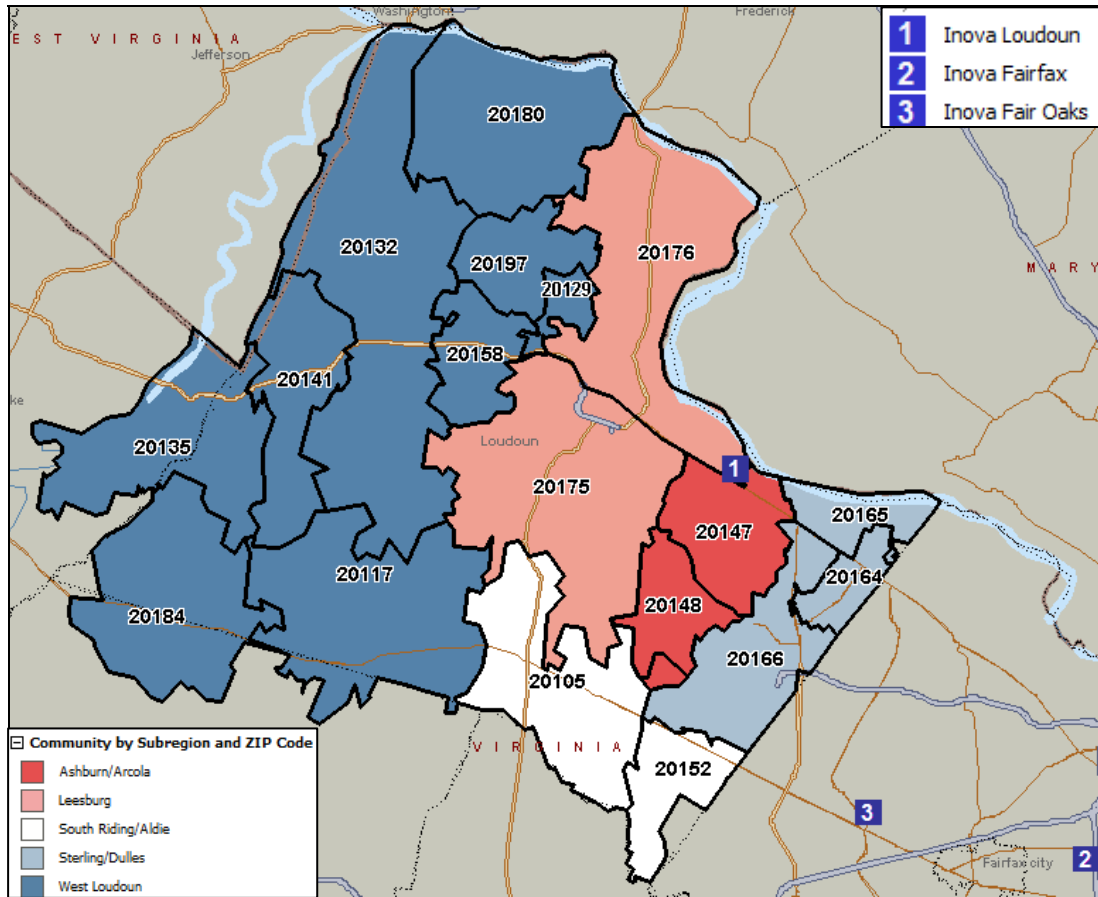
Source: Health Systems Agency of Northern Virginia, 2011 and Emergency Department Data, 2011.

*Leesburg had the highest proportion of Inova Loudoun's inpatient discharges and emergency department visits*

<sup>4</sup> Different data were used to calculate community and jurisdiction populations causing the population of Loudoun County as a whole to be reported as lower than the population in the ZIP codes in Loudoun County served by Inova Loudoun. Inova Loudoun serves the entirety of Loudoun County

Exhibits 5 and 6 present maps that show the ZIP codes that comprise each subregion and the primary and secondary service areas of the hospital.

**Exhibit 5: Community Map by Subregion and ZIP Code**



Sources: Microsoft MapPoint and Inova Loudoun, 2012.

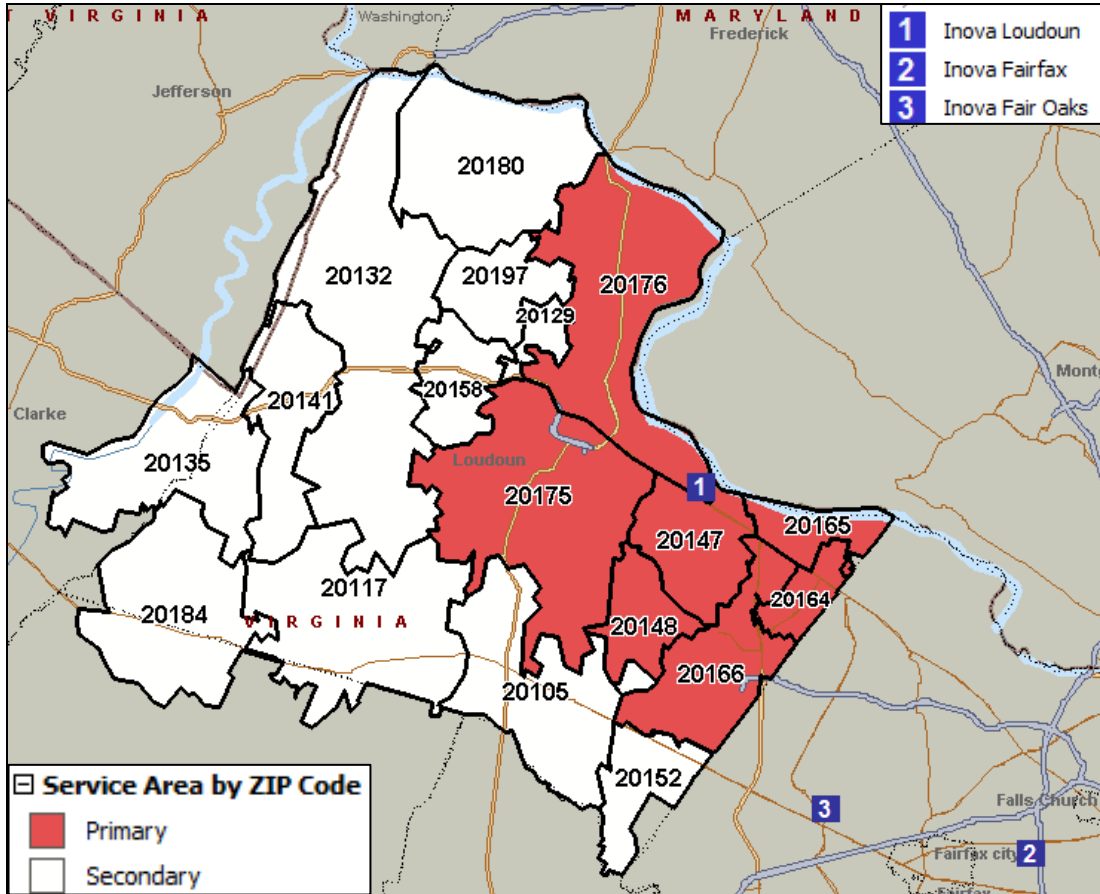
*Two counties: 18 ZIP codes in Loudoun County and 1 ZIP code in Fauquier County (ZIP code 20184)*

...

*Five subregions: Ashburn/Arcola, Leesburg, South Riding/Aldie, Sterling/Dulles, and West Loudoun*



**Exhibit 6: Community Map by Primary and Secondary Service Area**



Sources: Microsoft MapPoint and Inova Loudoun, 2012.

*Estimated population 2012: 350,081*

...

*72% of inpatient discharges and 70% of emergency department visits from the primary service area*

## SECONDARY DATA ASSESSMENT

This section assesses secondary data regarding health needs in Inova Loudoun’s community.

### Demographics

Population change plays a determining role in the types of health and social services needed by communities. Overall, the population living in the community is expected to increase 26.2 percent between 2008 and 2013 and is expected to increase by another 5.1 percent between 2013 and 2018 (**Exhibit 7**).

#### Exhibit 7: Percent Change in Community Population by Subregion

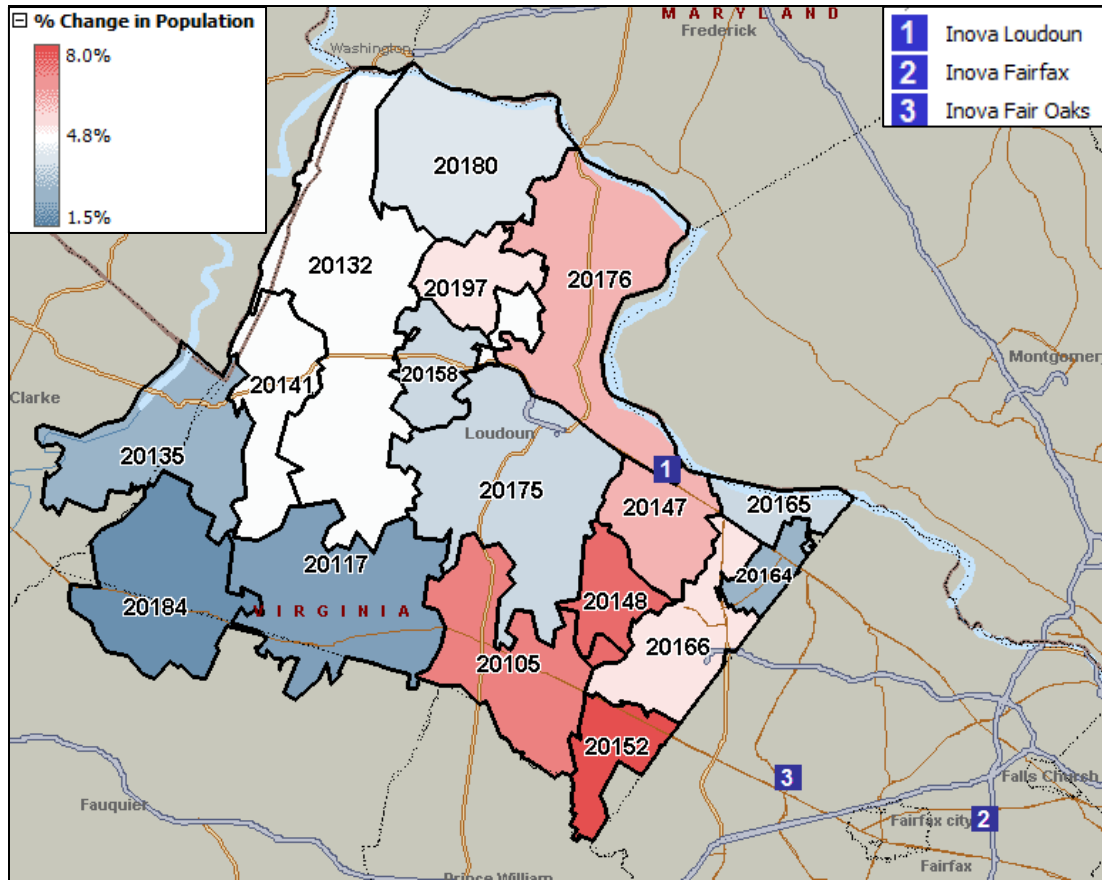
Service Area and Subregion	Total Population			Percent Change in Population	
	2008	2013	2018	2008-2013	2013-2018
<b>Primary Service Area</b>					
Ashburn/Arcola	76,797	103,100	109,650	34.3%	6.4%
Leesburg	64,111	81,604	85,804	27.3%	5.1%
Sterling/Dulles	84,499	97,986	101,164	16.0%	3.2%
<b>Primary Service Area Total</b>	<b>225,357</b>	<b>282,618</b>	<b>296,541</b>	<b>25.4%</b>	<b>4.9%</b>
<b>Secondary Service Area</b>					
South Riding/Aldie	25,742	36,409	39,128	41.4%	7.5%
West Loudoun (Fauquier)	1,037	1,132	1,154	9.2%	1.9%
West Loudoun (Loudoun)	38,546	46,659	48,552	21.0%	4.1%
<b>Secondary Service Area Total</b>	<b>65,375</b>	<b>84,272</b>	<b>88,911</b>	<b>28.9%</b>	<b>5.5%</b>
<b>Combined Service Areas Total</b>	<b>290,732</b>	<b>366,890</b>	<b>385,452</b>	<b>26.2%</b>	<b>5.1%</b>

Source: The Metropolitan Washington Council of Governments, 2012.

The Northern Virginia area is growing at a faster rate than the Commonwealth of Virginia as a whole. The populations of the subregions of South Riding/Aldie and Ashburn/Arcola are expecting the fastest growth.

**Exhibit 8** maps the anticipated population change by ZIP code from 2013 to 2018. Loudoun County is anticipating the highest population growth in Northern Virginia (Loudoun, Prince William, Fairfax, and Arlington counties, and the cities of Alexandria, Falls Church, Manassas, and Manassas Park).

**Exhibit 8: Population Change by ZIP Code, 2013-2018**



Sources: Microsoft MapPoint and the Metropolitan Washington Council of Governments, 2012.

*Northern Virginia is growing faster than the state as a whole*

...

*The secondary service area is anticipating the highest growth*

...

*The highest growth is projected for South Riding/Aldie (ZIP code 20152 and 20105) and Ashburn/Arcola (ZIP codes 20148 and 20107)*

**Exhibit 9** indicates that the 65+ and 55 to 64 age cohorts are expected to increase faster than the population of the community as a whole.

**Exhibit 9: Percent Change in Population by Age, 2008-2013 and 2013-2018**

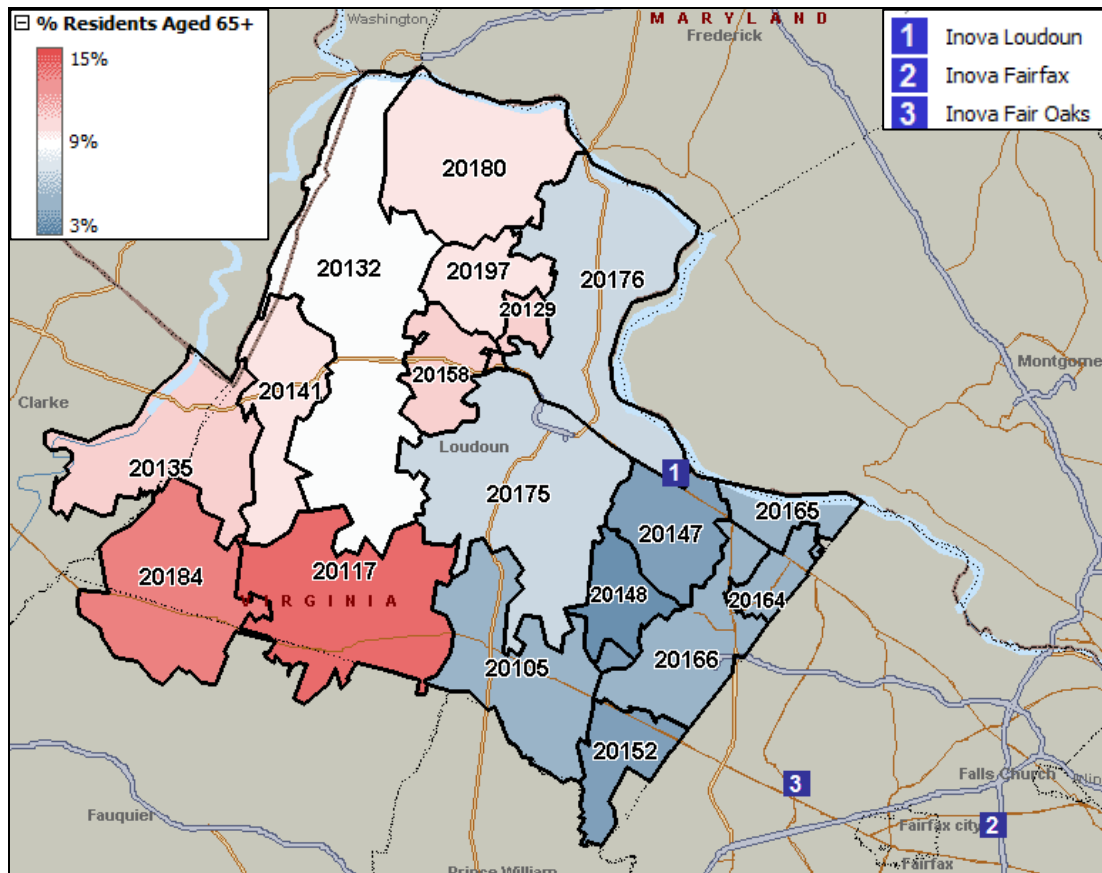
Age/Sex Cohort	Community Population			% Change in Population	
	2008	2013	2018	2008-2013	2013-2018
<b>Primary Service Area</b>					
0-17	29.3%	29.3%	29.3%	25.5%	4.7%
Female 18-44	22.0%	19.5%	19.0%	11.2%	2.2%
Male 18-44	21.4%	18.9%	18.5%	11.0%	2.2%
45-54	14.1%	15.7%	16.0%	40.0%	7.1%
55-64	7.8%	9.6%	10.0%	54.8%	9.4%
65+	5.4%	6.9%	7.3%	59.7%	10.1%
<b>Total</b>	<b>225,357</b>	<b>282,618</b>	<b>296,541</b>	<b>25.4%</b>	<b>4.9%</b>
<b>Secondary Service Area</b>					
0-17	25.9%	25.9%	25.8%	28.7%	5.4%
Female 18-44	20.5%	18.5%	18.1%	16.3%	3.1%
Male 18-44	20.1%	18.4%	18.0%	17.6%	3.3%
45-54	15.4%	16.1%	16.3%	34.9%	6.6%
55-64	10.2%	11.8%	12.1%	48.9%	8.5%
65+	7.8%	9.3%	9.7%	54.0%	9.2%
<b>Total</b>	<b>65,375</b>	<b>84,272</b>	<b>88,911</b>	<b>28.9%</b>	<b>5.5%</b>
<b>Combined Service Areas</b>					
0-17	28.5%	28.5%	28.5%	26.1%	4.9%
Female 18-44	21.7%	19.3%	18.8%	12.3%	2.4%
Male 18-44	21.1%	18.8%	18.3%	12.4%	2.4%
45-54	14.4%	15.8%	16.1%	38.8%	6.9%
55-64	8.3%	10.1%	10.5%	53.1%	9.1%
65+	6.0%	7.5%	7.8%	58.0%	9.8%
<b>Total</b>	<b>290,732</b>	<b>366,890</b>	<b>385,452</b>	<b>26.2%</b>	<b>5.1%</b>

Source: The Metropolitan Washington Council of Governments, 2012.

The growth and aging of the population, coupled with the impact of coverage expansions associated with health reforms, will increase demand for health services.

The proportion of the population 65 years of age and older varies by ZIP code. The subregion of West Loudoun (ZIP codes 20117, 20184, and 20135) had comparatively high proportions of this population (**Exhibit 10**).

**Exhibit 10: Percentage of Residents Aged 65+, 2008**



Sources: Microsoft MapPoint and the Metropolitan Washington Council of Governments, 2012.

*Growth and aging of the population, coupled with the impact of coverage expansions associated with health reforms, will increase demand for health services*

...

*West Loudoun (ZIP codes 20117, 20184, and 20135) had higher proportions of the population aged 65+*

In 2008, 71.2 percent of the community’s population were White. Non-White populations are expected to grow faster than White populations in the community.

At 11.9 percent, the Asian population is expected to increase the most (**Exhibit 11**). The growing diversity of the community is important to recognize given that health disparities and the need to enhance the cultural competency of health care providers are present.

### Exhibit 11: Distribution of Population by Race, 2008-2013 and 2013-2018

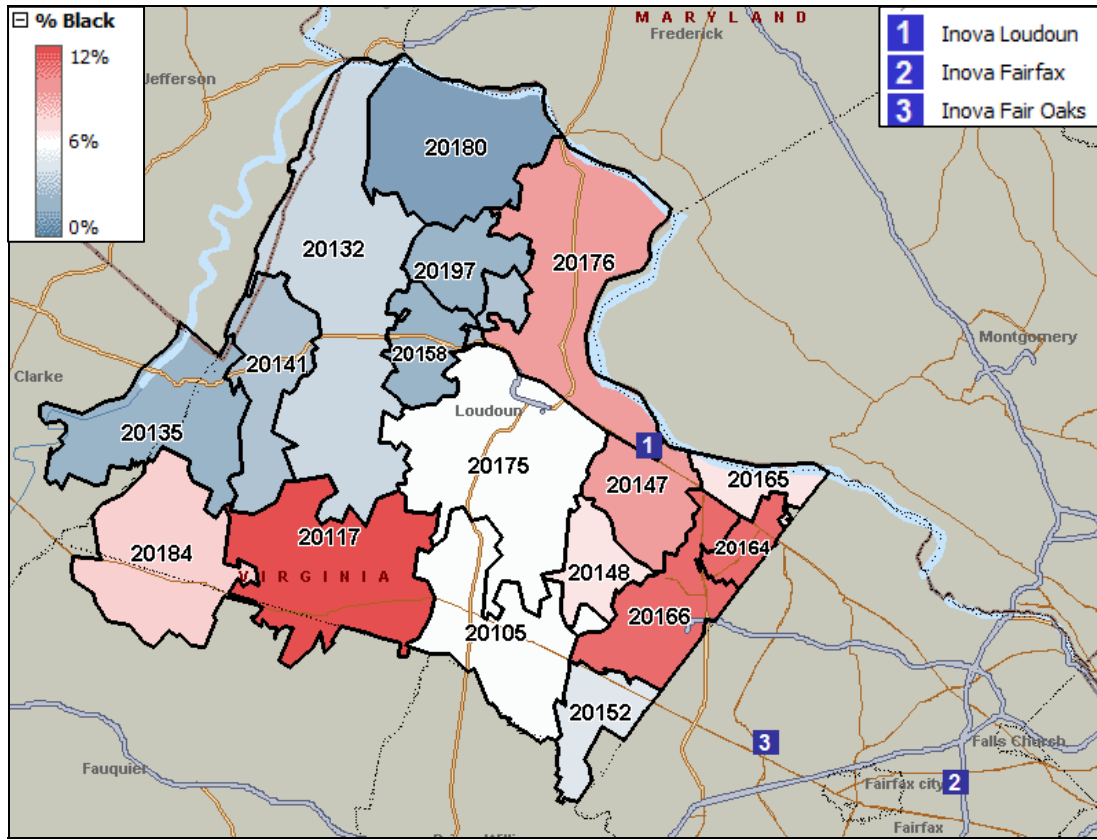
Racial Cohort	Community Population			% Change in Population	
	2008	2013	2018	2008-2013	2013-2018
<b>Primary Service Area</b>					
Asian	15.5%	21.0%	22.2%	69.9%	11.4%
Black	8.4%	9.0%	9.1%	34.2%	6.3%
Other	8.7%	10.6%	11.0%	52.4%	9.0%
White	67.4%	59.4%	57.8%	10.6%	2.4%
<b>Total</b>	<b>225,357</b>	<b>282,618</b>	<b>297,625</b>	<b>25.4%</b>	<b>5.3%</b>
<b>Secondary Service Area</b>					
Asian	6.6%	10.4%	11.3%	101.8%	15.1%
Black	4.1%	3.8%	3.8%	20.1%	4.0%
Other	4.9%	6.5%	6.8%	71.0%	11.5%
White	84.4%	79.3%	78.1%	21.1%	4.1%
<b>Total</b>	<b>65,375</b>	<b>84,272</b>	<b>89,083</b>	<b>28.9%</b>	<b>5.7%</b>
<b>Combined Service Areas</b>					
Asian	13.5%	18.5%	19.7%	73.5%	11.9%
Black	7.5%	7.8%	7.9%	32.5%	6.0%
Other	7.9%	9.6%	10.0%	55.0%	9.4%
White	71.2%	64.0%	62.4%	13.4%	2.9%
<b>Total</b>	<b>290,732</b>	<b>366,890</b>	<b>386,708</b>	<b>26.2%</b>	<b>5.4%</b>

Source: Claritas Inc., 2012.

\*Data by Race/Ethnicity provide slightly different population projections for 2018 compared to other demographic data assessed in this report.

**Exhibit 12** portrays the concentration of Black residents in the Inova Loudoun community. Black populations are most prevalent in West Loudoun (ZIP code 20117) and Sterling/Dulles (ZIP codes 20164 and 20166).

**Exhibit 12: Areas with Highest Concentration of Black Residents, 2008**



Sources: Microsoft MapPoint and Claritas Inc., 2012.

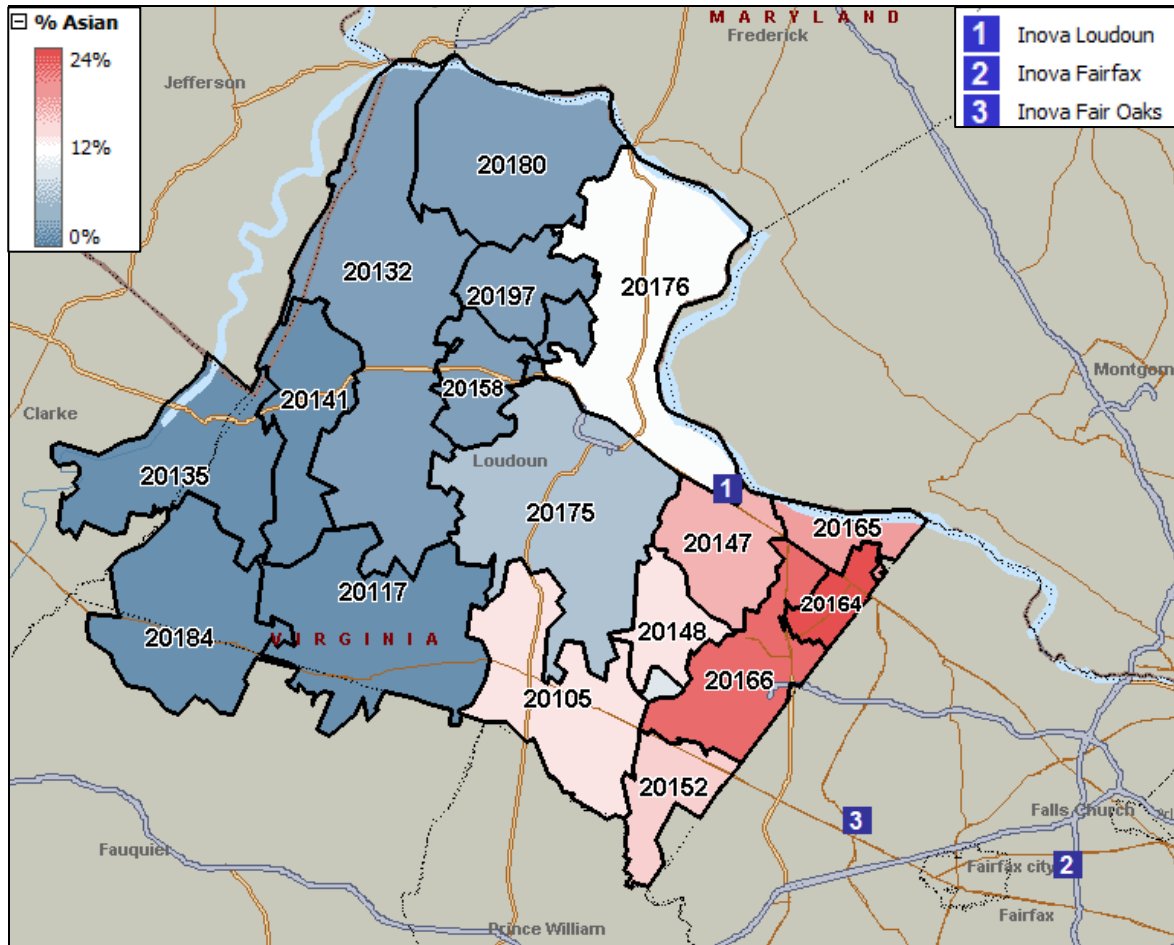
*Black populations are expected to increase by 33% between 2008 and 2013 and 6% between 2013 and 2018*

...

*Black populations are most prevalent in West Loudoun (ZIP code 20117) and Sterling/Dulles (ZIP codes 20164 and 20166)*

**Exhibit 13** portrays the concentration of Asian residents in the Inova Loudoun community. Asian populations are most prevalent in Sterling/Dulles (ZIP code 20164 and 20166) and Ashburn/Arcola (ZIP codes 20165 and 20147).

**Exhibit 13: Areas with Highest Concentration of Asian Residents, 2008**



Sources: Microsoft MapPoint and Claritas Inc., 2012.

*Asian populations are expected to increase by 74% between 2008 and 2013 and 12% between 2013 and 2018*

...

*Asian populations are most prevalent in Sterling/Dulles (ZIP codes 20164 and 20166) and Ashburn/Arcola (ZIP codes 20147 and 20165)*



Projections indicate that the Hispanic (or Latino) community population is expected to increase more rapidly than non-Hispanic (or Latino) ethnicities. In terms of overall percent change, the Inova Loudoun community is projected to experience growth in the Hispanic (or Latino) population of approximately 60 percent between 2008 and 2013 and ten percent between 2013 and 2018. Growth is particularly high in the hospital's secondary service area (**Exhibit 14**).

**Exhibit 14: Distribution of Population by Ethnicity, 2008-2013 and 2013-2018**

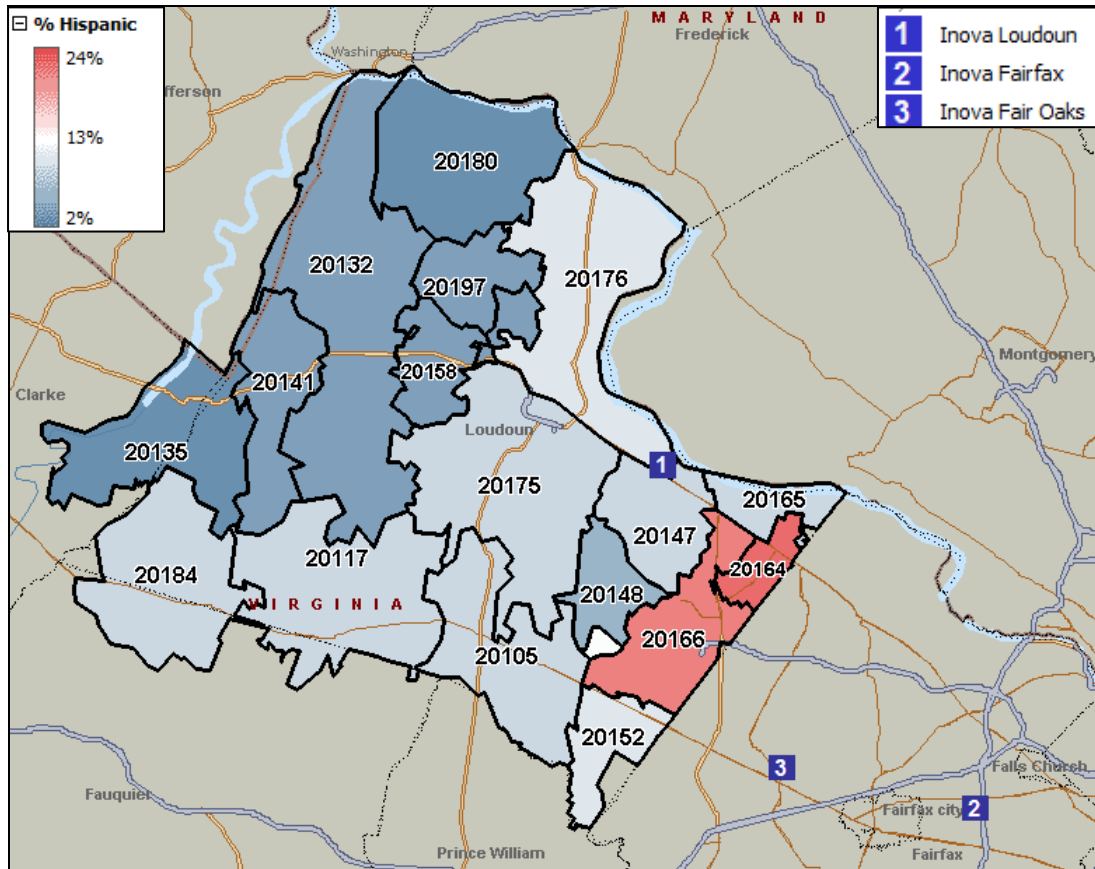
Ethnic Cohort	Community Population			% Change in Population	
	2008	2013	2018	2008-2013	2013-2018
<b>Primary Service Area</b>					
Hispanic (or Latino)	11.5%	14.2%	14.8%	55.5%	9.4%
Not Hispanic (or Latino)	88.5%	85.8%	85.2%	21.5%	4.6%
<b>Total</b>	<b>225,357</b>	<b>282,618</b>	<b>297,625</b>	<b>25.4%</b>	<b>5.3%</b>
<b>Secondary Service Area</b>					
Hispanic (or Latino)	6.7%	9.5%	10.2%	83.6%	13.0%
Not Hispanic (or Latino)	93.3%	90.5%	89.8%	25.0%	4.9%
<b>Total</b>	<b>65,375</b>	<b>84,272</b>	<b>89,083</b>	<b>28.9%</b>	<b>5.7%</b>
<b>Combined Service Areas</b>					
Hispanic (or Latino)	10.4%	13.1%	13.7%	59.6%	10.0%
Not Hispanic (or Latino)	89.6%	86.9%	86.3%	22.3%	4.7%
<b>Total</b>	<b>290,732</b>	<b>366,890</b>	<b>386,708</b>	<b>26.2%</b>	<b>5.4%</b>

Source: Claritas Inc., 2012.

\*Date by Race/Ethnicity provide slightly different population projections for 2018 compared to other demographic data assessed in this report.

**Exhibit 15** illustrates the concentration of Hispanic (or Latino) residents in the Inova Loudoun community. Hispanic (or Latino) communities appear to be most highly concentrated in Sterling/Dulles (ZIP codes 20164 and 20166).

**Exhibit 15: Areas with Highest Concentration of Hispanic (or Latino) Residents, 2008**



Sources: Microsoft MapPoint and Claritas Inc., 2012.

*The Hispanic (or Latino) population is growing rapidly*

...

*The highest proportions of Hispanic (or Latino) residents live in Sterling/Dulles (ZIP codes 20164 and 20166)*

Other demographic characteristics are presented in **Exhibit 16**. Key findings include:

- Loudoun County had a lower percentage of disabled residents than the Virginia and national averages. Nearly 27 percent of residents aged 65 and older reported having a disability.
- Nearly seven percent of Loudoun County residents aged 25 years and older did not graduate high school. This rate is lower than the Virginia and national averages.

- Loudoun County had a higher percentage of linguistically isolated individuals than the Virginia and national averages. Linguistic isolation is defined as the population aged 5 and older who speak a language other than English at home and who speak English less than “very well.”
- The county has fewer residents limited by lack of a vehicle than the Virginia and national averages.

**Exhibit 16: Prevalence of Demographic Indicators and Variation from the Commonwealth of Virginia, 2010**

Demographic Indicators	Loudoun County	Virginia	U.S.
Total Population With Any Disability	4.5%	<b>10.8%</b>	<b>11.9%</b>
Population 0-18 With Any Disability	1.9%	<b>3.4%</b>	<b>4.0%</b>
Population 18-64 With Any Disability	3.7%	<b>8.9%</b>	<b>10.0%</b>
Population 65+ With Any Disability	26.6%	<b>35.1%</b>	<b>36.7%</b>
Residents 25+ Who Did Not Graduate High School	6.6%	<b>13.5%</b>	<b>14.4%</b>
Residents 5+ Who Are Linguistically Isolated	9.4%	<b>5.7%</b>	<b>8.7%</b>
Housing Units With No Car	2.9%	<b>6.2%</b>	<b>9.1%</b>

Source: U.S. Census Bureau, 2012.

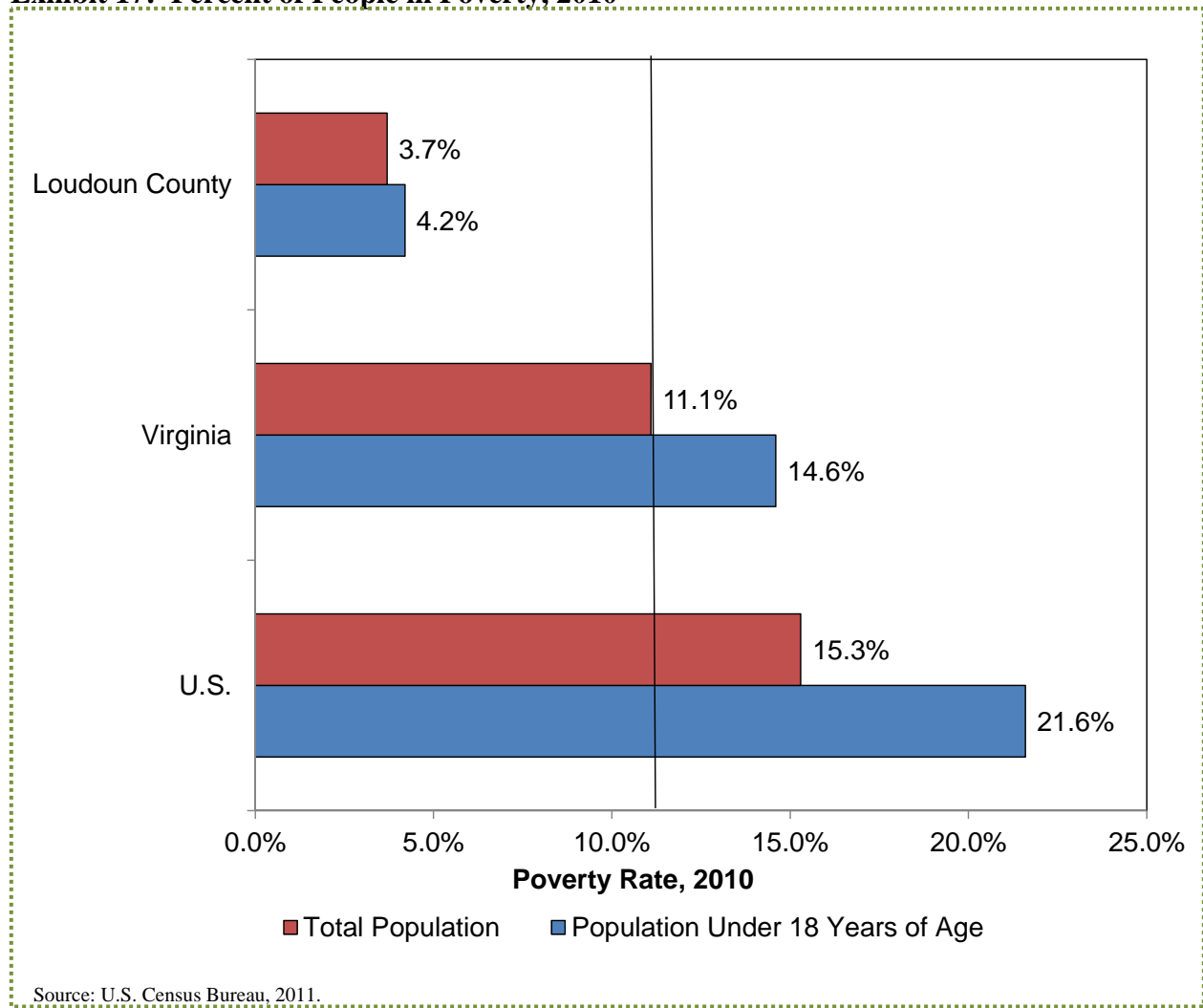
## Economic Indicators

The following types of economic indicators with implications for health were assessed: (1) people in poverty, (2) unemployment rates, (3) homelessness, (4) crime, (5) Commonwealth of Virginia and local budget cuts, (6) utilization of government assistance programs, (7) household income, and (8) insurance status.

### 1. People in Poverty

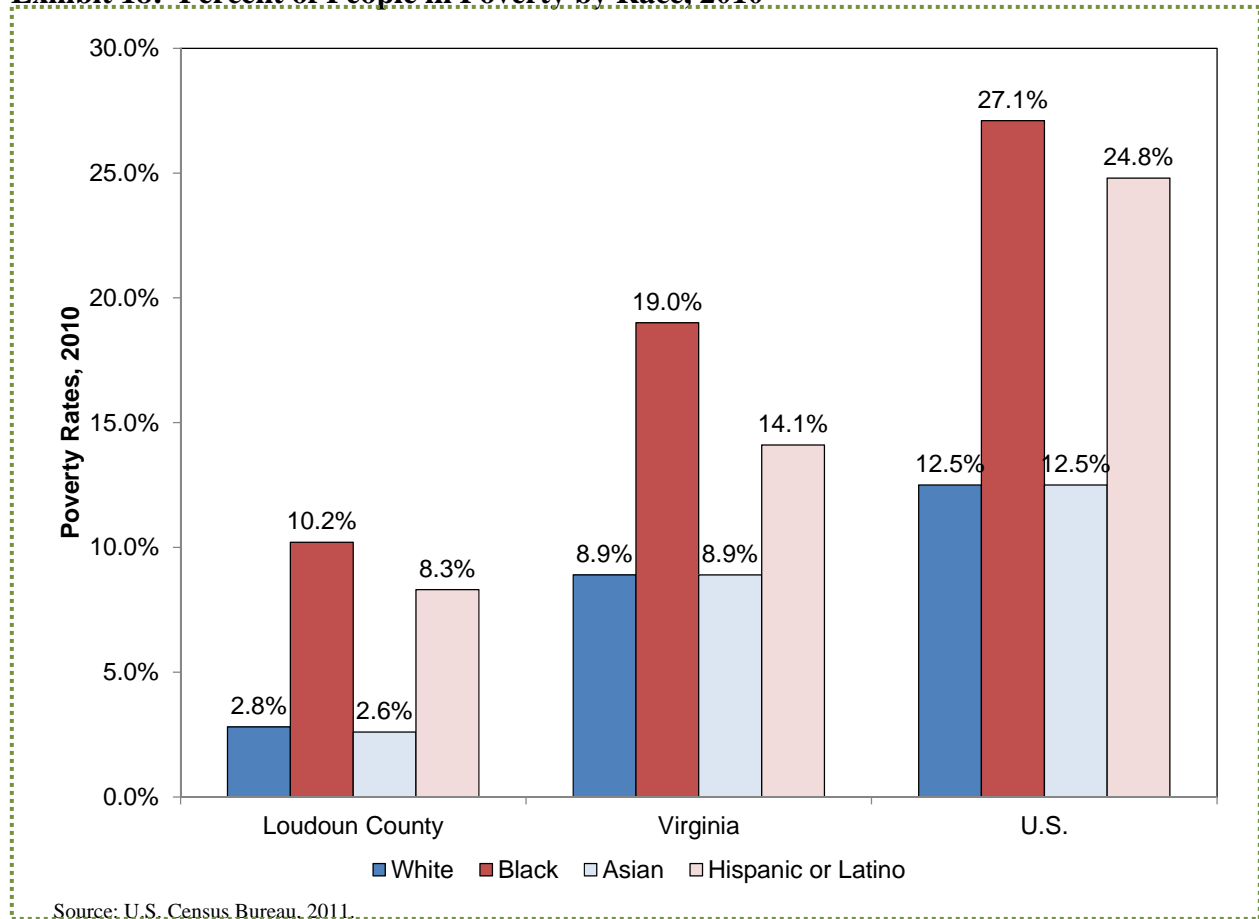
Many health needs are associated with poverty. According to the U.S. Census, in 2010, about 15 percent of people in the U.S. and about 11 percent of people in Virginia lived in poverty. Loudoun County reported a poverty rate that was lower than the Virginia and national averages (**Exhibit 17**). The pediatric population reports higher poverty rates than the total population.

**Exhibit 17: Percent of People in Poverty, 2010**



**Exhibit 18** presents poverty rates by race. The Hispanic (or Latino) and Black populations of Loudoun County reported disproportionately higher poverty rates in 2010 than the White or Asian populations.

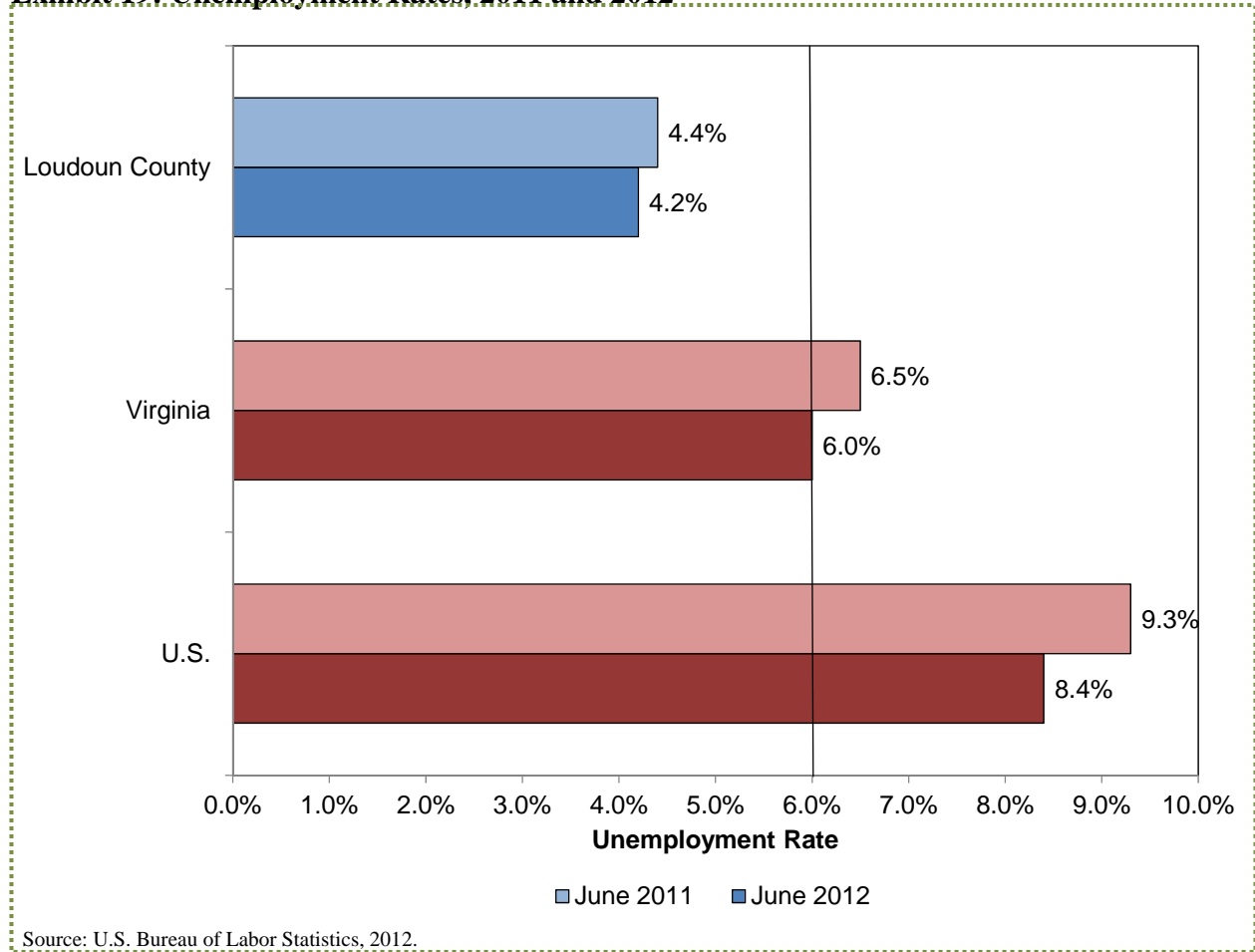
**Exhibit 18: Percent of People in Poverty by Race, 2010**



## 2. Unemployment Rates

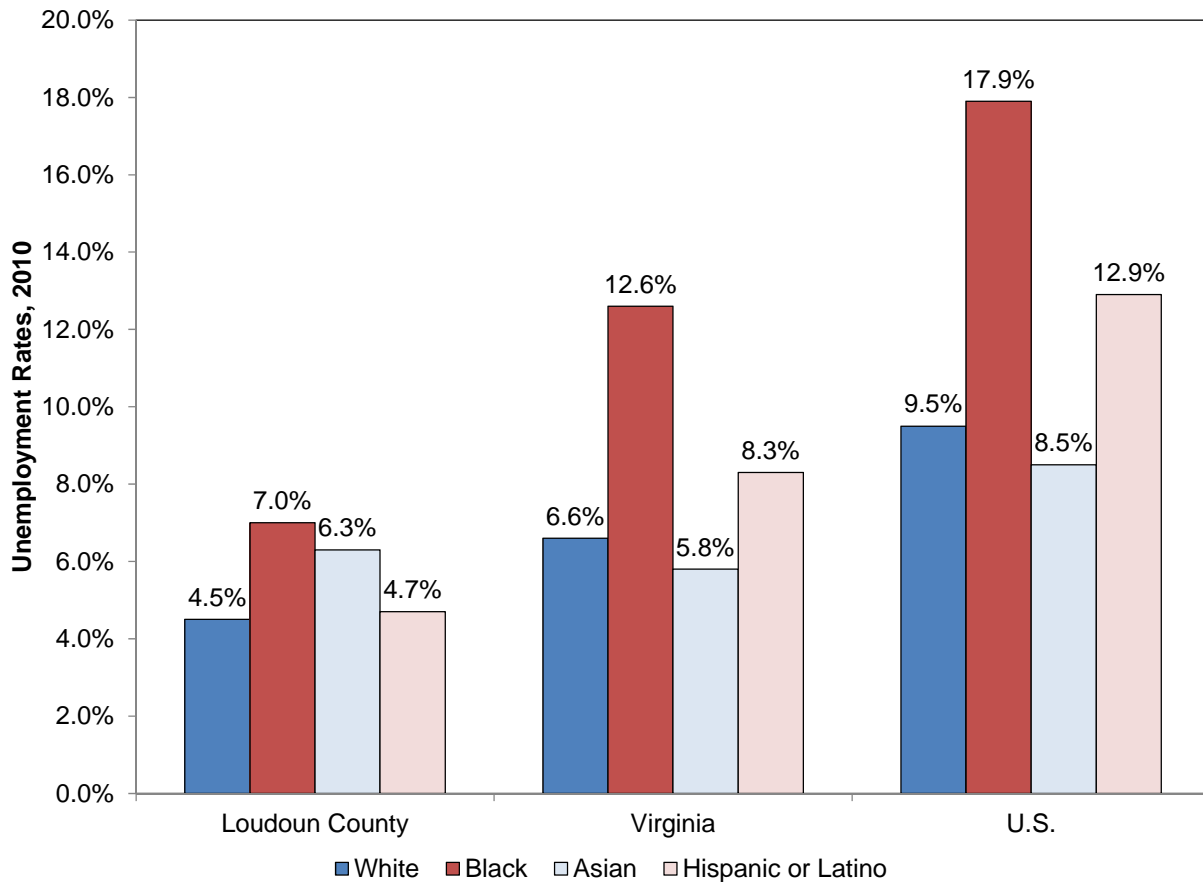
Loudoun County reported lower unemployment rates in 2011 and 2012 than the Virginia and national averages (**Exhibit 19**). High unemployment rates are associated with high numbers of uninsured people due to the lack of employer-based insurance.

**Exhibit 19: Unemployment Rates, 2011 and 2012**



Asian residents in Loudoun County had a higher unemployment rate in 2010 than the Virginia average. While still lower than Virginia and national averages, unemployment rates in 2010 were disproportionately high for the Black and Asian populations (**Exhibit 20**).

**Exhibit 20: Unemployment Rates by Race, 2010\***



Source: U.S. Census Bureau, 2011.

\* Unemployment data by race were available only for the year 2010.

### 3. Homelessness

Since 2001, the Metropolitan Washington Council of Governments has conducted an annual count of the homeless population in the metropolitan region. Loudoun County reported a homelessness rate of 4.8 per 100,000 population in 2011, compared to 13.7 per 100,000 population in Northern Virginia (Alexandria City, and Arlington, Fairfax, Loudoun, and Prince William counties) (**Exhibit 21**). Rates of homelessness appear to have decreased between 2008 and 2011.

**Exhibit 21: Homelessness Rates by County, 2008-2011**

County	Homelessness Rate				Percent Change in Rates 2008-2011
	2008	2009	2010	2011	
Loudoun County	5.9	5.0	5.4	4.8	-18.2%
Northern Virginia	15.7	15.6	14.4	13.7	-12.6%

Source: Homeless counts retrieved from the Metropolitan Washington Council of Governments' 2012 Homeless in Metropolitan Washington report.

County population estimates were retrieved from the U.S. Census Bureau: American Community Survey 5 Year Estimates 2006-2010, Annual Estimates of the Resident Population for Counties of Virginia April 1, 2000 to July 1, 2009, and County 2011 Population Datasets April 1, 2010 to July 1, 2011.

\*Rates are per 100,000 population.

## 4. Crime

The Federal Bureau of Investigation reports data on violent crime in the United States from county and city police departments that participate in its Uniform Crime Reporting (UCR) Program. Loudoun County reported lower rates of all types of violent crime than Virginia and national averages (**Exhibit 22**).

**Exhibit 22: Violent Crime Rates, 2010**

County	Population 2010	Violent Crime Rates per 100,000 Population				
		Total Violent Crime	Murder and Non-negligent Manslaughter	Forcible Rape	Robbery	Aggravated Assault
Loudoun County	291,653	64.8	0.0	9.9	12.0	42.9
Virginia	7,841,754	217.9	4.7	19.5	72.1	121.5
U.S.	303,965,272	410.0	4.9	27.9	121.0	256.2

Sources: Violent crime counts were retrieved from the Federal Bureau of Investigation, Uniform Crime Reports, 2012. Population 2010 estimates were obtained from the U.S. Census Bureau, ACS 5 Year Estimates 2006-2010. Rates were calculated by Verité.

## 5. Commonwealth of Virginia and Local Budget Cuts

The recent recession has had major implications for employment and for the availability of state and county resources devoted to health, public health, and social services. The Commonwealth of Virginia has significantly reduced funding appropriated to these services.

Governor McDonnell's proposed budget<sup>5</sup> for the 2012-2014 biennium was approved by the 2012 General Assembly. Funding changes include:

- **Children and Youth Services**
  - Elimination of funding for child advocacy centers in the Office of Secretary of Health and Human Resources and Department of Social Services (\$846,000 for both FY 2013 and FY 2014, for a total reduction of \$1,692,000);
  - Reductions in base funding to the Comprehensive Services Act for At-Risk Youth and Families (CSA) (\$17,678,003 for FY 2013 and \$14,987,327 for FY 2014, for a total reduction of \$32,665,330) and elimination of general fund support for wrap-around services in public schools (\$5,401,216 for both FY 2013 and FY 2014, for a total reduction of \$10,802,432 (offset by \$700,000));
  - Elimination of funding for the Teen Pregnancy Prevention Initiative in Alexandria City<sup>6</sup> (the Initiative operated in the Richmond, Norfolk, Alexandria, Roanoke City, Crater, Portsmouth, and Eastern Shore health districts; funding reductions for the entire Initiative are \$455,00 for both FY 2013 and FY 2014, for a total reduction of \$910,000);

<sup>5</sup>The 2012 Executive Budget Document. Retrieved on August 2, 2012 from <http://dpb.virginia.gov/budget/buddoc12/index.cfm>.

<sup>6</sup>Alexandria City committed City general funds to maintain this program.



- **Aging and Elderly Services**
  - Elimination of funding for certain non-state agencies that serve aging and elderly populations (\$386,722 for FY 2013 and \$767,945 for FY 2014, for a total reduction of \$1,154,667), including the Prince William County Care Coordination for the Elderly Virginians Program (approximately \$5,500 for FY 2013 and \$11,000 for FY 2014, for a total reduction of approximately \$16,500);
  - Reductions in funding for in-home and community-based services, such as adult day care, homemaker, personal care, and transportation services, provided by Virginia's Area Agencies on Aging (\$131,853 for both FY 2013 and FY 2014, for a total reduction of \$263,706);
  
- **Health Services for Indigent and Low-income Populations**
  - Reductions in funding for Alexandria Neighborhood Health Services, Inc. (\$37,830 for FY 2014);
  - Reductions in funding for the Jeanie Schmidt Free Clinic of Virginia (\$19,125 for FY 2014);
  - Reductions in funding for the Mission of Mercy program through the Virginia Dental Association Foundation (\$425 for FY 2013 and \$10,625 for FY 2014, for a total reduction of \$11,050);
  - Reductions in funding for the Virginia Association of Free Clinics (\$1,598,200 for FY 2014), the Virginia Community Healthcare Association (\$1,204,375 for FY 2014), and the Virginia Health Care Foundation (\$2,040,286 for FY 2014);
  - Elimination of funding for the three remaining general medical clinics in Virginia, including the one in the Alexandria Health Department (\$233,500 in FY 2013 and \$466,963 in FY 2014, for a total reduction of \$700,463);
  - Elimination of funding for commonwealth supported dental clinics (\$1,664,306 for both FY 2013 and FY 2014, for a total reduction of \$3,328,612);
  - Reductions in income limits for the Medicaid long-term care eligibility group (\$36,435,516 for FY 2014);
  - Reductions in funding to the commonwealth's Medicaid Children's Health Insurance Program due to slowed enrollment and lower managed care rates (\$8,254,417 in FY 2013 and \$52,782,923 in FY 2014, for a total reduction of \$61,037,340);
  - Reductions in funding to the VCU and UVA academic health centers for indigent care services (\$14,995,994 for both FY 2013 and FY 2014, for a total reduction of \$29,991,988);
  
- **Health Departments, Facilities, and Workers**
  - Reductions in general fund appropriations to the Department of Health (\$1,771,250 FY 2013 and \$8,224,191 for FY 2014, for a total reduction of \$9,995,441);

- Reductions in funding to the Department of Health Professions (\$97,067 for both FY 2013 and FY 2014, for a total reduction of \$194,134);
- Withholding annual inflation adjustments from rates paid to nursing facilities (\$51,479,932 FY 2013 and \$79,055,622 for FY 2014, for a total reduction of \$130,535,554), home health agencies (\$154,126 for FY 2013 and \$330,992 for FY 2014, for a total reduction of \$485,118), outpatient rehabilitation agencies (\$413,744 FY 2013 and \$804,262 for FY 2014, for a total reduction of \$1,218,006), and hospitals (\$197,317,468 FY 2013 and \$323,309,280 for FY 2014, for a total reduction of \$520,626,748);
- **Other Health Programs and Services**
  - Reductions in the number of sign language interpreters provided for certain Twelve-Step Programs(\$16,900 for both FY 2013 and FY 2014, for a total reduction of \$33,800);
  - Balance the nongeneral fund appropriations for the Temporary Assistance for Needy Families (TANF) block grant for the Comprehensive Health Investment Project of Virginia (6,164,233 FY 2013 and \$5,107,564 for FY 2014, for a total reduction of \$11,271,797); and,
  - Elimination of one Virginia Epidemiology Response Team position (\$48,335 for both FY 2013 and FY 2014, for a total reduction of \$96,670).

In addition to the commonwealth’s budget reductions, Loudoun County’s proposed FY 2013 budget include the following changes.

- **Loudoun County:**<sup>7</sup>
  - A decrease in health services expenditures from \$4,244,348 to \$4,386,074 in FY 2012;
  - A proposed decrease in mental health, substance abuse, and developmental services from \$4,147,500 to \$3,721,440 funded through state aid; and
  - A proposed decrease in mental health, substance abuse, and developmental services from \$805,080 to \$437,520 funded through federal aid.

Health and social services agencies across Northern Virginia have expressed many concerns about these funding reductions.

## **6. Utilization of Government Assistance Programs**

Federal, state, and local governments provide assistance programs for low-income individuals and families. These programs include vouchers that subsidize housings costs, free and reduced priced lunches at public schools through the National School Lunch Program, the Supplemental Nutrition Assistance Program (SNAP), and Temporary Assistance for Needy Families (TANF).

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<sup>7</sup> City of Loudoun FY 2013 Proposed Budget.1-11 <http://va-loudouncounty.civicplus.com/index.aspx?NID=2341>

Housing certificates and vouchers allow residents who meet certain eligibility criteria to receive monthly housing assistance under Section 8 of the Housing Act of 1937. Under that program, subsidies of rental and mortgage costs help make housing more affordable. Residents who apply for these certificates and vouchers may be placed on a waiting list before funds become available. Loudoun County reported an average time on the waiting list for Section 8 housing certificates and vouchers that was greater than both the Virginia and U.S. averages. The average household federal contribution in Loudoun County is noticeably higher than the U.S. and Virginia averages (**Exhibit 23**).

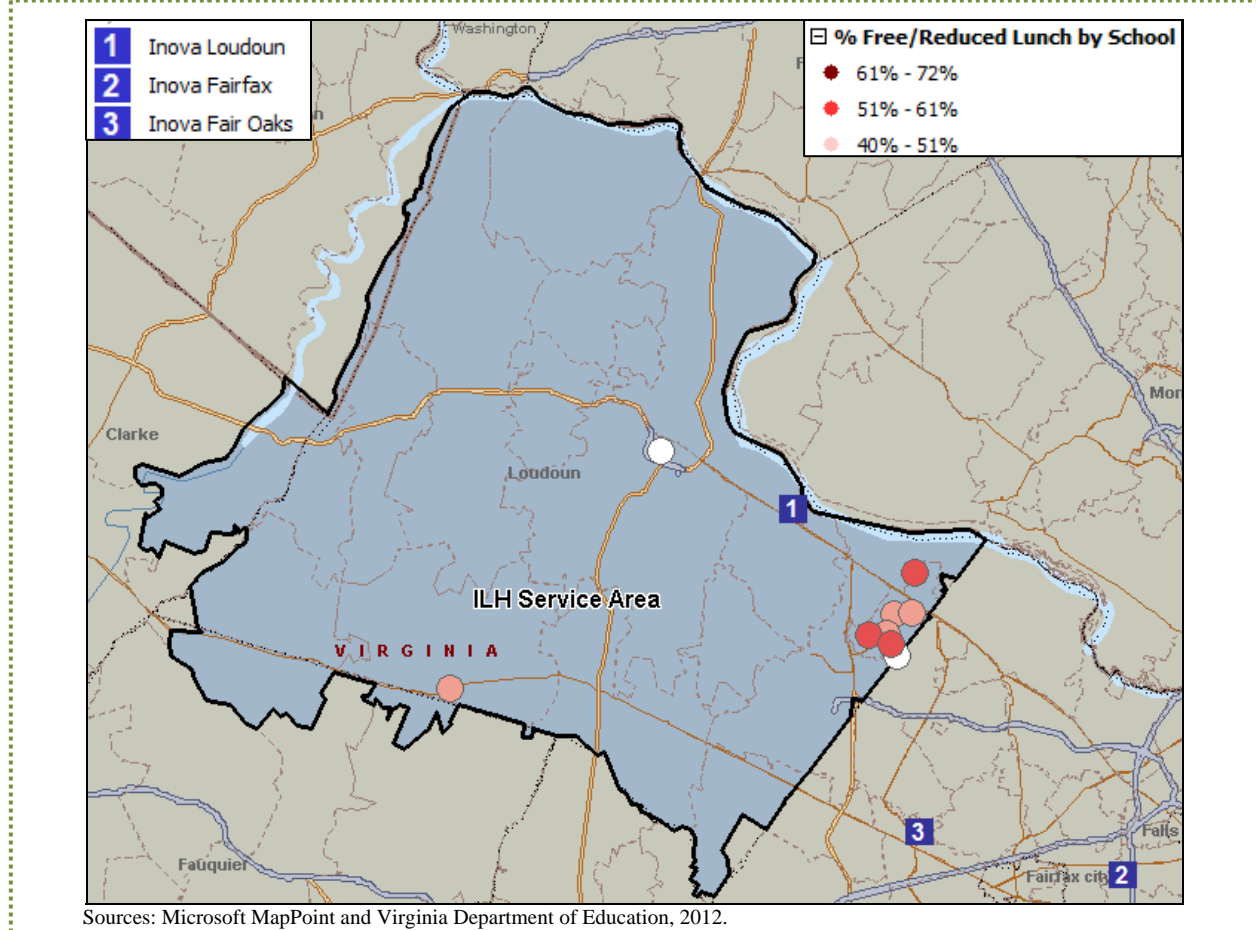
**Exhibit 23: Waiting Time for Section 8 Housing Certificates and Vouchers by County, 2009**

County	Number of Participating Households	Spending per Unit per Month		Average Months on Waiting List
		Average Household Contribution	Average Federal Contribution	
Loudoun County	706	\$464	\$ 953	20
<b>Virginia</b>	<b>42,727</b>	<b>\$359</b>	<b>\$ 676</b>	<b>10</b>
<b>U.S.</b>	<b>2,071,161</b>	<b>\$335</b>	<b>\$ 657</b>	<b>14</b>

Source: U.S. Department of Housing and Urban Development, 2012.

Schools participating in the National School Lunch Program are eligible to receive financial assistance from the USDA to provide free or reduced-cost meals to low-income students. Schools with 40 percent or more of their student body receiving free or reduced-cost meals are eligible for school-wide Title I funding to ensure that students meet grade-level proficiency standards. In the Inova Loudoun community, 9 out of 80 schools had greater than 40 percent of the student body eligible for free or reduced-cost lunches (**Exhibit 24**). These schools are located near Sterling/Dulles (ZIP code 20164) and Leesburg (ZIP code 20175).

**Exhibit 24: Public Schools with Over 40 Percent of Students Eligible for Free or Reduced Price Lunches, School Year 2011-2012**



**Exhibit 25** shows the percent of the total population enrolled in the Supplemental Nutrition Assistance Program (SNAP). This U.S. Department of Agriculture program provides financial support for low-income and no-income residents to purchase food. Nearly three percent of residents in Loudoun County were enrolled in SNAP in 2010.

**Exhibit 25: Supplemental Nutrition Assistance Program (SNAP) Enrollment, 2010**

County	Average SNAP Enrollment	Total Population	Percent of Total Population
Loudoun County	7,428.0	291,653	2.5%
<b>Virginia</b>	<b>806,895.3</b>	<b>7,841,754</b>	<b>10.3%</b>

Source: Enrollment data were retrieved from the Virginia Department of Social Services, 2012. Population 2010 estimates were obtained from the U.S. Census Bureau, ACS 5 Year Estimates 2006-2010.

**Exhibit 26** shows the percent of the total population enrolled in TANF. This U.S. Department of Health and Human Services program provides financial assistance to eligible low-income and no-income families with dependent children. Less than one percent of residents in Loudoun County were enrolled in TANF in 2010.

## Exhibit 26: Temporary Assistance for Needy Families (TANF) Enrollment, 2010

County	Average TANF Enrollment	Total Population	Percent of Total Population
Loudoun County	599.3	291,653	0.2%
<b>Virginia</b>	<b>77,092.3</b>	<b>7,841,754</b>	<b>1.0%</b>

Source: Enrollment data were retrieved from the Virginia Department of Social Services, 2012. Population 2010 estimates were obtained from the U.S. Census Bureau, ACS 5 Year Estimates 2006-2010.

## 7. Household Income

In the Inova Loudoun community and in 2008, approximately five percent of all households had incomes below \$25,000, an approximation of the federal poverty level (FPL) for a family of four; 18 percent had incomes less than \$50,000, an approximation of 200 percent of the FPL for a family of four (**Exhibit 27**). FPL is used by many agencies and organizations to assess household needs for low-income assistance programs.

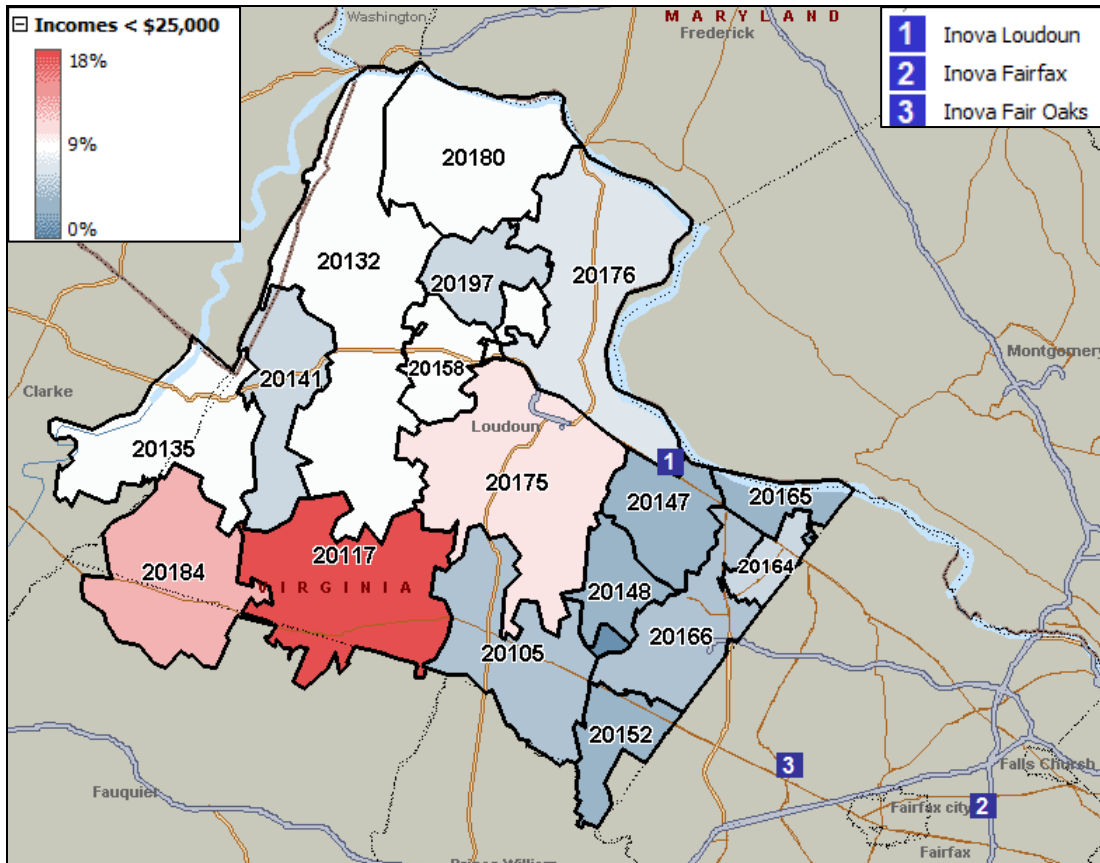
## Exhibit 27: Percent Low-Income Households by Subregion, 2008

Service Area and Subregion	Number of Households 2008	Average Household Income	Percent Less Than \$25,000	Percent Less Than \$50,000
<b>Primary Service Area</b>				
Ashburn/Arcola	26,037	\$138,989	3.3%	13.6%
Leesburg	22,702	\$114,238	7.5%	20.8%
Sterling/Dulles	29,885	\$105,308	4.4%	17.7%
<b>Primary Service Area Total</b>	<b>78,605</b>	<b>\$120,171</b>	<b>4.9%</b>	<b>17.3%</b>
<b>Secondary Service Area</b>				
South Riding/Aldie	9,771	\$129,456	2.9%	11.6%
West Loudoun (Fauquier)	441	\$102,296	12.7%	32.9%
West Loudoun (Loudoun)	14,021	\$121,995	8.9%	22.4%
<b>Secondary Service Area Total</b>	<b>24,252</b>	<b>\$121,561</b>	<b>6.5%</b>	<b>18.2%</b>
<b>Combined Service Areas Total</b>	<b>102,857</b>	<b>\$120,976</b>	<b>5.3%</b>	<b>17.5%</b>

Source: Claritas Inc., 2012.

At a ZIP code level, the highest proportions of households with incomes under \$25,000 in 2010 were located in West Loudoun (ZIP codes 20117 and 20184) and Leesburg (ZIP code 20175) (**Exhibit 28**).

**Exhibit 28: Percent of Households with Incomes Less than \$25,000 by ZIP Code, 2008**



Sources: Microsoft MapPoint and Claritas Inc., 2012.

*West Loudoun (ZIP code 20117) had the highest proportion of lower-income households at 17%*

...

*Ashburn/Arcola (ZIP code 20148), South Riding/Aldie (ZIP code 20152), and Sterling/Dulles (ZIP code 20165) had the lowest proportions*

## 8. Insurance Status

**Exhibit 29** indicates that in 2010, Loudoun County had a lower percentage of uninsured residents than the Virginia or national averages.

### Exhibit 29: Uninsured Population by Age Cohort and County, 2010

County	Total Population	Population Under 18	Population 18-64			
	Percent Uninsured	Percent Uninsured	Percent Uninsured and Employed	Percent Uninsured and Unemployed	Percent Uninsured not in Labor Force	Total Percent Uninsured
Loudoun County	8.2%	4.2%	6.6%	1.7%	2.1%	10.4%
Virginia	13.1%	6.6%	10.5%	3.0%	4.2%	17.8%
U.S.	15.5%	8.0%	12.4%	3.9%	5.1%	21.4%

Source: U.S. Census Bureau, 2012.

Exhibit 30 portrays the distribution of community-wide discharges by ZIP code and by payer. This helps identify where uninsured (self-pay) people and Medicaid recipients live across the community.

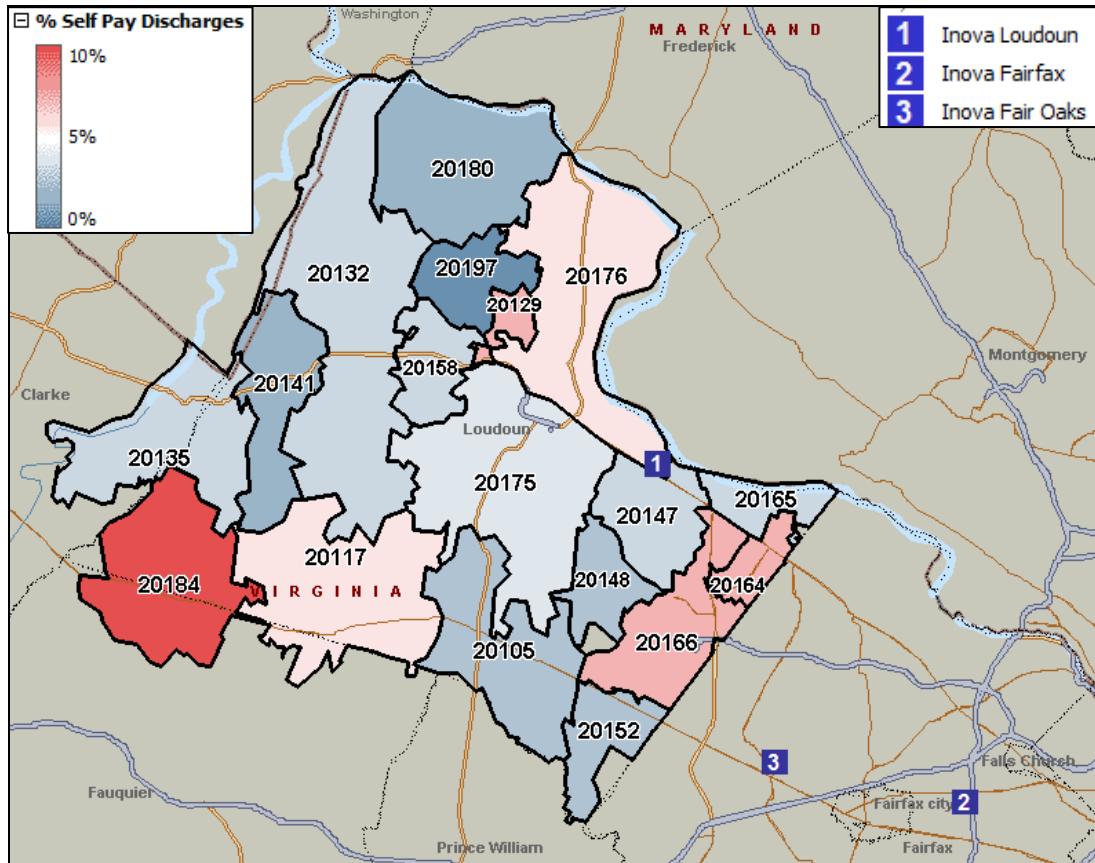
### Exhibit 30: Community-Wide Discharges by Subregion and Payer

Service Area and Subregion	Discharges	Medicaid	Medicare	Other	Private	Self-pay	Unknown/Missing
<b>Primary Service Area</b>							
Ashburn/Arcola	4,019	6.1%	21.6%	0.6%	68.6%	3.1%	0.1%
Leesburg	4,575	10.0%	28.7%	0.9%	55.3%	5.0%	0.0%
Sterling/Dulles	4,720	12.0%	25.3%	0.8%	56.5%	5.3%	0.1%
<b>Primary Service Area Total</b>	<b>13,314</b>	<b>9.5%</b>	<b>25.4%</b>	<b>0.8%</b>	<b>59.7%</b>	<b>4.5%</b>	<b>0.1%</b>
<b>Secondary Service Area</b>							
South Riding/Aldie	1,579	3.3%	15.0%	0.8%	78.5%	2.4%	0.0%
West Loudoun (Fauquier)	43	0.0%	44.2%	0.0%	46.5%	9.3%	0.0%
West Loudoun (Loudoun)	2,141	5.6%	36.4%	0.7%	54.3%	2.9%	0.2%
<b>Secondary Service Area Total</b>	<b>3,763</b>	<b>4.5%</b>	<b>27.5%</b>	<b>0.7%</b>	<b>64.4%</b>	<b>2.8%</b>	<b>0.1%</b>
<b>Combined Service Areas Total</b>	<b>17,077</b>	<b>8.4%</b>	<b>25.8%</b>	<b>0.8%</b>	<b>60.8%</b>	<b>4.1%</b>	<b>0.1%</b>

Source: Health Systems Agency of Northern Virginia, 2011.

Medicaid and self-pay (uninsured) discharges were most prevalent in Sterling/Dulles (ZIP codes 20164 and 20166), Leesburg (ZIP code 20176), and West Loudoun (ZIP code 20117) (Exhibits 31, 32, and 33).

**Exhibit 31: Distribution of Self-pay Discharges by ZIP Code, 2010**



Sources: Microsoft MapPoint and Health Systems Agency of Northern Virginia, 2011.

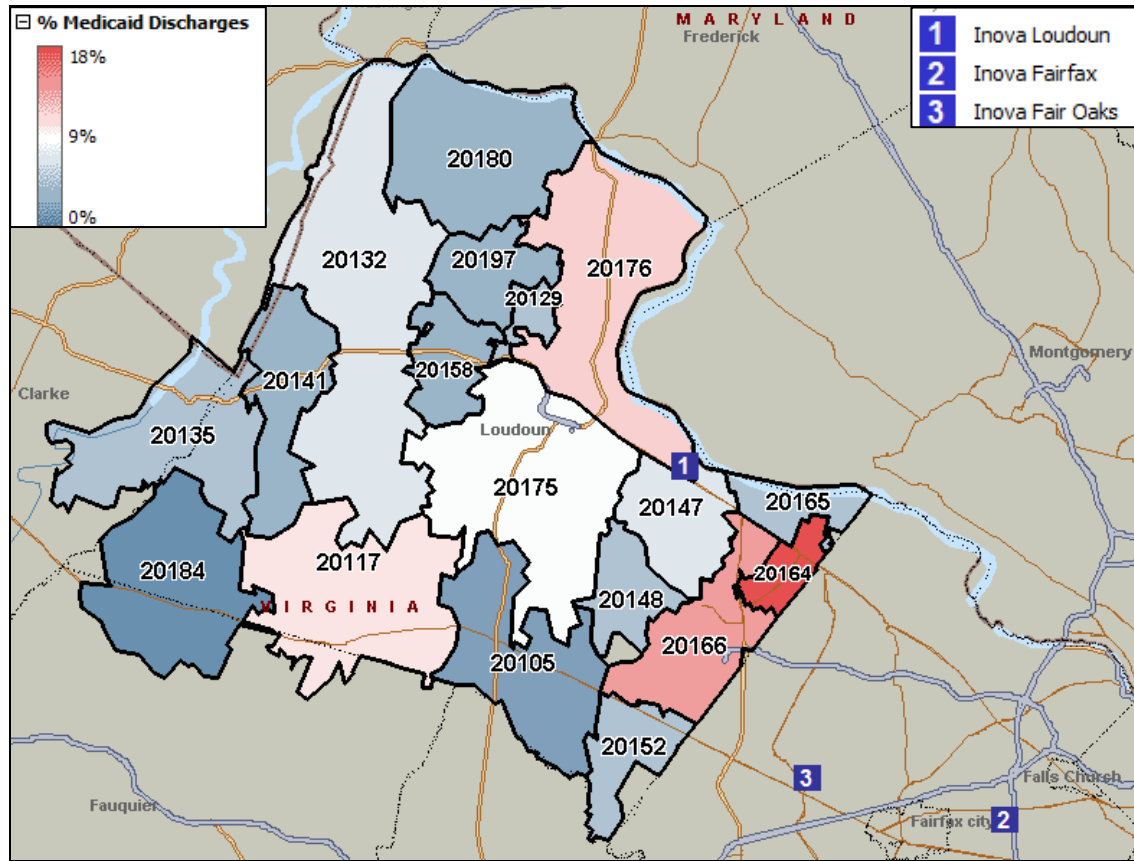
*4% of discharges were for self-pay (uninsured) residents*

...

*Self-pay discharges were prevalent in West Loudoun (ZIP codes 20184 and 20129) and Sterling/Dulles (ZIP code 20164 and 20166)*



**Exhibit 32: Distribution of Medicaid Discharges by ZIP Code, 2010**



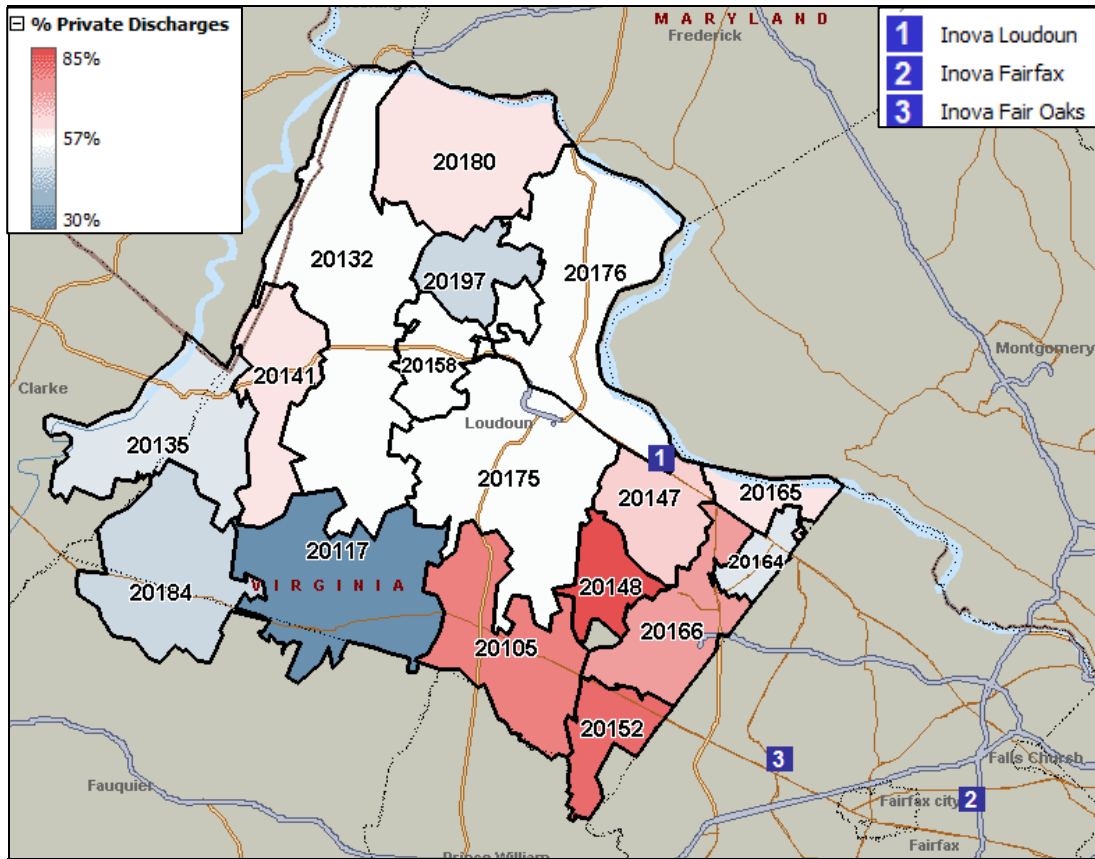
Sources: Microsoft MapPoint and Health Systems Agency of Northern Virginia, 2011.

*8% of discharges were for Medicaid recipients*

...

*Medicaid discharges were prevalent in Sterling/Dulles (ZIP code 20164)*

**Exhibit 33: Distribution of Private Discharges by ZIP Code, 2010**



Sources: Microsoft MapPoint and Health Systems Agency of Northern Virginia, 2011.

*61% of community discharges were for patients with private coverage*

...

*The greatest proportions of private discharges originated from South Riding/Aldie (ZIP codes 20148 and 20152)*

## County-Level Health Status and Access Indicators

The following secondary data sources have been used to examine county-level health status and access indicators in the Inova Loudoun community: (1) County Health Rankings, (2) Community Health Status Indicators Project, (3) Virginia Department of Health, and (4) the Behavioral Risk Factor Surveillance System.

## 1. County Health Rankings

*County Health Rankings*, a collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, ranks each county within each state (or commonwealth) in terms of health factors and health outcomes. The health outcomes measure is a composite based on mortality and morbidity statistics, and the health factors measure is a composite of several variables known to affect health outcomes: health behaviors, clinical care, social and economic factors, and physical environment.

*County Health Rankings* is updated annually. *County Health Rankings 2012* relies on data from 2002 to 2010, with most data originating in 2006 to 2009. *County Health Rankings 2011* relies on data from 2001 to 2009, with most data originating in 2006 to 2008. In 2011, *County Health Rankings* was able to rank 132 of Virginia's 134 counties. In 2012, *County Health Rankings* ranked 131 counties.

**Exhibit 34** provides a summary analysis of the rankings for county in Inova Loudoun's community. Rankings for Virginia were divided into quartiles to indicate how each county ranks versus others in the commonwealth. **Exhibit 34** illustrates the quartile into which each county fell by indicator in the 2012 edition, and also illustrates whether a county's ranking worsened or improved from 2011. For example, in the 2012 edition, Loudoun County was in the top half (12<sup>th</sup> out of 131) of Virginia counties for the overall rate of morbidity; however, its ranking in 2012 fell for this indicator compared to the 2011 edition.

### Exhibit 34: County-Level Health Status and Access Indicators

Indicator	Loudoun County	Rank Change 2011 - 2012
Health Outcomes		3 to 3
Mortality		3 to 1
Morbidity	↓	9 to 12
Health Factors		1 to 1
Health Behaviors		4 to 2
Tobacco Use		9 to 7
Diet and Exercise*		N/A
Alcohol Use <sup>8</sup>		79 to 72
Sexual Activity		4 to 2
Clinical Care		17 to 11
Access to Care		16 to 7
Quality of Care <sup>9</sup>	↓	45 to 62
Social & Economic Factors		1 to 1
Education	↓	1 to 2
Employment		2 to 2
Income		2 to 2
Family and Social Support		1 to 1
Community Safety <sup>10</sup>		26 to 23
Physical Environment <sup>11</sup>		119 to 117
Environmental Quality <sup>12</sup>		127 to 126
Built Environment*		N/A

*Loudoun County compared relatively favorably among the 131 counties in Virginia*

Source: *County Health Rankings*, 2011 and 2012.

\*The 2012 edition of *County Health Rankings* used different data sources for the “Diet and Exercise” and “Built Environment” indicators than the 2011 edition. Therefore, it is not possible to draw comparisons between years for these indicators.

Key	
2012 County Ranking 1 - 66	
2012 County Ranking 67 - 98	
2012 County Ranking 99 -131	
Ranks Not Comparable Between 2011 and 2012	N/A
Rank Worsened from 2011 to 2012	↓

Loudoun County ranked in the bottom one-half of Virginia counties for Alcohol Use and Environmental Quality. The county rankings worsened in Morbidity, Quality of Care, and Education.

<sup>8</sup> A composite measure that examines the percent of adults who report heavy or binge drinking and the motor vehicle crash death rate per 100,000 population.

<sup>9</sup> A composite measure that examines the hospitalization rate for ambulatory care sensitive conditions, whether diabetic Medicare patients are receiving HbA1C screening, and percent of chronically ill Medicare enrollees in hospice care in the last 8 months of life.

<sup>10</sup> A measure that examines the violent crime rate per 100,000 population.

<sup>11</sup> A composite measure that examines Environmental Quality (see below) and Built Environment, which measures access to healthy foods and recreational facilities and the percent of restaurants that are for fast food.

<sup>12</sup> A composite measure that examines the number of air pollution-particulate matter days and air pollution-ozone days.

## 2. Community Health Status Indicators Project

The *Community Health Status Indicators* (CHSI) Project, provided by the U.S. Department of Health and Human Services, compares many health status and access indicators to both the median rates in the U.S. and to rates in “peer counties” across the U.S.

Counties are considered “peers” if they share common characteristics such as population size, poverty rate, average age, and population density. **Exhibit 35** highlights the analysis of CHSI health status indicators. Cells in the table are shaded if, on that indicator, a county compared unfavorably both to the U.S. as a whole and to the group of specified peer counties.

### Exhibit 35: Unfavorable CHSI Indicators

Indicator	Loudoun County
Low Birth Weight Infants	
Very Low Birth Weight Infants	
Premature Births	
No Care in First Trimester	
Births to Women under 18	
Births to Women age 40-54*	
Births to Unmarried Women	
Infant Mortality	
Hispanic Infant Mortality	
White non Hispanic Infant Mortality	
Black non Hispanic Infant Mortality	
Neonatal Infant Mortality	
Post-neonatal Infant Mortality	
Breast Cancer (Female)	
Colon Cancer	
Lung Cancer	
Coronary Heart Disease	
Stroke	
Homicide	
Suicide	
Motor Vehicle Injuries	
Unintentional Injury	

*Loudoun County compared unfavorably to peer counties for births to women age 40-54, Hispanic infant mortality, Black infant mortality, and breast cancer*

Key	
	Unfavorable

Source: The *Community Health Status Indicators* Project, 2010.

\* The Community Health Status Indicators Project considers a high number of births to women age 40-54 to be an unfavorable health outcome. Caution should be used when interpreting this indicator; women may be choosing to delay having children to pursue career or educational goals.

Overall, Loudoun County compared favorably for most health indicators. Births to women age 40-54, Hispanic Infant Mortality, Black non-Hispanic Infant Mortality, and Breast Cancer (female) compared unfavorably to U.S. and peer county benchmarks.

### 3. Virginia Department of Health

The Virginia Department of Health (VDH) maintains a publicly-available data warehouse that includes indicators regarding a number of health issues. **Exhibit 36 compares** Loudoun County’s rates for leading causes of death to Virginia averages. **Exhibits 37 through 40** allow assessing racial and ethnic disparities associated with cancer, cardiovascular disease, injury, and other causes of death. **Exhibits 41 through 44** provide information on cancer incidence rates, sexually transmitted infection diagnosis rates, the number of residents living with HIV, and reported cases of tuberculosis. **Exhibits 45 and 46** provide information on maternal and child health indicators by race.

**Exhibit 36: Leading Causes of Death, 2010**

Death Rates*	Loudoun County	Virginia
Deaths From All Causes	522.3	<b>739.2</b>
Malignant Neoplasms	138.6	<b>170.9</b>
Diseases Of The Heart	116.1	<b>167.6</b>
Cerebrovascular Diseases	25.2	<b>41.7</b>
Chronic Lower Respiratory Disease	16.9	<b>37.9</b>
Unintentional Injury	14.9	<b>32.2</b>
Alzheimer's	18.2	<b>24.4</b>
Nephritis And Nephrosis	10.0	<b>20.1</b>
Diabetes	12.1	<b>18.7</b>
Septicemia	7.8	<b>17.2</b>
Influenza And Pneumonia	11.9	<b>15.3</b>
Suicide	9.2	<b>11.9</b>
Chronic Liver Disease	5.4	<b>7.8</b>
Primary Hypertension And Renal Disease	5.6	<b>7.5</b>
Parkinson's Disease	7.2	<b>6.9</b>

*Loudoun County compared favorably to Virginia for fourteen leading causes of death*

Key	
Better than VA	
0%-25% worse than VA	
25% to 75% worse than VA	
>75% worse than VA	

Source: Virginia Department of Health, 2012.  
Rates are per 100,000 population and are not age-adjusted.

According to VDH, Loudoun County compared favorably to Virginia on fourteen indicators. **(Exhibit 36).**

**Exhibit 37** portrays 2010 cancer mortality rates by race. Cells are shaded if the rate for a cohort within the county exceeded the Virginia average for that cohort.

### Exhibit 37: Cancer Mortality Rates by Race, 2010

County and Race	Colorectal	Pancreas	Lung and Bronchus	Breast (Male and Female)	Cervical and Uterine	Prostate	Non-Hodgkin's Lymphoma	Leukemia
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#### Loudoun County

White	11.9	4.7	20.0	9.4	3.4	4.7	2.1	2.1
Black	15.8	15.8	51.3	11.8	7.9	7.9	3.9	7.9
Other*	0.0	1.9	7.7	0.0	1.9	5.8	0.0	1.9
<b>Total</b>	<b>10.2</b>	<b>5.1</b>	<b>20.5</b>	<b>8.0</b>	<b>3.5</b>	<b>5.1</b>	<b>1.9</b>	<b>2.6</b>

#### Virginia

White	15.9	11.7	54.6	12.9	8.6	8.2	6.2	7.0
Black	17.3	10.2	42.4	16.2	8.7	13.0	4.3	4.0
Other*	6.5	3.5	13.9	3.7	2.6	1.5	2.8	3.2
<b>Total</b>	<b>15.5</b>	<b>10.9</b>	<b>49.4</b>	<b>12.9</b>	<b>8.2</b>	<b>8.7</b>	<b>5.6</b>	<b>6.1</b>

Key	
Higher Than VA Average	

Source: Virginia Department of Health, 2012.

Rates are per 100,000 population and are not age-adjusted.

\* The "Other" population includes residents who identify as American Indian/Native American, Asian/Pacific Islander, two or more races, or some other race.

The Black population in Loudoun County had higher mortality rates for Leukemia, pancreatic, and lung and bronchus cancer than the Virginia rates. The rate of prostate cancer mortality in the "Other" (non-White, non-Black) population was also higher than the Virginia rate. Black residents had higher mortality rates than non-Black residents for all cancers in Loudoun County (Exhibit 37).

### Exhibit 38: Cardiovascular Disease Mortality Rates by Race, 2010

County and Race	All Major Cardiovascular Diseases	All Diseases of the Heart	Hypertensive Heart And Renal Diseases	Ischemic Heart Diseases	All Other Diseases of the Heart
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#### Loudoun County

White	89.3	70.1	2.1	41.7	26.4
Black	114.5	94.8	0.0	47.4	47.4
Other*	25.1	15.5	0.0	11.6	3.9
<b>Total</b>	<b>80.7</b>	<b>63.1</b>	<b>1.6</b>	<b>37.1</b>	<b>24.3</b>

#### Virginia

White	236.0	179.6	6.4	106.0	67.2
Black	223.5	161.9	10.7	84.7	66.6
Other*	60.9	41.0	1.7	26.2	13.2
<b>Total</b>	<b>221.6</b>	<b>166.6</b>	<b>6.9</b>	<b>96.3</b>	<b>63.4</b>

#### Key

Higher Than VA Average

Source: Virginia Department of Health, 2012.

Rates are per 100,000 population and are not age-adjusted.

\* The "Other" population includes residents who identify as American Indian/Native American, Asian/Pacific Islander, two or more races, or some other race.

All racial cohorts within the county compared favorably to Virginia averages. However, Black residents had higher rates than non-Black residents for many cardiovascular diseases (**Exhibit 38**).

### Exhibit 39: Injury Mortality Rates by Race, 2010

County and Race	Unintentional Injuries, Total	Motor Vehicle Accidents	Accidental Falls, Firearms, And Drowning	Accidental Poisoning and Noxious Substances	All Other Unintentional Injuries	Suicide	Homicide
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#### Loudoun County

White	13.6	4.7	3.0	2.1	3.8	9.4	0.4
Black	11.8	7.9	0.0	0.0	3.9	3.9	0.0
Other*	1.9	1.9	0.0	0.0	0.0	1.9	0.0
<b>Total</b>	<b>11.5</b>	<b>4.5</b>	<b>2.2</b>	<b>1.6</b>	<b>3.2</b>	<b>7.7</b>	<b>0.3</b>

#### Virginia

White	36.3	9.5	9.3	8.2	9.3	14.7	2.6
Black	25.7	9.1	3.9	4.8	7.9	5.8	12.4
Other*	7.1	2.0	3.7	0.2	1.1	5.8	2.6
<b>Total</b>	<b>32.1</b>	<b>8.9</b>	<b>7.8</b>	<b>6.9</b>	<b>8.4</b>	<b>12.3</b>	<b>4.6</b>

#### Key

Higher Than VA Average

Source: Virginia Department of Health, 2012.

Rates are per 100,000 population and are not age-adjusted.

\* The "Other" population includes residents who identify as American Indian/Native American, Asian/Pacific Islander, two or more races, or some other race.



All racial cohorts within the county compared favorably to Virginia averages. However, Black residents had higher injury mortality rates than non-Black residents for motor vehicle accidents and all other unintentional injuries in Loudoun County (**Exhibit 39**).

**Exhibit 40: Other Mortality Rates by Race, 2010**

County and Race	Diabetes Mellitus	Parkinson's Disease	Alzheimer's Disease	Cerebro-vascular Diseases	Influenza And Pneumonia	CLRD	Chronic Liver Disease and Cirrhosis
<b>Loudoun County</b>							
White	5.1	3.8	10.6	13.6	7.2	11.5	3.4
Black	15.8	0.0	3.9	15.8	0.0	0.0	11.8
Other*	9.7	1.9	0.0	7.7	1.9	0.0	3.9
<b>Total</b>	<b>6.7</b>	<b>3.2</b>	<b>8.3</b>	<b>12.8</b>	<b>5.8</b>	<b>8.6</b>	<b>4.2</b>
<b>Virginia</b>							
White	17.5	8.1	27.6	42.0	16.6	44.8	9.8
Black	28.7	2.5	13.5	44.2	11.8	19.8	6.8
Other*	6.5	1.1	2.6	16.3	3.9	4.6	1.5
<b>Total</b>	<b>19.1</b>	<b>6.5</b>	<b>23.0</b>	<b>40.7</b>	<b>14.8</b>	<b>37.0</b>	<b>8.6</b>
<b>Key</b>							
Higher Than VA Average							

Source: Virginia Department of Health, 2012.  
 Rates are per 100,000 population and are not age-adjusted.  
 \* The "Other" population includes residents who identify as American Indian/Native American, Asian/Pacific Islander, two or more races, or some other race.

When compared to Virginia averages, the "Other" (non-White, non-Black) population of Loudoun County had higher mortality rates for diabetes mellitus, Parkinson's disease, and chronic liver disease and cirrhosis. The Black population also had higher mortality rates for chronic liver disease and cirrhosis than the Virginia rate. Compared to other racial cohorts, Black residents had higher mortality rates for diabetes mellitus, cerebrovascular diseases, and chronic liver disease and cirrhosis (**Exhibit 40**).

**Exhibit 41: Cancer Incidence Rates by County, 2004-2008**

Cancer Incidence	Loudoun County	Virginia
<b>Breast</b>		
Count	642	26,319
Rate/100,000*	119.5	124.2
Health District Rank	26	-
<b>Cervical</b>		
Count	34	1,356
Rate/100,000	5.4	6.7
Health District Rank	29	-
<b>Colorectal</b>		
Count	288	17,092
Rate/100,000	36.1	45.1
Health District Rank	34	-
<b>Lung and Bronchus</b>		
Count	326	25,741
Rate/100,000	44.7	68.4
Health District Rank	33	-
<b>Melanoma</b>		
Count	205	7,848
Rate/100,000	19.9	20.3
Health District Rank	20	-
<b>Oral</b>		
Count	78	4,095
Rate/100,000	7.7	10.4
Health District Rank	34	-
<b>Ovarian</b>		
Count	49	2,532
Rate/100,000	10.8	12.0
Health District Rank	25	-
<b>Prostate</b>		
Count	541	27,726
Rate/100,000	140.8	159.4
Health District Rank	26	-

Key	
Bottom 50% of VA Health Districts	

Source: Virginia Department of Health, 2008.  
Rates are age-adjusted.

*Loudoun County compared favorably to Virginia for all cancer incidence rates*

...

*The county's highest incidence rate was for prostate cancer*

When compared to the Virginia rates, Loudoun County benchmarked favorably for all cancer incidence rates (**Exhibit 41**).

**Exhibit 42: Sexually Transmitted Infection Diagnoses Rates by County, 2007-2010**

County	Chlamydia Diagnosis Rate*				Gonorrhea Diagnosis Rate*				Syphilis Diagnosis Rate*			
	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010
Loudoun County	111.2	136.9	107.2	110.1	7.2	20.7	12.9	18.9	2.9	1.7	1.7	1.3
<b>Virginia</b>	<b>329.8</b>	<b>391.0</b>	<b>395.9</b>	<b>393.2</b>	<b>88.4</b>	<b>129.3</b>	<b>99.1</b>	<b>89.6</b>	<b>5.3</b>	<b>6.6</b>	<b>7.0</b>	<b>6.5</b>

Key	
Better than VA	
0%-25% worse than VA	
25% to 75% worse than VA	
>75% worse than VA	

Source: Virginia Department of Health, 2011.  
Rates are per 100,000 population.

The Inova Loudoun community reported lower rates of sexually transmitted infection diagnoses than the Virginia rate (**Exhibit 42**).

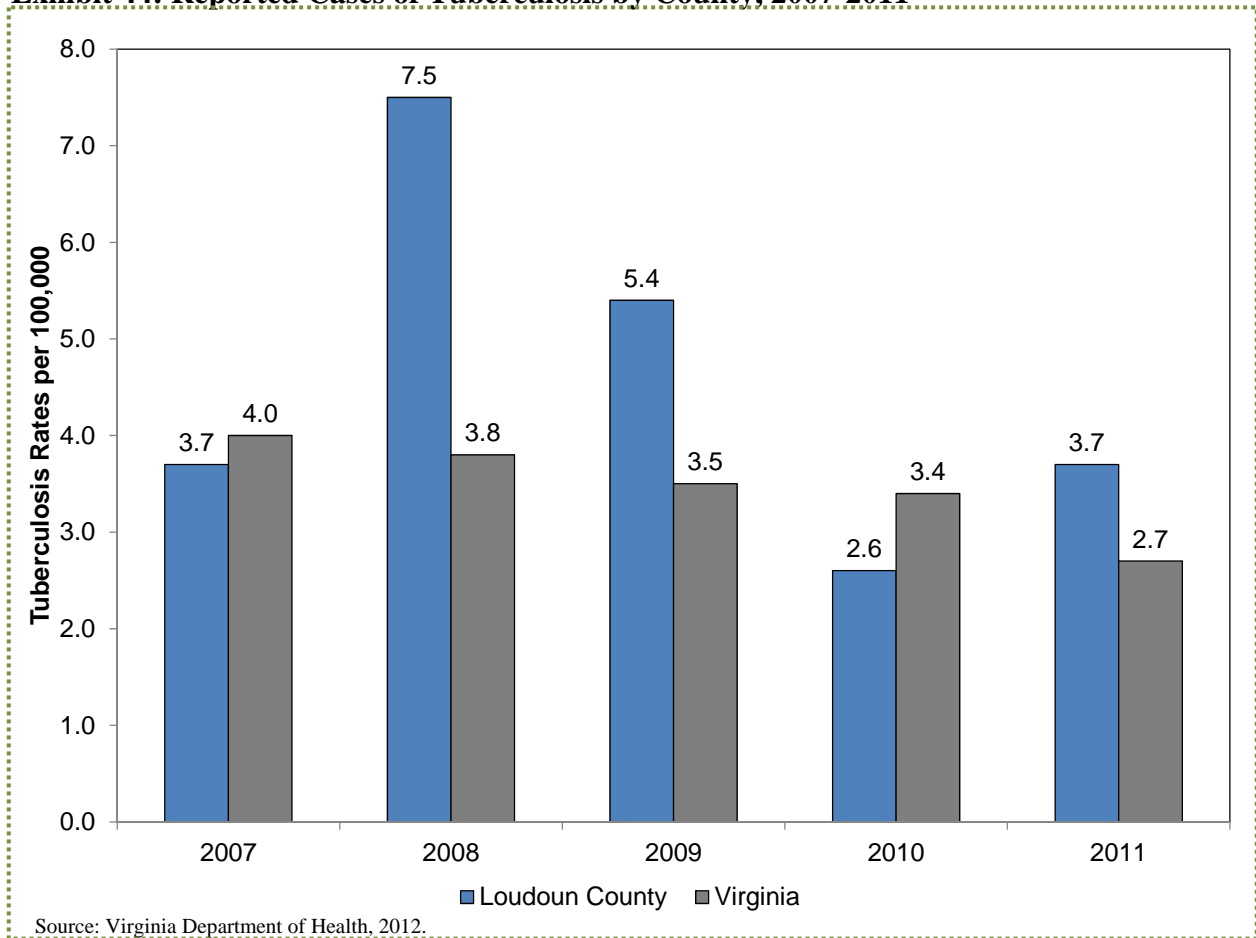
**Exhibit 43: Residents Living with HIV by County, 2011**

County	HIV Only	AIDS	All Cases of HIV/AIDS	
	Number	Number	Number	Rate*
Loudoun County	153	182	335	107.3
<b>Virginia</b>	<b>11,930</b>	<b>11,878</b>	<b>23,808</b>	<b>297.6</b>

Source: Virginia Department of Health, 2011.  
Rates are per 100,000 population.

In 2011, the rate of residents in Loudoun County living with HIV/AIDS was approximately 64 percent lower than the Virginia average (**Exhibit 43**).

**Exhibit 44: Reported Cases of Tuberculosis by County, 2007-2011**



Tuberculosis rates have varied in Loudoun County since 2007. In 2011, the rate was higher than the Virginia average (**Exhibit 44**).

**Exhibit 45: Maternal and Child Health Indicators by County, 2010**

Indicator	Loudoun County	Virginia
Number of Total Births	5,068	<b>102,934</b>
Percent Non-Marital Births of Total Births	16.3%	<b>35.5%</b>
Percent Low Weight Births of Total Births	6.9%	<b>8.2%</b>
Percent Very Low Weight Births of Total Births	1.1%	<b>1.6%</b>
Percent Without Prenatal Care Began in First 13 Weeks	9.9%	<b>14.5%</b>
Teen Pregnancy Rate per 1,000 Females Age 10-19	7.0	<b>21.1</b>
Infant Death Rate Per 1,000 Live Births	4.1	<b>6.8</b>

*Loudoun County compared favorably to Virginia for all maternal and child health indicators*

Key	
Better than VA	
0%-25% worse than VA	
25% to 75% worse than VA	
>75% worse than VA	

Source: Virginia Department of Health, 2012.

Loudoun County reported better outcomes than Virginia for all maternal and child health indicators. (**Exhibit 45**).

**Exhibit 46: Maternal and Child Health Indicators by Race, 2010**

County and Race	Percent Non-Marital Births of Total Births	Percent Low Weight Births of Total Births	Percent Very Low Weight Births of Total Births	Teen Pregnancy Rate per 1,000 Females Age 10-19	Infant Death Rate Per 1,000 Live Births
<b>Loudoun County</b>					
White	17.6%	6.3%	1.0%	7.7	3.9
Black	34.8%	7.7%	2.3%	6.7	10.3
Other*	5.0%	8.7%	1.0%	3.0	2.8
<b>Total</b>	<b>16.3%</b>	<b>6.9%</b>	<b>1.1%</b>	<b>7.0</b>	<b>4.1</b>
<b>Virginia</b>					
White	27.8%	6.9%	1.2%	16.7	4.9
Black	66.3%	12.5%	3.0%	34.9	14.6
Other*	21.3%	8.1%	1.3%	15.4	2.5
<b>Total</b>	<b>35.5%</b>	<b>8.2%</b>	<b>1.6%</b>	<b>21.1</b>	<b>6.8</b>

Key	
Higher Than VA Average	

Source: Virginia Department of Health, 2012.

\* The "Other" population includes residents who identify as American Indian/Native American, Asian/Pacific Islander, two or more races, or some other race.

Non-White residents had the most unfavorable outcomes for all maternal and child health indicators except for the rate of pregnancies to women aged 10 to 19. The "Other" (non-White, non-Black) population had a higher percentage of low weight births and a higher infant mortality rate than the Virginia average (**Exhibit 46**).

#### 4. Behavioral Risk Factor Surveillance System

Data collected by the Centers for Disease Control and Prevention's (CDC) Behavioral Risk Factor Surveillance System (BRFSS) are based on a telephonic survey that gathers data on various health indicators, risk behaviors, healthcare access, and preventive health measures. Data are collected for the entire U.S. Analysis of BRFSS data can identify localized health issues and trends, and enable county, state or commonwealth, or nation-wide comparisons. **Exhibit 47** compares various BRFSS indicators for the community served by Inova Loudoun, Virginia, and the U.S. Indicators are shaded if the county's values compare unfavorably to Virginia averages.

### Exhibit 47: BRFSS Indicators and Variation from the Commonwealth of Virginia, 2010

Indicator		Loudoun County	Virginia	U.S.
Health Behaviors	Binge Drinkers**	9.3%	9.7%	10.1%
	Heavy Drinkers***	7.3%	4.4%	4.4%
	Current Smoker	6.6%	16.4%	11.5%
	No Physical Activity Past 30 Days	21.2%	28.5%	27.4%
Prevention Variables	Women 18+ with No Pap Test in Past 3 Years	15.9%	16.0%	20.2%
	Women 40+ with No Mammogram in Past 2 Years	11.3%	19.4%	23.6%
Access Variables	Could Not See A Doctor Due to Cost in Past Year	7.3%	11.0%	11.8%
Health Conditions	Told Have Asthma	6.0%	8.9%	9.2%
	Told Have Diabetes	6.6%	13.1%	12.7%
	Told Have Coronary Heart Disease or Angina	4.0%	6.3%	6.6%
	Overweight or Obese	56.3%	61.9%	61.9%
Mental Health	Rarely or Never Receiving Needed Social and Emotional Support	7.6%	8.4%	8.7%
	Poor Mental Health > 21 Days/Month	4.0%	6.3%	N/A
Oral Health	No Dental Care Visit in Past Year	13.9%	26.2%	30.3%
	Greater than 6 Teeth Extracted	7.3%	13.9%	14.6%
	All Teeth Extracted	2.6%	7.8%	8.8%
Overall Health	Limited by Physical, Mental, or Emotional Problems	17.9%	25.0%	26.8%
	Poor Physical Health > 21 Days/Month	2.0%	9.1%	N/A
	Reported Poor or Fair Health	14.6%	19.6%	20.1%

Key	
Better than VA	
0%-25% worse than VA	
25% to 75% worse than VA	
>75% worse than VA	
Data Not Available	N/A

Source: CDC BRFSS, 2011.

\*\*Adult males having five or more drinks on one occasion; adult females having four or more drinks on one occasion.

\*\*\*Adult men having more than two drinks per day; adult women having more than one drink per day.

One indicator, the percent of people who were heavy drinkers in Loudoun County, was reported as being between 25 and 75 percent worse than Virginia averages.

**Exhibit 48** compares Loudoun County and other Northern Virginia jurisdictions to Virginia averages. In general, Loudoun County compares favorably to other jurisdictions in Northern Virginia. However, the percent of women over the age of 18 with no pap test in the past 3 years, the percent of those rarely or never receiving needed social or emotional support, and the percent who had reported poor or fair health were higher than those in several jurisdictions.

**Exhibit 48: BRFSS Indicators and Variation from the Commonwealth of Virginia, 2010**

Indicator		Alexandria City	Arlington County	Fairfax County	Fairfax City*	Loudoun County	Manassas City*	Prince William County	Virginia
Health Behaviors	Binge Drinkers**	10.9%	14.7%	12.7%	4.3%	9.3%	0.0%	11.8%	9.7%
	Heavy Drinkers***	7.6%	4.9%	8.9%	4.3%	7.3%	0.0%	4.4%	4.4%
	Current Smoker	10.1%	7.0%	8.9%	8.9%	6.6%	28.6%	13.2%	16.4%
	No Physical Activity Past 30 Days	17.6%	14.7%	15.8%	21.7%	21.2%	0.0%	24.3%	28.5%
Prevention Variables	Women 18+ with No Pap Test in Past 3 Years	11.8%	12.7%	14.1%	0.0%	15.9%	14.3%	11.3%	16.0%
	Women 40+ with No Mammogram in Past 2 Years	14.3%	4.4%	15.8%	4.3%	11.3%	0.0%	14.9%	19.4%
Health Conditions	Told Have Asthma	5.9%	10.5%	7.6%	17.4%	6.0%	6.0%	10.3%	8.9%
	Told Have Diabetes	6.7%	4.2%	11.4%	8.7%	6.6%	14.3%	7.4%	13.1%
	Told Have Coronary Heart Disease or Angina	3.4%	3.5%	6.3%	4.3%	4.0%	0.0%	1.5%	6.3%
	Overweight or Obese	52.1%	48.3%	55.7%	78.3%	56.3%	71.4%	64.0%	61.9%
Mental Health	Rarely or Never Receiving Needed Social and Emotional Support	6.1%	7.1%	4.0%	4.5%	7.6%	0.0%	6.1%	8.4%
	Poor Mental Health > 21 Days/Month	4.2%	3.5%	1.9%	0.0%	4.0%	0.0%	5.1%	6.3%
Oral Health	No Dental Care Visit in Past Year	16.0%	11.2%	14.6%	13.0%	13.9%	14.3%	14.7%	26.2%
	Greater than 6 Teeth Extracted	7.6%	4.2%	8.2%	17.4%	7.3%	14.3%	8.1%	13.9%
	All Teeth Extracted	3.4%	3.5%	1.9%	0.0%	2.6%	14.3%	2.2%	7.8%
Overall Health	Limited by Physical, Mental, or Emotional Problems	20.2%	20.3%	24.1%	17.4%	17.9%	14.3%	15.4%	25.0%
	Poor Physical Health > 21 Days/Month	7.6%	4.2%	3.8%	13.0%	2.0%	5.1%	5.1%	9.1%
	Reported Poor or Fair Health	13.4%	11.2%	13.3%	26.1%	14.6%	14.3%	8.1%	19.6%

Key	
Better than VA	
0%-25% worse than VA	
25% to 75% worse than VA	
>75% worse than VA	
Data Not Available	N/A

Source: CDC BRFSS, 2011.

\*Fairfax City and Manassas City had a small sample size; Data were not available for Falls Church City and Manassas Park City.

\*\*Adult males having five or more drinks on one occasion; adult females having four or more drinks on one occasion.

\*\*\*Adult men having more than two drinks per day; adult women having more than one drink per day.



## Ambulatory Care Sensitive Conditions

This section examines the frequency of discharges for ACSC throughout the community and at the hospital.

The methodologies for quantifying discharges for ACSC have been well-tested for more than a decade. The methodologies quantify inpatient admissions for diabetes, perforated appendixes, chronic obstructive pulmonary disease (COPD), hypertension, congestive heart failure, dehydration, bacterial pneumonia, urinary tract infection, asthma, and other conditions that, in theory, could have been prevented if adequate ambulatory (primary) care resources were available and accessed by those patients.<sup>13</sup>

Disproportionately large numbers of discharges for ACSC indicate potential problems with the availability or accessibility of ambulatory care services. The Agency for Healthcare Research and Quality (AHRQ), part of the U.S. Department of Health and Human Services, publishes software and methodologies for assessing discharges for ACSC. The AHRQ software was applied to analyze the prevalence of discharges for ACSC in geographic areas served by Inova Loudoun.

The ACSC analysis provides a single indicator of potential health problems - allowing comparisons to be made reliably across geographic areas and hospital facilities. This analysis also allows demonstrating a possible “return on investment” from interventions that reduce admissions (for example, for uninsured or Medicaid patients) through better access to ambulatory care resources.

### 1. County-Level Analysis

Disproportionately large numbers of discharges for ACSC indicate potential problems with the availability or accessibility of ambulatory (primary) care services. **Exhibit 49** indicates for the Inova Loudoun community how many hospital discharges were found to be for ACSC by payer.

**Exhibit 49: Inova Loudoun Community-Wide Discharges for ACSC by Payer, 2010**

County	Medicaid	Medicare	Other	Private	Self-pay	Unknown	Grand Total
Loudoun County	8.7%	18.9%	4.5%	5.5%	15.3%	11.1%	9.7%

Source: Verité analysis of discharge data from the Health Systems Agency of Northern Virginia using AHRQ software, 2011.

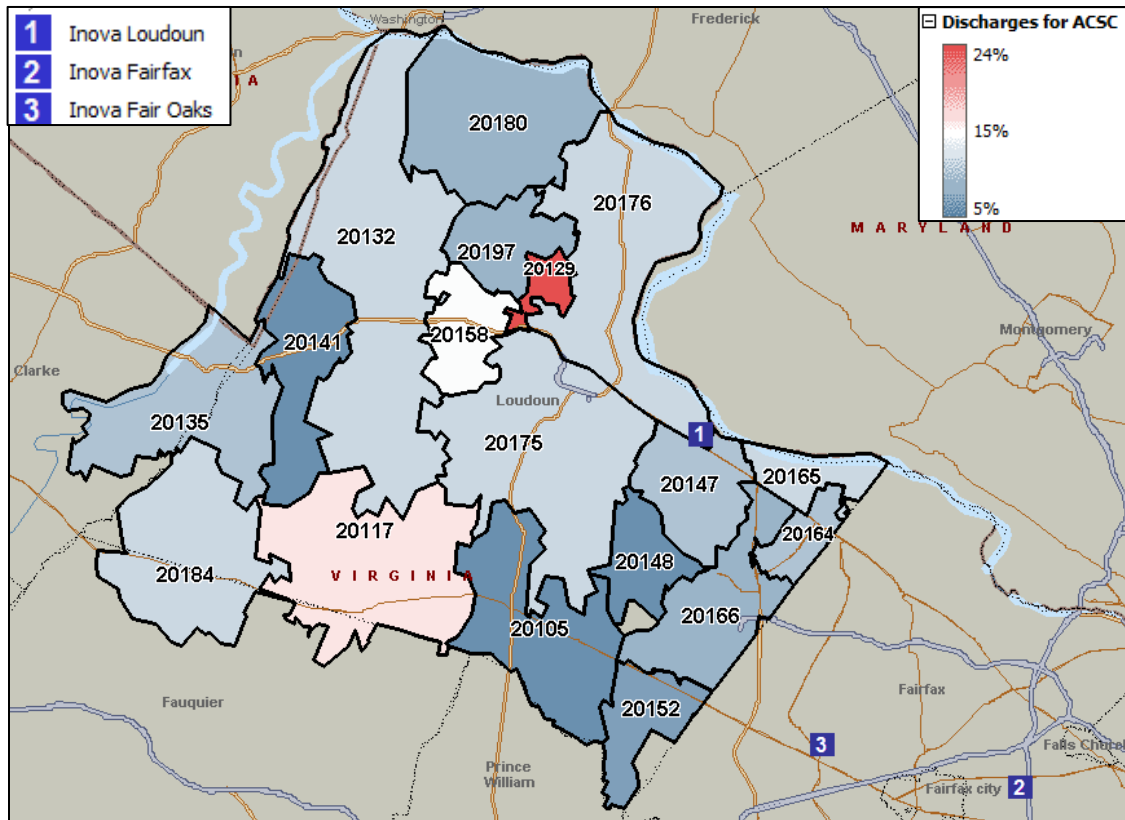
The table indicates that in 2010, 9.7 percent of discharges were for ACSC. Medicare beneficiaries had the highest proportion of discharges for ACSC, followed by self-pay (uninsured) people.

<sup>13</sup> See: <http://www.ahrq.gov/data/hcup/factbk5> for more information on this methodology.

## 2. ZIP Code-Level Analysis

**Exhibit 50** illustrates the rate of discharges for ACSC by ZIP code. These discharges were most prevalent in West Loudoun (ZIP codes 20129, 20117, and 20158).

**Exhibit 50: Community ACSC Discharges by ZIP Code, 2010**

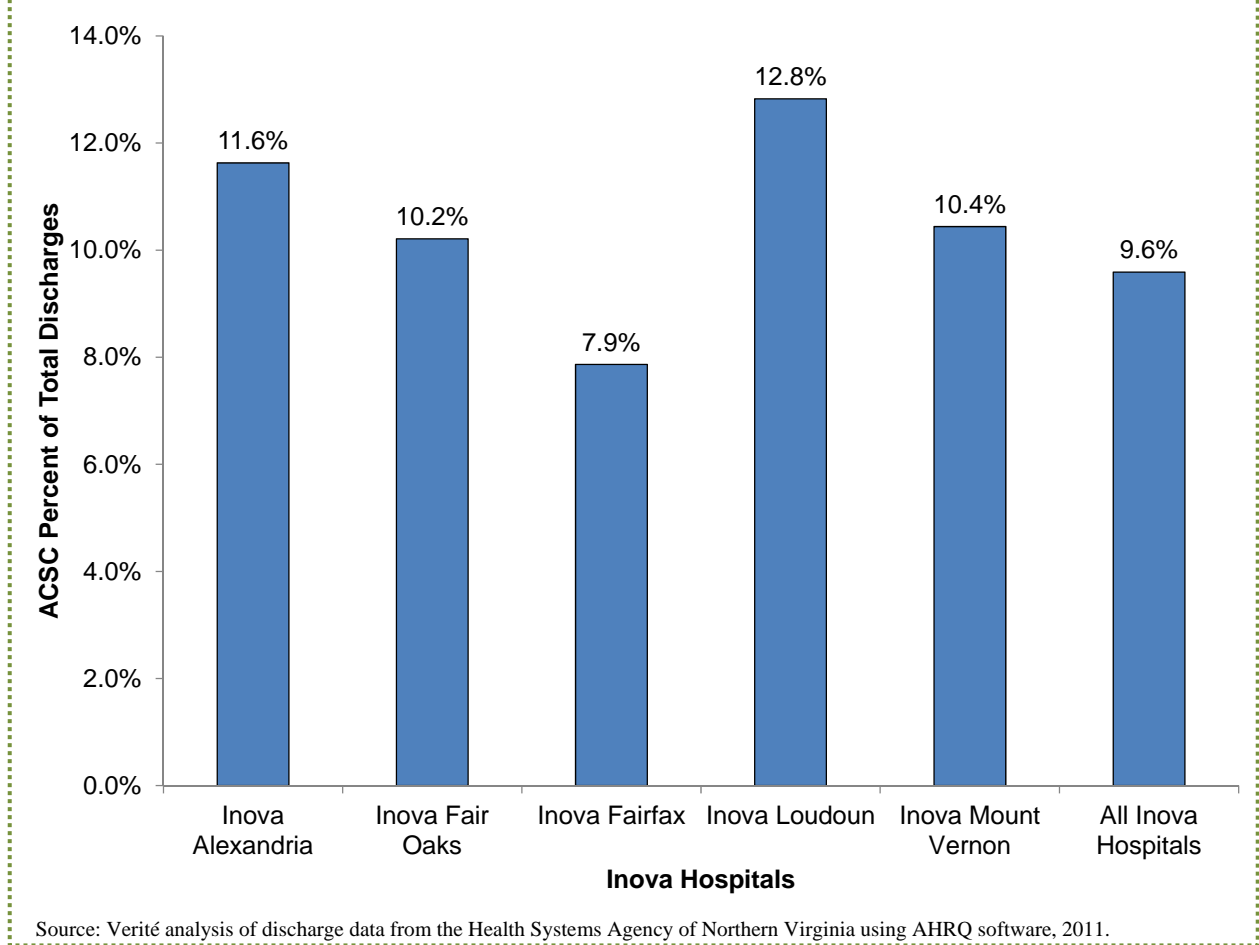


Sources: Microsoft MapPoint and analysis of discharge data from the Health Systems Agency of Northern Virginia using AHRQ software, 2011.

## 3. Hospital-Level Analysis

**Exhibit 51** indicates that 12.8 percent of Inova Loudoun’s discharges in 2010 were for ACSC, the highest of all the Inova hospitals. Across all Inova hospitals, 9.6 percent of discharges (about 8,100 cases) were for ACSC.

**Exhibit 51: Inova Loudoun Hospital Discharges for ACSC as a Percent of Total Discharges, 2010**



**Exhibit 52** indicates that Inova Loudoun’s discharges for ACSC were most concentrated in three conditions: bacterial pneumonia, congestive heart failure, and urinary tract infection.

### Exhibit 52: Discharges for ACSC by Condition and Inova Facility, 2010

Condition	Inova Alexandria	Inova Fair Oaks	Inova Fairfax	Inova Loudoun	Inova Mount Vernon	Total
Congestive Heart Failure	21.4%	14.3%	22.6%	19.5%	22.9%	<b>20.7%</b>
Bacterial Pneumonia	18.1%	18.9%	14.7%	25.0%	17.7%	<b>17.9%</b>
Urinary Tract Infection	14.9%	21.0%	14.2%	16.0%	17.3%	<b>15.9%</b>
Adult Asthma	13.3%	7.6%	5.4%	5.0%	10.1%	<b>7.6%</b>
Chronic Obstructive Pulmonary Disease	5.5%	10.2%	6.8%	8.6%	7.6%	<b>7.4%</b>
Diabetes Long-term Complication	7.3%	5.5%	5.6%	6.6%	8.7%	<b>6.4%</b>
Pediatric Asthma	0.6%	2.4%	6.9%	2.8%	0.1%	<b>3.7%</b>
Dehydration	3.9%	3.2%	2.9%	2.2%	2.7%	<b>3.0%</b>
Perforated Appendix	2.3%	3.4%	3.2%	2.7%	2.8%	<b>3.0%</b>
Diabetes Short-term Complication	3.7%	1.8%	2.4%	2.5%	4.0%	<b>2.7%</b>
Hypertension	3.0%	3.2%	2.2%	3.1%	2.1%	<b>2.6%</b>
Pediatric Urinary Tract Infection	0.4%	1.2%	3.7%	1.9%	0.1%	<b>2.1%</b>
Accidental Puncture Or Laceration	1.6%	2.8%	1.9%	0.3%	1.2%	<b>1.7%</b>
Nosocomial Vascular Catheter Related Infections	1.6%	1.6%	1.2%	1.2%	0.9%	<b>1.3%</b>
Pediatric Perforated Appendix	0.1%	0.4%	2.6%	0.6%	0.4%	<b>1.3%</b>
Pediatric Diabetes Short-term Complication	0.0%	0.0%	2.2%	0.1%	0.0%	<b>0.9%</b>
Uncontrolled Diabetes	1.4%	0.3%	0.4%	0.2%	0.8%	<b>0.6%</b>
Angina Without Procedure	0.4%	1.0%	0.3%	0.7%	0.6%	<b>0.5%</b>
Pediatric Gastroenteritis	0.2%	0.9%	0.4%	0.6%	0.0%	<b>0.4%</b>
Iatrogenic Pneumothorax	0.5%	0.3%	0.5%	0.4%	0.0%	<b>0.4%</b>
Foreign Body Left In During Procedure	0.0%	0.0%	0.1%	0.0%	0.0%	<b>0.0%</b>
<b>Total</b>	<b>1,539</b>	<b>1,161</b>	<b>3,323</b>	<b>1,289</b>	<b>774</b>	<b>8,086</b>

Source: Verité analysis of discharge data from the Health Systems Agency of Northern Virginia using AHRQ software, 2011.

In 2010, 53.1 percent of Inova Loudoun's discharges for ACSC were for persons 65 years of age and older (**Exhibit 53**).

### Exhibit 53: Discharges for ACSC by Age Group and Inova Facility, 2010

Age	Inova Alexandria	Inova Fair Oaks	Inova Fairfax	Inova Loudoun	Inova Mount Vernon	Total
0 to 17	1.2%	4.9%	15.6%	6.0%	0.6%	<b>8.4%</b>
18 to 39	12.8%	12.4%	9.8%	9.1%	9.2%	<b>10.6%</b>
40 to 64	34.1%	29.7%	26.1%	31.9%	29.5%	<b>29.4%</b>
65+	51.9%	53.0%	48.5%	53.1%	60.7%	<b>51.7%</b>
<b>Total</b>	<b>1,539</b>	<b>1,161</b>	<b>3,323</b>	<b>1,289</b>	<b>774</b>	<b>8,086</b>

Source: Verité analysis of discharge data from the Health Systems Agency of Northern Virginia using AHRQ software, 2011.

At Inova Loudoun, the most prevalent ambulatory care sensitive conditions for persons 65 years of age and older were for: bacterial pneumonia, congestive heart failure, urinary tract infection, and chronic obstructive pulmonary disease (**Exhibit 54**).

**Exhibit 54: Distribution of Inova Loudoun Discharges for ACSC by Age Group and Condition, 2010**

Condition	0 to 17	18 to 39	40 to 64	65+	Total Cases
Bacterial Pneumonia		9.3%	33.2%	57.5%	<b>322</b>
Congestive Heart Failure		1.2%	21.9%	76.9%	<b>251</b>
Urinary Tract Infection		14.6%	25.2%	60.2%	<b>206</b>
Chronic Obstructive Pulmonary Disease		0.9%	32.4%	66.7%	<b>111</b>
Diabetes Long-term Complication		2.4%	55.3%	42.4%	<b>85</b>
Adult Asthma		29.2%	41.5%	29.2%	<b>65</b>
Hypertension		5.0%	47.5%	47.5%	<b>40</b>
Pediatric Asthma	100.0%				<b>36</b>
Perforated Appendix		25.7%	51.4%	22.9%	<b>35</b>
Diabetes Short-term Complication		43.8%	53.1%	3.1%	<b>32</b>
Dehydration		10.3%	37.9%	51.7%	<b>29</b>
Pediatric Urinary Tract Infection	100.0%				<b>24</b>
Nosocomial Vascular Catheter Related Infections		13.3%	66.7%	20.0%	<b>15</b>
Angina Without Procedure		11.1%	33.3%	55.6%	<b>9</b>
Pediatric Gastroenteritis	100.0%				<b>8</b>
Pediatric Perforated Appendix	100.0%				<b>8</b>
Iatrogenic Pneumothorax			60.0%	40.0%	<b>5</b>
Accidental Puncture or Laceration		25.0%	75.0%		<b>4</b>
Uncontrolled Diabetes			100.0%		<b>3</b>
Pediatric Diabetes Short-term Complication	100.0%				<b>1</b>
<b>Total</b>	<b>6.0%</b>	<b>9.1%</b>	<b>31.9%</b>	<b>53.1%</b>	<b>1,289</b>

Source: Verité analysis of discharge data from the Health Systems Agency of Northern Virginia using AHRQ software, 2011.

*53% of Inova Loudoun's discharges for ACSC were for persons 65 years of age and older*

Of Inova Loudoun's emergency department visits in fiscal year 2010, 9.3 percent also could be classified as being for ACSC. Across all Inova hospitals, 9.1 percent of emergency department visits could be classified as being for ACSC in 2010. **Exhibit 55** indicates that Inova Loudoun's emergency department visits for ACSC were more concentrated in four conditions: urinary tract infection, bacterial pneumonia, adult asthma, and chronic obstructive pulmonary disease.

## Exhibit 55: Emergency Department Visits for ACSC by Condition and Inova Facility, 2010

Admission Rate	Inova Alexandria	Inova Fair Oaks	Inova Fairfax	Inova Loudoun	Inova Mt Vernon	Total
Urinary Tract Infection	25.7%	26.5%	30.4%	22.5%	31.5%	<b>28.1%</b>
Chronic Obstructive Pulmonary Disease	20.2%	17.9%	9.5%	16.1%	19.7%	<b>18.4%</b>
Adult Asthma	15.8%	13.7%	13.8%	16.7%	13.7%	<b>14.5%</b>
Bacterial Pneumonia	12.7%	15.0%	16.5%	16.8%	10.4%	<b>14.2%</b>
Hypertension	9.0%	8.2%	7.7%	7.7%	9.0%	<b>7.7%</b>
Congestive Heart Failure	5.2%	5.9%	8.6%	4.7%	6.1%	<b>5.4%</b>
Dehydration	4.8%	6.3%	4.8%	8.1%	2.4%	<b>5.0%</b>
Diabetes Long-term Complications	3.8%	2.8%	4.2%	3.4%	3.7%	<b>3.1%</b>
Diabetes Short-term Complications	1.6%	0.8%	1.6%	1.2%	1.6%	<b>1.2%</b>
Lower-extremity Amputation among Diabetics	0.3%	1.5%	0.5%	1.4%	1.0%	<b>1.0%</b>
Perforated Appendix	0.8%	0.7%	2.0%	1.0%	0.5%	<b>1.0%</b>
Angina without Procedure	0.2%	0.6%	0.4%	0.4%	0.3%	<b>0.4%</b>
<b>Total</b>	<b>5,965</b>	<b>4,592</b>	<b>8,016</b>	<b>6,118</b>	<b>3,276</b>	<b>34,200</b>

Source: Verité analysis of Emergency Department Data, 2011.

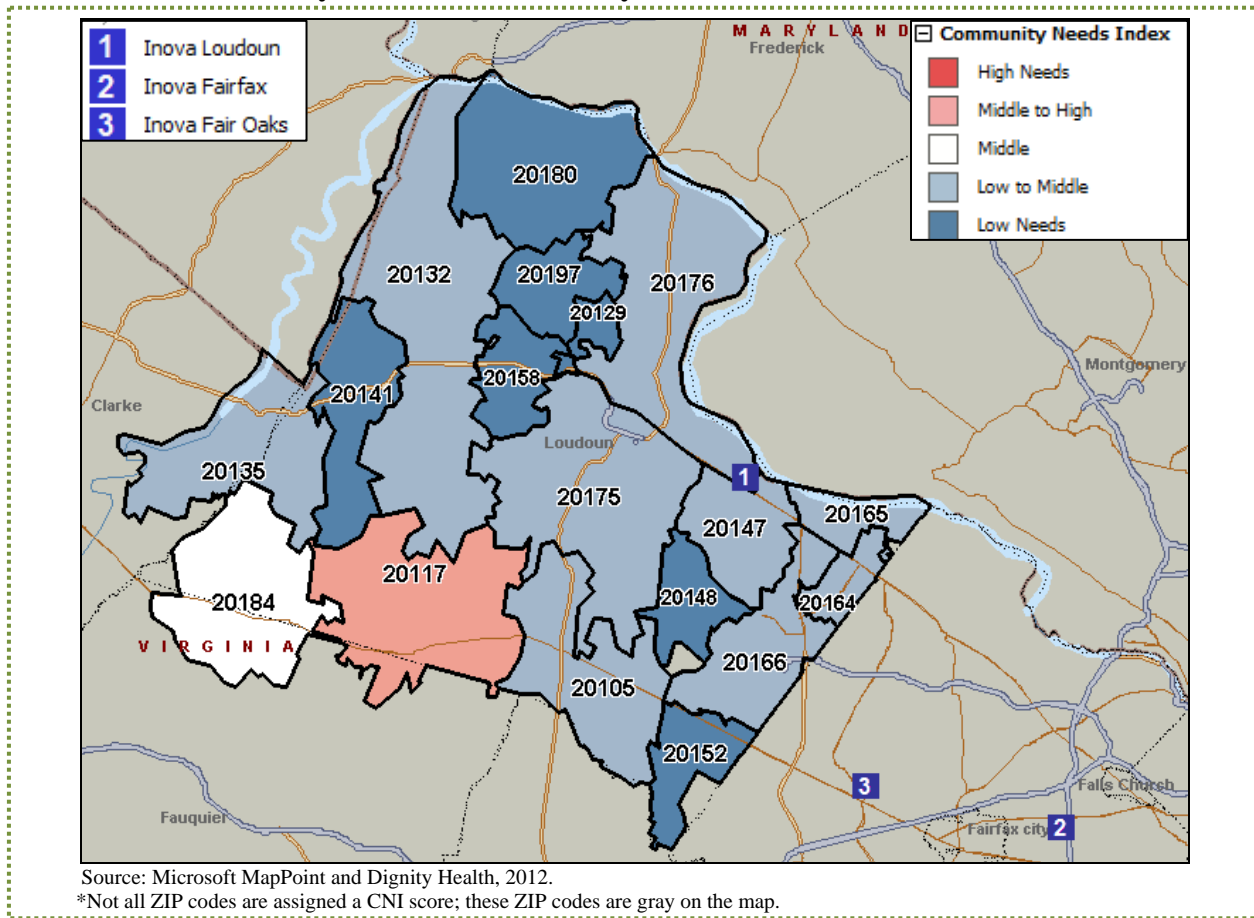
## Dignity Health's Community Needs Index

Dignity Health, a hospital system based in California, developed the *Community Needs Index*, a standardized index that measures barriers to healthcare access by county and ZIP code. The index is based on five social and economic indicators:

- The percentage of elderly, children, and single parents living in poverty;
- The percentage of adults over the age of 25 with limited English proficiency, and the percentage of the population that is non-White;
- The percentage of the population without high school diplomas;
- The percentage of uninsured and unemployed residents, and;
- The percentage of the population renting houses.

The *Community Needs Index* represents a score based on these indicators, assigned to each ZIP code. Scores range from “Lowest Need” (1.0-1.7), to “Highest Need” (4.2-5.0). **Exhibit 56** presents the *Community Needs Index* (CNI) score of each ZIP code in the Inova Loudoun community.

**Exhibit 56: Community Needs Index Score by ZIP Code\***



West Loudoun (ZIP code 20117) exhibits the most unfavorable score in the community at 3.6.

## Food Deserts

The U.S. Department of Agriculture’s Economic Research Service estimates the number of people in each census tract that live “more than 1 mile from a supermarket or large grocery store in urban areas and more than 10 miles from a supermarket or large grocery store in rural areas.”<sup>14</sup> Several government-led initiatives aim to increase the availability of nutritious and affordable foods to people living in these “food deserts.”

The data show that no food deserts are present in the community.

## Chronic Disease

According to the CDC, chronic diseases are “noncommunicable illnesses that are prolonged in duration, do not resolve spontaneously, and are rarely cured completely.” The CDC also indicates that chronic diseases are “the most common and costly of all health problems” and are

<sup>14</sup> U.S. Department of Agriculture. (n.d.). Retrieved 2011, from <http://www.ers.usda.gov/Data/FoodDesert/>

“also the most preventable.” Certain behaviors, especially “tobacco use, insufficient physical activity, poor eating habits, and excessive alcohol use” contribute to the occurrences of chronic diseases.<sup>15</sup>

Chronic diseases are both common in prevalence and costly to treat. The CDC indicates that nearly fifty percent of adult Americans “live with at least one chronic illness,” and that these illnesses are responsible for 75 percent of health care costs.

Because of the health impacts of chronic disease, PPACA includes many provisions that aim to prevent, manage, or reduce chronic disease. IRS Notice 2011-52 (anticipatory regulations regarding the CHNA process) further emphasizes its importance by encouraging hospital facilities to interview persons who can serve as a leader or representative of those with chronic diseases.

Assessment findings regarding chronic disease include the following:

- Breast cancer compared unfavorably to national and peer county averages according to the Community Health Status Indicators Project.
- Health disparities exist for cancers, cardiovascular diseases, diabetes mellitus, chronic liver disease and cirrhosis, and cerebrovascular diseases.
- The Black population had higher mortality rates than Virginia for Leukemia, pancreatic cancer, chronic liver disease and cirrhosis, and lung and bronchus cancer. The Other population in Loudoun County had higher mortality rates than Virginia for prostate cancer, chronic liver disease and cirrhosis, and diabetes mellitus.
- Congestive heart failure, chronic obstructive pulmonary disease, diabetes long-term complications, and adult asthma all accounted for at least five percent of Inova Loudoun’s discharges for ACSC.

Analysis of diagnosis codes in inpatient discharge data from the Inova Health System indicate that 51 percent of Inova Loudoun discharges were associated with the chronic conditions identified by CMS as associated with chronic disease. Discharges for chronic disease were concentrated in chronic kidney disease, anemia, heart failure, diabetes, depression, hypertension, asthma, atrial fibrillation, and chronic obstructive pulmonary disease and bronchiectasis (**Exhibit 57**).

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<sup>15</sup> See <http://www.cdc.gov/chronicdisease/resources/publications/AAG/chronic.htm>.



## Exhibit 57: Percent of Chronic Condition Discharges from Inova Loudoun, 2010

Chronic Condition	Percent of Chronic Condition Discharges
Chronic Kidney Disease	14.4%
Anemia	8.2%
Heart Failure	8.0%
Diabetes	7.7%
Depression	6.6%
Hypertension	6.2%
Asthma	5.5%
Atrial Fibrillation	5.2%
Chronic Obstructive Pulmonary Disease And Bronchiectasis	5.0%
Stroke	4.6%
Acute Myocardial Infarction	4.3%
Ischemic Heart Disease	4.3%
Rheumatoid Arthritis / Osteoarthritis	4.1%
Acquired Hypothyroidism	3.5%
Alzheimer's Disease And Related Disorders Or Senile Dementia	3.5%
Hyperlipidemia	3.1%
Hip/Pelvic Fracture	2.2%
Colorectal Cancer	1.3%
Lung Cancer	0.8%
Female / Male Breast Cancer	0.8%
Prostate Cancer	0.4%
Benign Prostatic Hyperplasia	0.2%
Glaucoma	0.0%
Endometrial Cancer	0.0%
Osteoporosis	0.0%
<b>Total Discharges Associated with Chronic Conditions</b>	<b>5,906</b>

Source: Verité analysis of discharge data from the Inova Health System.

## Medically Underserved Areas and Populations

HRSA has calculated an Index of Medical Underservice (IMU) score for communities across the U.S. The IMU score calculation includes the ratio of primary medical care physicians per 1,000 persons, the infant mortality rate, the percentage of the population with incomes below the poverty level, and the percentage of the population greater than age 64. IMU scores range from zero to 100 where 100 represents the least underserved and zero represents the most underserved.<sup>16</sup>

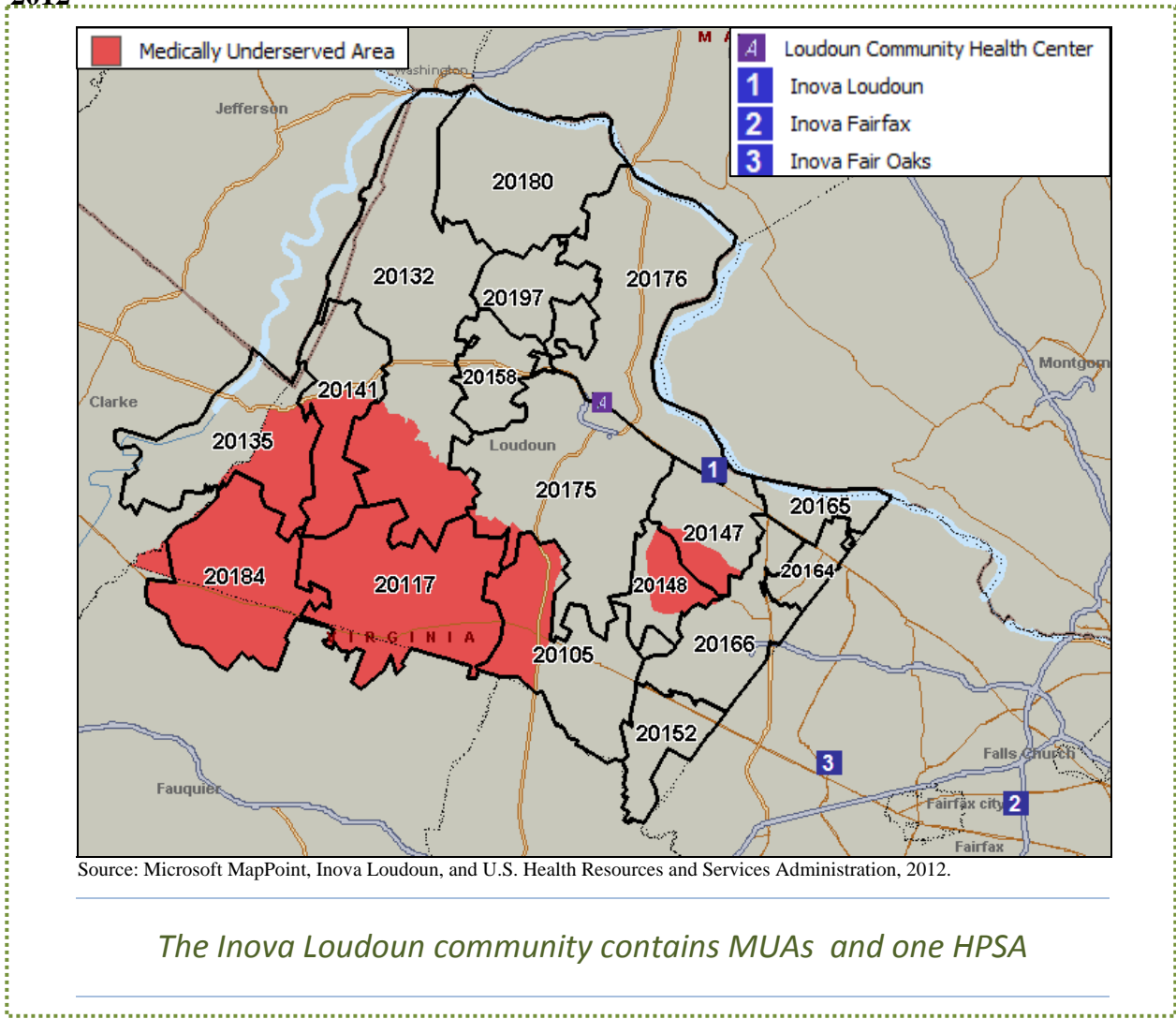
Any area or population receiving an IMU score of 62.0 or less qualifies for Medically Underserved Area (MUA) or Medically Underserved Population (MUP) designation. Federally Qualified Health Centers (FQHCs) may be established to serve MUAs and MUPs. Populations receiving MUP designation include groups within a geographic area with economic barriers or

<sup>16</sup> U.S. Health Resources and Services Administration. (n.d.) *Guidelines for Medically Underserved Area and Population Designation*. Retrieved 2011, from <http://bhpr.hrsa.gov/shortage/muaps/index.html>.

cultural and/or linguistic access barriers to receiving primary care. When a population group does not qualify for MUP status based on the IMU score, Public Law 99-280 allows MUP designation if “unusual local conditions which are a barrier to access to or the availability of personal health services exist and are documented, and if such a designation is recommended by the chief executive officer and local officials of the State where the requested population resides.”<sup>17</sup>

**Exhibit 58** shows areas designated by HRSA as medically underserved. Both Loudoun and Fauquier counties contain MUAs.

**Exhibit 58: Location of Federally Designated Areas<sup>18</sup> in the Inova Loudoun Community, 2012**



<sup>17</sup> Ibid.

<sup>18</sup> Loudoun Community Health Center will relocate to Fort Evans Road in ZIP code 20176 in October, 2012, and plans to open an additional site in Herndon, VA (Fairfax County). It currently is affiliated with the Health Center for Children and Families located in ZIP code 20164.

## Health Professional Shortage Areas

A geographic area can receive a federal Health Professional Shortage Area (HPSA) designation if a shortage of primary care, dental care, or mental health care professionals is found to be present.

In addition to areas and populations that can be designated as HPSAs, a facility can receive federal HPSA designation and a resultant, additional Medicare payment if it provides primary medical care services to an area or population group identified as having inadequate access to primary care, dental, or mental health professionals and service capacity.

HPSAs can be: “(1) An urban or rural area (which need not conform to the geographic boundaries of a political subdivision and which is a rational area for the delivery of health services); (2) a population group; or (3) a public or nonprofit private medical facility.”<sup>19</sup>

In the Inova Loudoun community, the Loudoun Community Health Center is designated as primary care, mental, and dental health HPSA (**Exhibit 58**).

## Description of Other Facilities and Resources within the Community

The Inova Loudoun community contains a variety of resources that are available to meet the health needs identified in this CHNA. These resources include clinics, hospitals, health professionals, and other agencies and organizations.

One facility is designated as primary medical care, mental health, and dental HPSA in the Inova Loudoun community. The Loudoun Community Health Center, with locations in Leesburg (ZIP code 20176) and Sterling (ZIP code 20164), provides pediatric and adult medicine, ob/gyn, mental health, prenatal care, and lab services to the uninsured and underinsured. Dental care and specialty care are provided through referral agreements and community partners. The health center is open six days per week.<sup>20</sup>

Loudoun County contains multiple hospital facilities (**Exhibit 59**).

### Exhibit 59: Facilities in the Inova Loudoun Community, 2011

Location	Facility Name	ZIP Code
Loudoun County	Healthsouth Rehabilitation Hospital Of Northern Virginia	20105
	Inova Loudoun Ambulatory Surgery Center	20176
	Inova Loudoun Hospital	20176
	Inova Surgery Center - Countryside	20165

Source: The Virginia Department of Health Office of Licensure and Certification Directory of Inpatient Hospitals and Outpatient Surgical Centers in Virginia, and the CMS Impact File, 2012.

<sup>19</sup> U.S. Health Resources and Services Administration, Bureau of Health Professionals. (n.d.). *Health Professional Shortage Area Designation Criteria*. Retrieved 2011, from <http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/index.html>

<sup>20</sup> <http://loudounchc.org/>

Amulatory surgery centers appear in **Exhibit 59** because Virginia licenses these sites as “outpatient hospital” facilities.

Federally Qualified Health Centers (FQHCs) were created by Congress to promote access to ambulatory care in areas designated as “medically underserved.” These clinics receive cost-based reimbursement for Medicare and many also receive grant funding under Section 330 of the Public Health Service Act. FQHCs also receive a prospective payment rate for Medicaid services based on reasonable costs.

There is one FQHC located in the Inova Loudoun community, which is also a HPSA. The Loudoun County Community Health Center has locations in Leesburg (ZIP code 20176) and Sterling (ZIP code 20164). The main campus in Leesburg is relocating to a new facility in October 2012, and they recently received a grant to open a new site in Herndon, in Fairfax County.

**Exhibit 60** presents the number of primary care physicians, mental health providers, and dentists per 100,000 population. The number of primary care physician and mental health providers available on a per-capita basis is well below Virginia averages in Loudoun County.

**Exhibit 60: Health Professionals Rates per 100,000 Population by County**

County	Primary Care Physicians*		Mental Health Providers		Dentists	
	Number	Rate per 100,000	Number	Rate per 100,000	Number	Rate per 100,000
Loudoun County	296.0	102.0	101.0	34.8	171.0	61.1
<b>Virginia</b>	<b>9,676.0</b>	<b>124.1</b>	<b>3,788.0</b>	<b>48.6</b>	<b>2,896.0**</b>	<b>37.1</b>

Source: HRSA’s Area Resource File via *County Health Rankings*, 2012.

\*Primary care physicians data is from 2009; data regarding mental health providers and dentists is from 2007.

\*\*Number of dentists in Virginia calculated by Verité.

As of 2012, a range of other agencies and organizations are available in each county to assist in meeting health needs, including county health departments and human services departments.

Some of these include:

- One FQHC, the Loudoun Community Health Center;
- The Loudoun County Health Department and its associated health department clinics;
- The Loudoun County Community Services Board (which serve clients who are mentally ill);
- Low cost prescription services such as NovaScripts Central; and
- Free clinics and other clinics that serve underserved populations, including the Loudoun Free Clinic and the Northern Virginia Dental Clinic.

The Inova Juniper Program will be opening a clinic in Leesburg that will provide care for HIV positive patients. This site will provide transitional care for patients without a primary care physician who are discharged from the hospital with diabetes, congestive heart failure, chronic

obstructive pulmonary disease, and/or asthma. This clinic is a level 3 recognized patient-centered medical home (PCMH).

Lists of available resources also have been compiled by community foundations, clinics, and health departments and can be found at the following websites:

- Inova in the Community:  
<http://www.inova.org/inova-in-the-community/index.jsp>
- Loudoun County Health Resource Directory:  
<http://www.loudoun.gov/BusinessDirectoryII.aspx?lngBusinessCategoryID=24>
- National Capital Region 2-1-1 Combined Database:  
<http://www.211metrodc.org/>
- Northern Virginia Health Foundation Wellness Directory:  
<http://novahealthfdn.org/health-wellness-directory>
- Northern Virginia Health Services Coalition Find A Clinic:  
<http://www.novaclinics.org/find-a-clinic>
- Northern Virginia Regional Commission Quick Guide:  
<http://www.novaregion.org/index.aspx?nid=281>
- Virginia Association of Free Clinics:  
<http://vafreeclinics.org/>

## Findings of Other Recent Community Health Needs Assessments

Verité also considered the findings of other needs assessments published since 2009. Eight such assessments have been conducted in the Inova Loudoun area and were publicly available.

### 1. The Commonwealth Institute for Fiscal Analysis

In 2012, the Commonwealth Institute for Fiscal Analysis published a report entitled *Under Pressure: The State of Working Northern Virginia*.<sup>21</sup> That report provided an overview of data regarding the economic well-being of Northern Virginia, with a particular focus on the challenges faced by low and moderate-income residents.

The following key findings are relevant to Northern Virginians' ability to access care:

- Median income levels declined disproportionately in Northern Virginia from 2007 to 2010; lower-income households saw a decline more than three times that of the region's higher-income households.

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<sup>21</sup> The Commonwealth Institute. (May 2012). *Under Pressure: The State of Working Northern Virginia*. Retrieved 2012, from [http://www.thecommonwealthinstitute.org/wp-content/uploads/2012/05/120508\\_under\\_pressure.pdf](http://www.thecommonwealthinstitute.org/wp-content/uploads/2012/05/120508_under_pressure.pdf)

- The cost of living in the region is high, placing further strain on lower-income residents. In 2010, a family of four living in Northern Virginia (assuming one pre-school aged child and one school-aged child) required an income ranging from approximately \$51,000 in Fauquier County to nearly \$67,000 in Loudoun County to meet a minimum standard of living.
- From 2007 to 2012, enrollment in public assistance services increased. Most notably, the number of people enrolled in the Supplemental Nutrition Assistance Program (SNAP) increased 131 percent in the region compared to a 77 percent increase in Virginia as a whole.

## 2. Loudoun County Board of Supervisors

In March 2012, the Loudoun County Board of Supervisors approved an action item entitled *Loudoun Lyme Disease Prevention and Awareness*<sup>22</sup>. Data presented in this action item include:

- Eighteen percent of Lyme disease cases reported in Virginia in 2011 were from Loudoun County.
- Lyme disease is underreported due to frequent misdiagnosis and administrative burden.
- Many other infections can be transmitted alongside Lyme disease by ticks.

## 3. Northern Virginia Health Foundation

In September of 2011, the Northern Virginia Health Foundation commissioned a report entitled *Oral Health in Northern Virginia*.<sup>23</sup> That report provided a region specific analysis on oral health needs based on a literature review and a survey of residents in the region. The survey covered residents from Arlington, Fairfax, Loudoun, and Prince William counties as well as the cities of Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park.

Findings show that lower-income people in Northern Virginia face barriers to accessing dental care and have comparatively poor oral health:

- In Northern Virginia, more than a third of those in lower-income households (making less than \$40,000 per year) rated their oral health as fair or poor. The percentage was much lower for those in households making over \$40,000 per year.
- Virginia as a whole scored poorly on its ability to address children’s oral health needs, according to a *The State of Children’s Dental Health: Making Dental Coverage Matter*, a report by the Pew Center on The States. Approximately 48 percent of children enrolled in Virginia’s Medicaid’s “Smiles for Children” program received no dental services at all

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<sup>22</sup> Loudoun County Board of Supervisors. (March 2012). *Loudoun Lyme Disease Prevention and Awareness*.

<sup>23</sup> Northern Virginia Health Foundation. (September 2011). *Oral Health in Northern Virginia*. Retrieved 2012, from <http://novahealthfdn.org/wp-content/uploads/NVHF-OralHealth-Report-FINAL.pdf>

in 2009. Benefits for adults enrolled in Medicaid were limited to medically necessary oral surgery.

- There are organizations throughout Northern Virginia that provide dental care for low income and uninsured individuals, but waiting lists remained full, with more than 300 patients typically are waiting for care.
- Residents had difficulty accessing dental care due to low income levels, high costs of care, lack of transportation, a lack of access to dental coverage, and a lack of access to dentists who are able to treat the handicapped or those with special needs.
- Only about 24 percent of lower-income adults with physical health coverage also have dental health coverage. Typically 64 percent of insured, higher-income individuals had dental coverage.
- Lower-income residents were more likely to get hospital emergency room care for acute dental problems. Almost five times as many lower-income residents had received emergency room care in the last two years compared to higher-income residents.
- Nearly 45 percent of lower-income parents had not been able to afford dental care for their children in the last two years. Only about 62 percent of low-income parents had taken their children to the dentist in the last two years, compared to 79 percent of the higher-income parents.
- Higher percentages of lower-income adults had dentures and reported waiting to get a tooth pulled, compared to higher-income adults.
- Only about almost 35 percent of lower-income women saw the dentist for basic checkups while pregnant, compared to two thirds of higher-income women.
- Almost 23 percent of lower-income women had gum or teeth related problems during the pregnancy compared to three percent of higher-income women.

#### 4. Virginia Department of Health

The Virginia Department of Health's Office of Minority Health and Public Health Policy published a report in 2011 entitled *Inequities in Birth Outcomes in Northern Virginia*.<sup>24</sup> That report sought to educate the community regarding the causes and effects of birth and infant health inequities while proposing frameworks to address these inequities.

The following disparities were identified in the report:

- Northern Virginia had lower rates of infant mortality and low birth weight infants than the Commonwealth and nation in 2006. However, the rates for Black infant mortality and low birth weight were significantly higher than White or Hispanic (or Latino) rates.

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<sup>24</sup> Virginia Department of Health. (2011). *Inequities in Birth Outcomes in Northern Virginia*. Retrieved 2011, from <http://www.vdh.state.va.us/healthpolicy/policyanalysis/documents/Inequities-in-Birth-Outcomes-NOVA.pdf>

- In Northern Virginia in 2006, the infant mortality rate was highest for Black residents at 10.4 deaths per 1,000 live births; White residents experienced 4.1 deaths per 1,000 live births and Hispanic (or Latino) residents experienced 3.6 deaths per 1,000 live births.
- In 2006, the infant mortality rate in Northern Virginia decreased as years of education increased. However, this was least pronounced for Black residents whose rates stayed higher than rates for non-Black residents at all education levels.

## 5. The Center for Nonprofit Development and Pluralism (Washington Aids Partnership)

In 2010, The Center for Nonprofit Development and Pluralism developed a report funded by the Washington AIDS Partnership and Kaiser Permanente, entitled *The Profiles Project: How the Washington, DC Suburbs Respond to HIV/AIDS*.<sup>25</sup>

Findings relevant to Loudoun County include:

- Black residents accounted for 48 percent of those living with HIV/AIDS in Northern Virginia; males accounted for 75 percent of those living with HIV/AIDS.
- Portability of care, defined as having the “ability to obtain HIV-related services from the same provider if s/he moves across jurisdictions within the eligible metropolitan area,” was lacking in the region.
- The incidence rate of HIV/AIDS for Loudoun County was 7.6 percent, the lowest in the region.

## 6. Loudoun County Health Department

In 2009, the Loudoun County Health Department published a report entitled *Loudoun County, Virginia Community Health Status Assessment*.<sup>26</sup> The Loudoun County Health Department also utilized the Mobilization for Action through Planning and Partnerships (MAPP) process to identify public health issues.

The results of that assessment are listed below:

- Loudoun County was ranked as the fourth best in the nation of the top 25 counties for job growth in 2008. Its’ unemployment rate in 2009 was at four percent, lower than regional, Virginia, and national averages.
- While many health services are available in the community, distance and transportation are issues for many residents, especially in the western portion of the county.

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<sup>25</sup> The Washington AIDS Partnership and Kaiser Permanente. (April 2010). *The Profiles Project: How the Washington, DC Suburbs Respond to HIV/AIDS*. Retrieved July 2012, from <http://www.mosaica.org/Resources/HIV/AIDS/ProfilesProject.aspx>.

<sup>26</sup> Loudoun County Health Department. (July 2009). *Loudoun County, Virginia Community Health Status Assessment*. Retrieved 2011, from <http://inter4.loudoun.gov/controls/speerio/resources/RenderContent.aspx?data=613306896ccb4d7391a0248c4b99bc00&tabid=340&fmpath=%2FHealth+Check>



- Twelve percent of the community was uninsured.
- Ninety-four percent of residents were high school graduates and 53 percent have a bachelor's degree or higher.
- Alcohol abuse was a significant issue for youth. Fifty-four percent of students reported drinking alcohol in their lifetime.
- Air and water quality were environmental concerns in Loudoun County.
- The cancer mortality rate in Loudoun County at 27 percent was higher than regional, Virginia, and national averages.
- Incidences of Lyme disease, chlamydia, gonorrhea, and hepatitis-C had increased significantly since 2006.

## **7. Metropolitan Washington Council of Governments and Washington Regional Association of Grantmakers**

The *Community Health Status Indicators for Metropolitan Washington, 2009*,<sup>27</sup> published collaboratively by the Health Officials Committee of the Metropolitan Washington Council of Governments and the Health Working Group of the Washington Regional Association of Grantmakers, examined the health status of the region's residents with a particular focus on the social determinants of health.

The assessment included the following areas in the Metropolitan Washington region: Frederick, Montgomery, and Prince George's counties in Maryland, the counties of Arlington, Fairfax, Loudoun, and Prince William and cities of Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park in Virginia, and the District of Columbia.

Key findings are as follows:

- The percentage of low-income adults who were uninsured was over 50 percent in all Virginia jurisdictions.
- All jurisdictions reported breast cancer mortality rates higher than the Healthy People 2010 goal. Loudoun County reported rates over the national average.
- Over 15 percent of the population reported being obese in Loudoun County. In the jurisdictions with available data, 67 percent or more adults do not eat five or more fruits and vegetables per day.

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<sup>27</sup> Metropolitan Washington Council of Governments & Washington Regional Association of Grantmakers. (June 2009). *Community Health Status Indicators for Metropolitan Washington, 2009*. Retrieved 2012, from <http://www.mwcog.org/uploads/publicdocuments/zVZdWA20090623085814.pdf>

## 8. Voices for Virginia's Children

In 2009, Voices for Virginia's Children<sup>28</sup> compiled data from the surveys conducted in secondary schools in Northern Virginia. Surveys were conducted in Arlington, Fairfax, and Loudoun counties, and in the City of Alexandria.

Findings about youth health risk behaviors relevant to Loudoun County include the following:

- Alcohol was the most commonly abused substance; 31 percent of 10<sup>th</sup> and 43 percent of 12<sup>th</sup> graders consumed alcohol in the last month.
- Marijuana was the most abused illicit drug in this region; 13 percent of 10<sup>th</sup> graders and 17 percent of 12<sup>th</sup> graders used marijuana in the last 30 days.

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<sup>28</sup> Voices for Virginia's Children. (July 2009.) *Self-Portrait of Youth in Northern Virginia*. Retrieved July 2012, from [http://vakids.org/pubs/NoVA/YouthSurvey\\_Web.pdf](http://vakids.org/pubs/NoVA/YouthSurvey_Web.pdf).

## Secondary Data Indicators of Concern

This assessment analyzed secondary data regarding demographics, social and economic factors, health behaviors, physical environment, care access and delivery, morbidity, and mortality. **Exhibit 61** presents the indicators that appeared most unfavorable in the Inova Loudoun community when compared to national, state, or local benchmarks. Further details regarding these indicators can be found in previous sections.

### Exhibit 61A: Secondary Data Indicators of Concern

Category	Indicator	Community Value	Benchmark	Data Format	Benchmark Definition
Demographics	Population growth 2013-2018	5.1%	2.0%	Percent	Inova service area total
	Growth in population 55+ 2013-2018	9.4%	5.1%	Percent	All ages
	Growth in non-White population 2013-2018: Asian	11.9%	2.9%	Percent	White population, Loudoun County
	Growth in non-White population 2013-2018: Other Races*	9.4%	2.9%	Percent	White population, Loudoun County
	Growth in non-White population 2013-2018: Black	6.0%	2.9%	Percent	White population, Loudoun County
	Growth in Hispanic (or Latino) population 2013-2018	10.0%	4.7%	Percent	Non-Hispanic (or Latino) population, Loudoun County
	Residents 5+ who are linguistically isolated	9.4%	5.7%	Percent	VA average
Social and Economic Factors	Poverty rate: Black	10.2%	2.8%	Percent	White poverty rate, Loudoun County
	Poverty rate: Hispanic (or Latino)	8.3%	2.8%	Percent	White poverty rate, Loudoun County
	Unemployment rate: Asian	6.3%	5.8%	Percent	VA Asian average
	Section 8 housing assistance wait time	20	10	Months	VA average
	Low-income households in West Loudoun, 2008	8.9%	5.3%	Percent	ILH service area total
	Low-income households in Leesburg, 2008	7.5%	5.3%	Percent	ILH service area total
	Medicaid discharges in Sterling/Dulles	12.0%	8.4%	Percent	ILH service area total
	Medicaid discharges in Leesburg	10.0%	8.4%	Percent	ILH service area total
	Uninsured discharges in West Loudoun	9.3%	4.1%	Percent	ILH service area total
	Births to women aged 40-54	4.1%	2.7%	Percent	U.S. average
Health Behaviors	County rank for alcohol use	72	131	County	Number of counties
	Heavy drinkers	7.3%	4.4%	Percent	VA average
Physical Environment	County rank for environmental quality	126	131	County	Number of counties

Source: Verité analysis of secondary data sources.

\* The "Other" population includes residents who identify as American Indian/Native American, Asian/Pacific Islander, two or more races, or some other race.

### Exhibit 61B: Secondary Data Indicators of Concern

Category	Indicator	Community Value	Benchmark	Data Format	Benchmark Definition
Care Access	Medically underserved areas (MUAs)	Present	N/A	N/A	No benchmark
	Health professional shortage areas (HPSAs)	Present	N/A	N/A	No benchmark
	Primary care physician rate	102.0	124.1	Rate per 100,000	VA average
	Mental health provider rate	34.8	48.6	Rate per 100,000	VA average
Care Delivery	ACSC discharges in West Loudoun	10.5%	9.7%	Percent	Loudoun County total
	ACSC discharges at Inova Loudoun	12.8%	9.6%	Percent	Inova facilities total
	ACSC discharges for bacterial pneumonia	25.0%	17.9%	Percent	Inova facilities total
	ACSC discharges for 65+	53.1%	51.7%	Percent	Inova facilities total
Health Outcomes: Mortality	Hispanic (or Latino) infant mortality	8.3	5.6	Rate per 1,000 live births	U.S. average
	Black Non-Hispanic (or Latino) infant mortality	18.7	13.6	Rate per 1,000 live births	U.S. average
	Breast cancer	32.0	24.1	Rate per 100,000	U.S. average
	Pancreatic cancer mortality: Black	15.8	10.2	Rate per 100,000	VA Black average
	Lung and bronchus cancer mortality: Black	51.3	42.4	Rate per 100,000	VA Black average
	Leukemia mortality: Black	7.9	4.0	Rate per 100,000	VA Black average
	Prostate cancer mortality: Other Races*	5.8	1.5	Rate per 100,000	VA Other average
	Chronic liver disease and cirrhosis mortality: Black	11.8	6.8	Rate per 100,000	VA Black average
	Diabetes mellitus mortality: Other Races*	9.7	6.5	Rate per 100,000	VA Other average
	Parkinson's disease mortality: Other Races*	1.9	1.1	Rate per 100,000	VA Other average
	Chronic liver disease and cirrhosis mortality: Other Races*	3.9	1.5	Rate per 100,000	VA Other average
	Reported cases of tuberculosis	3.7	2.7	Rate per 100,000	VA average
	Low weight births: Other Races*	8.7%	8.1%		VA Other average
	Infant mortality rate: Other Races*	2.8	2.5	Rate per 1,000 live births	VA Other average

Source: Verité analysis of secondary data sources.

\* The "Other" population includes residents who identify as American Indian/Native American, Asian/Pacific Islander, two or more races, or some other race.

## PRIMARY DATA ASSESSMENT

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Community input was gathered through interviews and a community web-based survey. Findings from this primary data are presented below.

### Interview Findings

Interviews regarding health needs in the community served by Inova Loudoun were conducted with 21 key informants, including external stakeholders (those not affiliated with Inova Loudoun or the Inova Health System) and internal Inova staff. The interviews provided input on a wide range of community health issues, including barriers to access to health services, changes in community population, prevalence of certain health conditions, social determinants of health, health disparities, and other topics. The interviews were guided by a structured interview guide, and interviewees were encouraged to identify and discuss all current and emerging issues affecting community health.

Verité staff summarized all interview comments and assessed the frequency with which community health issues were mentioned and also assessed informant views regarding the severity of each concern. The following issues are considered of greatest concern to community health, based on that assessment.

- **Access Issues**
  - **Lack of Affordable Care.** Interviewees expressed concern about the cost of health services – in particular for community residents who are Hispanic (or Latino), Black, low-income, and/or living in Sterling and areas around Leesburg. The current safety net (including Loudoun Community Health Center) increasingly is resource constrained and unable to meet growing demand.
  - **Lack of Access to and Affordability of Insurance.** Health insurance is unaffordable for many lower-income residents. Hispanic (or Latino) adults are more likely to be uninsured, as are recent immigrants and undocumented people. Those who have coverage are facing higher co-payments, which are problematic given the challenging economic environment. Interviewees also cited issues with the cost of dental insurance, which frequently does not provide comprehensive benefits.
  - **Lack of Access to Preventive Care Services.** A number of interviewees raised concerns about access to prevention services, in particular for low-income community members and people moving to Loudoun County to find more affordable housing. Availability of preventive services is challenging because these services are poorly reimbursed by third-party payers.
  - **Lack of Collaboration Among Providers.** Interviewees encouraged greater collaboration among providers in Loudoun County. Examples include communications linkages between hospitals and community clinics, and better ways to link primary care providers in rural areas with specialists in more urban centers.

- **Lack of Mental Health Services.** Virtually all interviewees cited a lack of mental health services as a major concern. The Community Services Board in Loudoun reportedly has a three-month wait for services. There are “not enough providers.” Community members who have limited English proficiency experience language barriers when seeking counseling. Veterans returning to the area from war, children diagnosed with autism, and people suffering from depression and/or stress all are experiencing significant challenges accessing mental health care. Some interviewees called for integrating mental health services across the “continuum of care.”
- **Lack of Affordable and Accessible Dental Care.** Access to dental care was mentioned with great frequency and intensity. Such access is particularly problematic for low-income adults. The issue, however, affects all ages – and also is particularly acute in Eastern Loudoun and Leesburg, for Hispanics or Latinos, and for those who are uninsured and undocumented. Existing dental clinics are unable to meet current and growing demand.
- **Lack of Providers and Physicians (Including Specialists).** Loudoun is a fast-growing community, and the area is experiencing an undersupply of physicians. Interviewees mention the following types of gaps: dentists who accept Medicaid, endocrinologists (given the increasing prevalence of diabetes), obstetricians who accept high-risk patients (and Medicaid), and specialists who accept Medicaid (leading to the need to refer specialty care for Medicaid and uninsured people to the University of Virginia). Low Medicaid reimbursement contributes to these issues. Interviewees mentioned residents in areas West of Leesburg and recent immigrants as most vulnerable to these concerns.
- **Transportation Barriers.** Certain residents of the community also experience access barriers due to transportation problems. These include low-income people, seniors, and those without automobiles who rely on public transportation described as inadequate in some areas of Loudoun County. Traffic congestion increasingly is affecting access to care, particularly during rush hour.
- **Access to Prenatal Care.** Several interviewees raised concerns about access to prenatal services for women “just over the poverty line” – or with household incomes between 115 percent and 200 percent of federal poverty guidelines – and who thus are ineligible for subsidized services.
- **Morbidity/Health Status Issues**
  - **Mental and Behavioral Health.** Poor mental health increasingly is prevalent in the community for: children with autism, people living alone, and those suffering from depression, stress, and/or post-traumatic stress disorders.
  - **Diabetes.** Diabetes frequently was mentioned as an acute problem, with growing incidence for children and for people who are immigrants, undocumented, with multiple chronic diseases, and who are obese/overweight. Managing diabetes is especially challenging for patients who are ineligible for prescription assistance programs.

- **Rates of Obesity/Overweight.** Virtually all informants mention obesity/weight as a major problem area. One described obesity as “mind boggling.” The prevalence of obesity is highest in low-income, minority populations; there is an acute need for culturally-sensitive services. Many interviewees recommended a major focus on children. Poor diet, a lack of exercise, and concerns about the “built environment” (lack of pedestrian or bike-friendly roads) are major contributing factors.
- **Alcohol Use.** Several interviewees mentioned the prevalence of alcohol abuse as problematic, including among higher-income community residents. Some expressed concern about public drunkenness.
- **Lyme Disease.** Interviewees mentioned Loudoun County’s problems with Lyme Disease with great frequency. Some consider Lyme to be the number one problem. Health education regarding the disease is needed throughout the community.
- **Poor Dental Health.** Lack of access to dental services, coupled with a lack of education regarding the overall health benefits associated with good oral hygiene, is contributing to poor dental health. Community residents are waiting too long to seek care, and are experiencing long waits for appointments.
- **High Rates of Cancer.** Several interviewees raised concerns about the incidence of cancer in the community, including breast, cervical, and oral cancers (including those resulting from alcohol and tobacco abuse).
- **Social and Economic Issues**
  - **Basic Needs Insecurity: Food, Housing, Utilities.** Many interviewees indicated that certain lower-income groups of community residents are experiencing problems with access to healthy food and are experiencing a lack of access to affordable housing.
  - **Growing Homeless Population.** Interviewees perceive that the homeless population in Loudoun is growing – including a growing number of homeless youth. This includes people who are living with friends and children who are “couch-surfing.” Services to help homeless people are in need, including services focused on health care and hygiene.
  - **Cultural/Language Barriers.** Loudoun’s fast growing Asian and Hispanic (or Latino) communities are facing barriers to accessing health and social services. Linguistic isolation and fear contribute to these barriers.

## Community Survey Findings

Inova Loudoun sought input from the public regarding the health of the community through an online survey. The community survey was publicized through mailings and flyers, and a link was made available on the Inova Health System’s website to an electronic survey instrument from May through August 2012. The survey consisted of 33 questions about respondent demographics and a range of health status and access issues.

## 1. Respondent Characteristics

A total of 236 residents from Loudoun County completed the survey. The majority of respondents reported being in good or very good overall health, between the ages of 35 and 64, married, employed, Christian, and White. Eighty-two percent of respondents were female and 18 percent were male.

Additional characteristics of the survey participants are as follows:

- The majority (85 percent) of respondents speak English in the home and speak English very well (87 percent). Spanish, Farsi, and “Other” were the top non-English languages reported. Of those respondents who speak a language other than English in the home, 73 percent reported speaking English less than “very well.”
- Thirty-four percent of respondents know someone with a disability.
- Approximately six percent of respondents reported being unemployed.

**Exhibit 62** presents the percentage of respondents from each subregion. The majority of respondents reside in Leesburg.

### Exhibit 62: Survey Responses, 2012 – Respondents by Subregion

Subregion	Percent of Respondents
Ashburn/Arcola	18.2%
Leesburg	41.9%
South Riding/Aldie	7.2%
Sterling/Dulles	16.9%
West Loudoun	15.7%
<b>Total</b>	<b>236</b>

Source: Inova Community Survey, 2012.

*16 of the community's 19 ZIP codes were represented in the survey*

It is important to consider the generalizability of a survey sample. The survey respondents do not adequately represent the diversity of the Inova Loudoun community. Accordingly, caution should be used when assessing the data presented below.

## 2. Health Issues

When asked to identify the top health issues in the Inova Loudoun community, respondents most often chose obesity, diabetes, and heart disease. Fourteen percent of the community respondents chose “Other” as a top health issue. Due to the small sample size of Inova Loudoun community respondents who chose “Other,” these data are reported based on responses from the Inova Health System as a whole. The most prevalent responses included Lyme disease, “lifestyle issues,” and high blood pressure (**Exhibit 63**).



### Exhibit 63: Survey Responses, 2012 – Top Health Issues

Top Health Issues Responses	Percent of Respondents*	“Other” Responses	Percent of Responses*
Obesity	72.4%	Lyme disease	17.5%
Diabetes	65.9%	Lifestyle issues	15.0%
Heart disease	56.0%	High blood pressure	12.5%
Cancer	45.7%	Access to care	7.5%
Mental health: depression, bipolar, autism	37.9%	Aging needs	7.5%
Tobacco use	27.2%	Disability	6.3%
Addiction / Substance abuse	25.9%	Lack of chronic disease management	5.0%
Asthma	22.0%	Mental health	5.0%
Alzheimer's or dementia	15.9%	Communicable diseases	5.0%
Stroke	14.7%	Neurology	3.8%
Other	13.8%	Allergies	2.5%
Osteoporosis	5.2%	Oral Health	1.3%
HIV / Sexually transmitted diseases	4.7%	ADHD	1.3%
Birth defects	1.3%	Pediatrics	1.3%
Hepatitis A	0.4%	Auto-immune disorders	1.3%
		Parkinson's	1.3%
		Poverty	1.3%
		Transportation	1.3%
		COPD	1.3%
		Family planning	1.3%
		Cultural barriers to care	1.3%

\*Percentages are based on the number of Inova Loudoun respondents who identified top health issues in the community.  
N = 232

\*Percentages are based on the number of “Other” responses received from the Inova Health System respondents as a whole.  
N = 80  
Source: Inova Community Survey, 2012.

### 3. Barriers to Access

The survey included questions about access to and utilization of health services. The majority of participants reported having some form of health insurance, having a usual source of care, and visiting a doctor regularly. Eleven percent of respondents reported being uninsured.

**Exhibit 64** identifies the facility or provider at which respondents and their families receive routine medical care. Of those respondents who do not seek routine medical care from a private medical professional, the majority attend free or low-cost clinics or health centers. Uninsured respondents are more likely to seek care at a free or low-cost clinic or health center or the emergency room when compared to those with private coverage.

### Exhibit 64: Survey Responses, 2012 – Routine Medical Care

Response	Insurance Coverage		
	All Types	Private Coverage	Uninsured
Private medical professional (MD, APN, PA)	81.8%	96.4%	11.5%
Free or low-cost clinic or health center	14.8%	1.2%	92.3%
Hospital emergency room	9.7%	8.4%	26.9%
Urgent care facility or store-based walk-in clinic	10.6%	13.8%	3.8%
Provider of alternative medicine	5.1%	6.0%	3.8%
No routine medical care received	2.1%	1.8%	0.0%
Other	2.5%	1.2%	0.0%

All Types (N=236), Private Coverage (N=167), Uninsured (N=26).  
Source: Inova Community Survey, 2012.

**Exhibit 65** illustrates that health care access varies by type of care and locality. Few respondents had difficulty accessing basic medical care or medicine and supplies. Survey data indicate that dental care and medical specialty care are less accessible. Approximately 20 percent of respondents reported rarely or never being able to get needed mental health care – the least accessible of the five health care types. A higher percentage of respondents from Sterling/Dulles reported difficulty accessing care compared to other subregions. This is particularly true for mental health care, medical specialty care, and dental care.

### Exhibit 65: Survey Responses, 2012 – Able to Get Needed Care by Subregion

Response	Subregion					Total
	Ashburn/ Arcola	Leesburg	South Riding/ Aldie	Sterling/ Dulles	West Loudoun	
<b>Basic Medical Care</b>						(N=234)
Always	95.2%	89.8%	94.1%	97.5%	89.2%	92.3%
Sometimes	2.4%	7.1%	5.9%	2.5%	10.8%	6.0%
Rarely	0.0%	1.0%	0.0%	0.0%	0.0%	0.4%
Never	2.4%	2.0%	0.0%	0.0%	0.0%	1.3%
<b>Dental Care</b>						(N=233)
Always	88.1%	76.8%	82.4%	76.3%	86.5%	80.7%
Sometimes	0.0%	11.1%	5.9%	18.4%	13.5%	10.3%
Rarely	0.0%	3.0%	5.9%	2.6%	0.0%	2.1%
Never	11.9%	9.1%	5.9%	2.6%	0.0%	6.9%
<b>Mental Health Care</b>						(N=200)
Always	62.9%	65.5%	82.4%	54.3%	72.4%	65.5%
Sometimes	11.4%	8.3%	5.9%	17.1%	10.3%	10.5%
Rarely	5.7%	4.8%	0.0%	2.9%	0.0%	3.5%
Never	20.0%	21.4%	11.8%	25.7%	17.2%	20.5%
<b>Medical Specialty Care</b>						(N=231)
Always	80.5%	78.4%	76.5%	71.8%	78.4%	77.5%
Sometimes	7.3%	11.3%	5.9%	20.5%	16.2%	12.6%
Rarely	2.4%	3.1%	0.0%	0.0%	2.7%	2.2%
Never	9.8%	7.2%	17.6%	7.7%	2.7%	7.8%
<b>Medicine and Supplies</b>						(N=231)
Always	80.0%	91.8%	88.2%	76.9%	83.8%	85.7%
Sometimes	10.0%	6.1%	11.8%	17.9%	13.5%	10.4%
Rarely	5.0%	1.0%	0.0%	2.6%	2.7%	2.2%
Never	5.0%	1.0%	0.0%	2.6%	0.0%	1.7%

Source: Inova Community Survey, 2012.

Respondents indicating they are not always able to get care were asked to identify barriers to access (**Exhibits 66 and 67**). Cost and lack of insurance were the two most frequently reported barriers to care.

Data indicate that females had more difficulty getting appointments than males, while males more often cited inconvenient hours as a barrier to access. Thirty-three percent of male respondents reported lack of trust as a barrier to accessing basic medical care compared to zero percent of females. Males were also more likely than females to lack insurance covering medicine and medicinal supplies (**Exhibit 66**).

**Exhibit 66: Survey Responses, 2012 – Barriers to Care**

Type of Care and Sex	Percent of Respondents								Total Respondents (N)
	Can't Afford It	Can't Get Appointment	Inconvenient Hours	Lack of Transportation	Lack of Trust	Language Barrier	No Insurance	Other	
<b>Male</b>									
Basic Medical Care	33.3%	0.0%	33.3%	0.0%	33.3%	0.0%	66.7%	0.0%	(3)
Dental Care	50.0%	0.0%	12.5%	0.0%	0.0%	0.0%	37.5%	25.0%	(8)
Mental Health Care	15.4%	7.7%	7.7%	0.0%	7.7%	0.0%	15.4%	69.2%	(13)
Medical Specialty Care	22.2%	0.0%	11.1%	0.0%	0.0%	0.0%	22.2%	66.7%	(9)
Medicine and Medicinal Supplies	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	0.0%	(3)
<b>Female</b>									
Basic Medical Care	44.4%	22.2%	11.1%	0.0%	0.0%	5.6%	44.4%	0.0%	(18)
Dental Care	55.9%	8.8%	5.9%	0.0%	5.9%	2.9%	44.1%	11.8%	(34)
Mental Health Care	22.8%	10.5%	8.8%	0.0%	0.0%	0.0%	15.8%	59.6%	(57)
Medical Specialty Care	35.3%	32.4%	5.9%	0.0%	0.0%	0.0%	29.4%	17.6%	(34)
Medicine and Medicinal Supplies	53.6%	3.6%	3.6%	0.0%	0.0%	0.0%	25.0%	32.1%	(28)
<b>Total</b>									
Basic Medical Care	42.9%	19.0%	14.3%	0.0%	4.8%	4.8%	47.6%	0.0%	(21)
Dental Care	54.8%	7.1%	7.1%	0.0%	4.8%	2.4%	42.9%	14.3%	(42)
Mental Health Care	21.4%	10.0%	8.6%	0.0%	1.4%	0.0%	15.7%	61.4%	(70)
Medical Specialty Care	32.6%	25.6%	7.0%	0.0%	0.0%	0.0%	27.9%	27.9%	(43)
Medicine and Medicinal Supplies	54.8%	3.2%	3.2%	0.0%	0.0%	0.0%	29.0%	29.0%	(31)

Source: Inova Community Survey, 2012.

**Exhibit 67** presents the responses of residents from the entire Inova Health System who chose “Other” as a barrier to care. Due to the small sample size of Inova Loudoun community respondents who chose “Other,” these data are reported based on responses from the Inova Health System as a whole. Sixty-six percent of all “Other” responses stated that residents did not need one or more of the care types listed. The most common “Other” barriers reported include lack of services and in-plan providers for adult and pediatric mental health, difficulty with referrals and care coordination for specialty care, and insufficient health insurance coverage.

**Exhibit 67: Survey Responses, 2012 – “Other” Barriers to Care**

“Other” Responses	Percent of “Other” Responses*
<b>Do Not Need Services</b>	65.5%
<b>Basic Medical Care</b>	
Lack of primary care providers	0.6%
<b>Dental Care</b>	
Lack of in-plan providers	0.6%
<b>Mental Health</b>	
Lack of services and in-plan providers	5.2%
No description	3.4%
Lack of services and in-plan providers for pediatric mental health	2.9%
Insufficient insurance coverage	2.3%
Stigma regarding mental health treatment	1.7%
Difficulty navigating insurance	0.6%
<b>Specialty Care</b>	
Difficulty with referrals/care coordination	2.3%
Lack of services and in-plan providers	1.7%
Lack of convenient appointment times	0.6%
<b>Medicine and Supplies</b>	
Insufficient medication coverage	3.4%
Uninsured	0.6%
Doctor-related prescription issues	0.6%
Pharmacy-related prescription issues	0.6%
Inconvenience	0.6%
<b>General</b>	
Insufficient insurance coverage	2.9%
Difficult for disabled residents to access services and providers	1.1%
Lack of Medicare providers and insufficient coverage	0.6%
Difficulty navigating insurance	0.6%
Lack of providers	0.6%
Uninsured or underinsured	0.6%
No description	0.6%

\*Percentages are based on the number of “Other” responses received from the Inova Health System respondents as a whole.  
N= 174  
Source: Inova Community Survey, 2012.

## 4. Health Behaviors

Respondents were asked about health risk behaviors and outcomes as well as the vaccines and screenings they have received.

**Exhibit 68** illustrates the percentage of respondents who reported adverse risk behaviors and outcomes. Being overweight and not exercising on a regular basis were the most frequently cited risk behaviors in the County.

### Exhibit 68: Survey Responses, 2012 – Risk Behaviors

Behaviors	Percent of Respondents	Total Respondents (N)
Overweight	49.8%	(231)
No regular exercise	40.0%	(230)
Former smoker	32.3%	(232)
Children or grandchildren overweight	13.3%	(233)
Current smoker/tobacco user	5.1%	(234)

Source: Inova Community Survey, 2012.

*49% of respondents reported being overweight*

**Exhibit 69** presents the percentage of respondents who reported receiving certain vaccines by sex and age cohort. The percentage of males aged 45 and older who received influenza vaccines, all females who received hepatitis A and B vaccines, and females aged 15 to 44 who received pneumonia vaccines compared unfavorably to other cohorts. Fewer than 40 percent of respondents reported receiving human papillomavirus (HPV), meningococcal, varicella, and zoster vaccines.

**Exhibit 69: Survey Responses, 2012 – Vaccines**

Vaccine	Percent of Respondents by Age and Sex			
	Males 15-44	Females 15-44	Males 45+	Females 45+
Flu / influenza in the last year	88.9%	91.4%	69.6%	85.1%
Hepatitis A	66.7%	25.9%	47.8%	19.0%
Hepatitis B	66.7%	48.3%	56.5%	39.7%
Human papillomavirus (HPV) before the age of 26	33.3%	8.6%	-	-
Meningococcal	33.3%	10.3%	13.0%	6.6%
MMR (measles, mumps, rubella) if you were born after 1957	66.7%	58.6%	-	-
Pneumonia / pneumococcal	44.4%	13.8%	39.1%	32.2%
Tdap (tetanus, diphtheria, pertussis) every 10 years	44.4%	63.8%	43.5%	55.4%
Varicella (chicken pox) if you've never had chicken pox	22.2%	19.0%	21.7%	14.9%
Zoster (shingles) if you are age 60+	-	-	8.7%	14.9%

Males 15-44 (N = 9), females 15-44 (N = 58), males 45+ (N = 23), females 45+ (N = 121)

Source: Inova Community Survey, 2012.

**Exhibit 70** identifies the percentage of respondents who reported receiving certain health screenings by sex and age cohort. The percentage of females aged 45 and older who were screened for cervical cancer and the percentage of all females who were screened for high or low blood sugar compared unfavorably to other cohorts. Thirty percent or fewer respondents reported being screened for sexually transmitted infections.

**Exhibit 70: Survey Responses, 2012 – Health Screenings**

Preventive Screening	Percent of Respondents by Age			
	Males 15-44	Females 15-44	Males 45+	Females 45+
Breast cancer (mammogram) in the last year	-	-	-	78.5%
Colorectal cancer (colonoscopy) in the last 5 years	-	-	58.6%	60.3%
Cervical cancer (Pap test)	-	78.3%	-	46.3%
High cholesterol	80.0%	80.0%	89.7%	82.6%
High or low blood pressure	80.0%	80.0%	96.6%	90.1%
High or low blood sugar	80.0%	63.3%	75.9%	69.4%
Prostate cancer in the last year	-	-	55.2%	-
Sexually transmitted infections	30.0%	21.7%	17.2%	8.3%

Males 15-44 (N = 10), females 15-44 (N = 60), males 45+( N = 29), females 45+ (N = 121)  
 Source: Inova Community Survey, 2012.

# Individuals Providing Community Input

Twenty-one key stakeholders participated in the interview process. The 21 stakeholders were comprised of public health experts; individuals from health or other departments and agencies; leaders or representatives of medically underserved, low-income, and minority populations; and other community members (**Exhibits 71, 72, 73, and 74**).

## 1. Public Health Experts

Individuals interviewed with special knowledge of or expertise in public health include (**Exhibit 71**):

**Exhibit 71: Public Health Experts Interviewed**

Name	Title	Affiliation or Organization	Special Knowledge or Expertise
Debra Dever	Executive Director	Loudoun Community Health Center	Through her work at community health centers across the country and in Loudoun County, Ms. Dever has special knowledge of the public health needs of community health center patients.
Dr. David Goodfriend	Health Director	Loudoun County Health Department	Through his work at the Loudoun County Health Department, Dr. Goodfriend has special knowledge of the public health needs of Loudoun County residents.
Anthony Burchard	President	Inova Health System Foundation	Mr. Burchard has special expertise in public health due to his time funding and planning public health programs through Project Hope.

## 2. Health or Other Departments or Agencies

Several interviewees were from departments or agencies with current data or other information relevant to the health needs of the Inova Loudoun community (**Exhibit 72**). This list excludes the public health experts identified in **Exhibit 71**.



### Exhibit 72: Individuals from Health Departments or Agencies Interviewed

Name	Title	Affiliation or Organization
Janet Clarke	Vice Chair	Loudoun County Board of Supervisors
Ellen Grunewald	Director	Loudoun County Department of Family Services
Scott York	Chairman-at-Large	Loudoun County Board of Supervisors

### 3. Community Leaders and Representatives

The following individuals were interviewed because they are leaders or representatives of medically underserved, low-income, and/or minority populations (**Exhibit 73**). This list excludes the public health experts identified in **Exhibit 71**.

### Exhibit 73: Community Leaders or Representatives Interviewed

Name	Title	Affiliation or Organization	Nature of Leadership Role
Mary Agee	Executive Director	Northern Virginia Family Services	Mrs. Agee represents the underserved patients who receive services at Northern Virginia Family Services and the low-income workers who are connected with healthcare jobs through the Training Futures program.
George Barker	Senator	Virginia General Assembly	Senator Barker represents vulnerable populations in Northern Virginia who seek public health services.
Dr. Ji-Young Cho	Program Director	Korean Community Service Center of Greater Washington	Dr. Cho serves as a leader of the Asian American community who utilize services and programs through the Korean Community Service Center of Greater Washington.
Janet Clarke	Vice Chair	Loudoun County Board of Supervisors	Ms. Clarke has helped with outreach to youth by establishing a Teen Center in Purcellville and writing the Youth Teen Activities Directory for western Loudoun County. She also has experience working in Loudoun County Public Schools.
Denise Garcia	ADA Compliance Administrator	Inova Health System	Ms. Garcia represents populations in Northern Virginia who require resources and facilities that are ADA compliant.
Ellen Grunewald	Director	Loudoun County Department of Family Services	Dr. Grunewald represents the population that the Loudoun County Department of Family Services assists, including children, adolescents, low-income families, and the elderly.
Andy Johnston	Executive Director	Loudoun Cares	Mr. Johnston represents underprivileged residents receiving services through Project H.O.M.E., Loudoun Cares, and the Loudoun United Way.
Mary Kealy, EDD	Assistant Superintendent for Pupil Services	Loudoun County Public Schools	Dr. Kealy represents children through her work in Loudoun County Public Schools.
Nancy Markley, RN, BSN, NCSN	Supervisor of Student Health Services	Loudoun County Public Schools	Ms. Markley serves as a representative of the students who receive health services at Loudoun County schools.
Nury Marquez	Executive Director	Hispanic Committee of Virginia	Ms. Marquez is an active community leader who represents the Hispanic population in Northern Virginia.
Rod Williams	VP, Community Affairs	Inova Health System	Mr. Williams represents the underserved populations receiving support through Inova's programs that provide nutritional support, healthy habits education, and community based learning.
Dr. Tom Wilson	Executive Director	Northern Virginia Dental Clinic	Dr. Wilson represents vulnerable populations receiving dental care at the Northern Virginia Dental Clinic and at events, such as Mission of Mercy, that help underserved populations receive dental care.

## 4. Persons Representing the Broad Interests of the Community

### Exhibit 74: Other Interviewees Representing the Broad Interests of the Community

Name	Title	Affiliation or Organization
Huey J. Battle	Regional Manager, Community Involvement	Washington Gas Chair, VA Workforce Council
Dr. Vera Dvorak	Medical Director for Case Management	Inova Health System
William H. Gary, Sr.	Vice President	Northern Virginia Community College
Nicole Paulk	VP, Strategic Planning/Innovation	Inova Health System
Dr. Loring Flint	Executive Vice President & Chief Medical Officer	Inova Health System

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