



# Northern Virginia Dental Clinic

*Dedicated to Providing Access to Oral Health Care Services  
to Northern Virginians in Need.  
- Since 1994 -*

8221 Willow Oaks Corporate Drive, Suite 450

Fairfax, Virginia 22031

Ph: (703) 820-7170

Fax: (703) 820-7229

March 17, 2016

Dear Councilman Chapman:

I am writing to address the matter of the recommended reduction of funding (\$57,914) which support dental services to City residents.

There are two areas this reduction in funding is listed in the City of Alexandria's FY2017 budget:

City Services Adjustments	Dept. of Community and Human Services	page 2.9
Dept. of Community and Human Services	Departmental Changes to City Services	page 11.8

I believe it is critical that this reduction in funding be brought to the attention of City Council members for review and consideration, and highly recommend that City Council restore this funding in the FY2017 City Budget.

## **Background:**

The Northern Virginia Dental Clinic (NVDC) was established in 1993 by members of the Northern Virginia Dental Society. The program was developed to address the unmet need of access to oral health care by low-income, uninsured and underserved residents (adults) of the northern Virginia region. The NVDC represents the first oral health safety net program established in the region and continues to serve as a model program.

The NVDC program operates under a formal Memorandum of Agreement (MOA20141003) drafted by the Northern Virginia Regional Commission and Human Services Officials of the Cities of Alexandria, Fairfax, and Falls Church, and Arlington and Fairfax Counties. This MOA outlines the public-private partnership and was most recently updated in June 2013. The agreement is scheduled for review and renewal in 2018. Under this agreement, the NVDC and City of Alexandria have worked collaboratively since 1993 to address the oral health care needs of the City's most vulnerable residents.

## **Update:**

- *Community Health Needs Assessment* commissioned by the Inova Fairfax Medical Campus (May 2013) identifies the lack of access to dental care and poor dental health status as a priority and states that "additional, affordable dental service are needed for low-income, uninsured, and undocumented adults to improve dental health outcomes."

- Reports commissioned by the Northern Virginia Health Foundation (*Oral Health in Northern Virginia* – Sept 2011, and *How Healthy is Northern Virginia* – May 2013) describe significant disparities in the ability and deterrents affecting our region's low-income and uninsured population to access oral health care services (e.g., Commonwealth of Virginia's state Medicaid program does not mandate oral health care service for adults, ability to pay/high costs associated with obtaining oral health care in the private sector, etc.). The executive summary of the *How Healthy is Northern Virginia* report states that "more than 400,000 adults (regionally) have not had a dental visit in the last two years" is just one of numerous statistics presented which highlights the critical need for access to oral health care services.
- In 2015, the NVDC provided 1,164 appointments to City residents. This represents a 19.8% usage rate by City residents. The value of services provided to City residents were conservatively estimated to be \$362,000.

Considering the number of appointments utilized by City residents and the value of the services rendered to City residents, I believe City Council members would be pleased with the City's 6:1 return on their investment of \$57,914.

- There are no provisions in the Affordable Care Act which requires dental insurance for adults. Statistics indicate that individuals electing coverage through exchanges do not typically purchase separate dental coverage due to associated costs.

#### **Requested Action:**

The proposed funding reduction of \$57,914 to support dental services include: \$25,000 which is provided directly to the NVDC to support the cost of one FT Dentist (total cost \$100,000 is shared with Arlington County which contributes \$25,250, and Fairfax County which contributes \$50,000); the remaining balance of \$32,914 represents funds in the Dept. of Community and Human Services budget which supports initial visits (new patient appointments), emergency referral visits, and the fabrication of dentures for City residents. These funds are controlled by the Dept. of Community and Human Services.

I believe NVDC offers the City a good return on its investment, and ask you and members of the City Council to restore funding to support dental care services for low-income residents of Alexandria in the FY2017 budget. The NVDC has enjoyed its long-standing partnership with the City and service to the residents of Alexandria.

Thank you for your consideration!

Sincerely,



Tom Wilson  
Executive Director  
Northern Virginia Dental Clinic

# **Oral Health in Northern Virginia**

A report commissioned by the  
Northern Virginia Health Foundation

**September 2011**



# Oral Health in Northern Virginia

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- ▶ First survey of oral health in Northern Virginia shows wide range of residents struggle to obtain dental care.
  - ▶ Low-income families are significantly more likely to report poor oral health and difficulty obtaining access.
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## Introduction

Since its inception in 2005, the Northern Virginia Health Foundation has recognized the critical need to expand access to oral health care in Northern Virginia, an area that is considered to be one of the wealthiest in the country. Despite that wealth and proximity to the nation's capital, it is clear that many in Northern Virginia have great difficulty paying for and accessing needed dental care.

In order to determine how best to meet the community's oral health needs, the Foundation commissioned the first-ever survey of oral health in Northern Virginia. What follows is a detailed look at access to oral health care, broken down by income level. The data clearly document that lower-income residents in the area have a far more difficult time obtaining care than higher-income residents.

This report describes the importance of oral health to overall health, details the status of oral health for Northern Virginians and the barriers they face in obtaining needed dental care, and offers specific recommendations for steps that policymakers and other leaders can take to improve oral health in the region.

The report primarily focuses on the oral health status of lower-income adults since so few programs exist to assist them – although it does address how Northern Virginian children at all income levels are doing. Medicaid covers very little in the way of dental care for adults in Virginia and only a patchwork of programs and services exists to meet the oral health needs of lower-income adults.

Unfortunately, for people with limited means and no insurance, the out-of-pocket costs for basic preventive dental care can put it out of reach for many, resulting in severe pain, missed work, hospital emergency room visits, and ultimately higher health care costs.

This report should serve as a basis for understanding the oral health needs of the community and determining the best policies and programs that can be put in place to improve access to oral health for lower-income adults.



## Oral Health Across the United States

More than a decade ago, Surgeon General David Satcher released a detailed look at oral health in America, calling oral disease a “silent epidemic.” The landmark report issued a call to action to increase access to oral health care, especially for the disadvantaged and for minority children, since they are at greater risk of developing medical complications related to oral health problems.

Oral health is critical to overall health, yet in the 11 years since the Surgeon General’s report, little progress has been made to solve the problem. As recently as May 2011, a Pew Center on the States report assessing state progress on oral health gave 18 states a C or D grade – with Virginia garnering a C. An additional five states – Florida, Hawaii, Indiana, Montana and New Jersey – received failing scores.

Consider these facts:

- ▶ Close to 100 million Americans lack any kind of dental coverage.
- ▶ Approximately 50 million Americans live in areas where they have little to no access to a dentist – designated as dental professional shortage areas by the federal Health Resources Services Administration.
- ▶ Children in the United States are five times more likely to seek treatment at a hospital emergency department for oral health problems than they are for an asthma attack.
- ▶ Poor oral health is linked to serious health conditions later in life, including heart disease, diabetes and strokes.

In the past year, numerous government, foundation and academic reports have catalogued problems with access to oral health.

- ▶ The U.S. Government Accountability Office (GAO) found that millions of children on Medicaid still cannot access dental care, with almost two-thirds going without that care in 2008.
- ▶ A study released in May 2011 in the journal *Pediatrics* found that dentists are more likely to refuse appointments to patients on Medicaid.
- ▶ A spring 2011 Institute of Medicine report recommended that federal agencies do more to ensure that oral health is considered part of overall health.
- ▶ Congress, in passing the Affordable Care Act, recognized the need for dental care by mandating Medicaid coverage for dental services for an additional 5.3 million children by 2014, and by authorizing demonstration projects for alternative dental providers.

The Northern Virginia Health Foundation has committed \$800,000 over the past several years to respond to oral health needs in the local area.

## A Picture of Oral Health in Northern Virginia

While the overall need to expand access to oral health care is well documented, this report details how critical that need is in Northern Virginia. Like the rest of the nation, many adults and children in Northern Virginia face significant oral health challenges due to a lack of dental coverage and access to dental care. And like much of the rest of the nation, family income level can play a significant role in access to dental care, as well as overall health.

**In Northern Virginia, more than a third of those in lower-income households (making less than \$40,000 per year) rate their oral health as fair or poor, almost five times as high as those in households making over \$40,000 per year.**

A recent Pew Center on The States report, *The State of Children's Dental Health: Making Dental Coverage Matter*, gave Virginia a C for its efforts to address children's dental health needs, noting that the state meets only half of the eight benchmarks needed to improve dental care. According to that report, only 45.7% of children enrolled in the state's "Smiles for Children" Medicaid program received dental services. A report by the federal Centers for Medicare and Medicaid noted that the state's Medicaid program helped "dramatically improve dental access and care for Virginia's low-income children." Despite this, more than half of the state's children on Medicaid received no dental services at all in 2009.

That picture is worse for the state's adults. In Virginia, Medicaid only covers "medically necessary oral surgery," not check-ups, root canals, restorative or prosthetic services. Some area dentists volunteer at clinics or provide their services for reduced rates, but the need far exceeds the number of dentists willing to provide those services. Often, the uninsured or underinsured seek emergency dental care in hospital emergency departments or at municipal health departments, which offer limited treatment. Consequently, the underlying problem is often not treated.

In order to adequately meet the need, the Commonwealth of Virginia would need 132 additional dentists (Pew report; HRSA). Although there is a high ratio of dental providers to population in Northern Virginia, many residents still have difficulty accessing that care, primarily due to cost.



► In Virginia, Medicaid for adults only covers "medically necessary oral surgery," not check-ups, root canals, restorative or prosthetic services.

In Northern Virginia, few options exist for those who can't pay for dental services. Among a handful of nonprofit safety-net organizations ready to serve the uninsured or under-insured are the Alexandria Neighborhood Health Services, the Greater Prince William Community Health Center, the Hygiene Clinic and Restorative Clinic at the Northern Virginia Community College, the Loudoun Community Health Center and the Northern Virginia Dental Clinic. Often, these clinics carry long waiting lists, as is the case at the Northern Virginia Dental Clinic's Loudoun clinic which, just three months after its opening in October 2010, had a waiting list of 300 patients. (See Appendix for a listing of oral health safety net organizations and programs.)

Those working in such clinics experience firsthand the results of restrictive Medicaid coverage combined with limited and overburdened safety-net organizations: a large population of lower-income residents who have great need for dental care.

## First-Ever Survey of Oral Health in Northern Virginia

Conducted by Third Eye Strategies, this survey is the first oral health survey of Northern Virginia. It paints a picture of oral health disparities in a region that is considered to be one of the most prosperous in the nation, with a median household income of \$100,000.

The Northern Virginia Health Foundation commissioned the study to ascertain the oral health needs of Northern Virginians and to illuminate a serious oral health problem that is affecting a significant number of our residents. It is the Foundation's hope that these survey results, coupled with data regarding the importance of oral health, will help leaders understand the depth of the problem and advocate for policies that can ultimately improve the overall health of Northern Virginians.

The Foundation was established in 2005 to improve the health and health care of residents of Northern Virginia. Since its inception, it has placed great emphasis on the health and health care needs of the uninsured lower-income population and has granted more than \$800,000 to organizations providing oral health care for lower-income residents.

Northern Virginia is a region of roughly 2.2 million people living in four counties: Arlington, Fairfax, Loudoun, and Prince William, and the cities of Alexandria, Fairfax City, Falls Church, Manassas and Manassas Park. The region, which neighbors the nation's capital, is one of the most prosperous in the country and, at the same time, one of the most diverse, with about 42% of the population Hispanic, Asian, and African American, among other ethnic groups.

Yet about a fourth of all adults in Northern Virginia live below the federal poverty line, which is a little more than \$27,000 a year for a family of four. Close to half of households (46%) with an income of less than \$40,000 do not have health insurance, and 73% do not have dental insurance. Two-thirds (65%) of this population says they cannot afford to buy dental insurance.

### Survey Methodology

Third Eye Strategies, based in Springfield, Va., polled 1,300 adults, ages 18 and older in the summer and fall of 2010. Third Eye Strategies divided those surveyed into two groups: those households earning more than \$40,000, and those earning less than that. In the higher-income group, 46% of the households earned more than \$100,000. In the lower-income group, 57% of the households earned less than \$25,000.

Survey takers called residents on their cell phones and landlines, asking questions about quality of care, access and dental coverage. Two hundred and sixty five interviews were done in Spanish. Calls were weighted by gender, age, income and area to reflect the 2009 American Community Survey estimates performed by the U.S. Census.

Of those surveyed in the upper economic bracket, 66% are white; 68% are married; 37% have completed college; 40% have obtained a graduate or professional degree; and 71% are employed full-time. Thirteen percent of the higher-income group are Hispanic, 11% African American and 6% Asian.

In the lower economic group, 29% are white, 50% Hispanic and 16% African American and Asian. Forty-four percent are married and 21% are living with a partner. A majority (57%) have only attended high school, and of those about half graduated (29% graduated; 28% did not graduate). Only 15% have finished college and 7% have completed graduate school. Forty-one percent are employed full-time.

## SNAPSHOT: Oral Health in Northern Virginia

The survey assessed numerous factors affecting the oral health of Northern Virginians, gauging perceptions of residents' oral health as well as documenting factors that limit residents' access to dental care. The picture that emerges is one of a multi-faceted problem with a substantial common denominator: far higher percentages of lower-income residents in Northern Virginia suffer from dental problems, impacting their jobs and their health, than those with higher incomes.

Consider these survey results:

### ► **Adult dental care**

Far fewer numbers of lower-income adults go to dentists regularly. Sixteen percent of lower-income adults have not gone to the dentist in more than five years, compared to only 3% of higher-income adults. Of those lower-income adults who have health coverage, just a quarter (24%) have coverage that includes dental care. For higher-income adults, the percentage with dental coverage is 64%.

### ► **Need**

More than four times as many lower-income adults (26%) say they need to have a tooth pulled as do higher-income adults (6%).

### ► **Impact on daily life**

Lower-income adults are far less likely to receive regular care or rate the care they receive as excellent. They are also more likely to say that they can't work, can't sleep, or can't engage in regular activities because of dental pain.

### ► **Emergency care**

Lower-income residents often seek help in hospital emergency rooms for acute dental problems. Five times as many lower-income residents who have received care in the last two years seek care in the emergency room compared to higher-income residents.

### ► **Satisfaction with care**

Higher-income adults are happier with their dental care. Fifty-eight percent of higher-income adults who have received dental care in the last two years rate their dental care as excellent, while only 20% of lower-income adults describe their recent care as excellent.

### ► **Children**

Forty-five percent of lower-income parents whose children have not received care in the last two years say they can't afford dentist visits for their children. Seventy-nine percent of the higher-income parents have taken their children to a dentist in the last two years, compared to 62% of parents in the lower economic bracket.

The survey found that the most significant factors affecting the ability of residents to improve oral health are: income level, access to dental coverage, and use of preventive dental care.

## Quality of Oral Health: Actual and Perceived

Income level significantly impacts how residents in Northern Virginia rate their overall physical and oral health. The majority who earn more than \$40,000 annually feel “very good to excellent” and say they have healthy teeth and gums. They are more satisfied with the dental and health care they receive than lower-income residents, have greater access to regular care, and have insurance to cover dental care.

In contrast, the survey shows that lower-income adults are far less satisfied with their overall health and dental care. More than a third of those with lower incomes think their teeth and gums are in “fair or poor condition” – a rate nearly five times higher than those with higher incomes. At the most fundamental level, 95% of higher-income adults have a more positive outlook about their general and oral health. Nearly a quarter (24%) of lower-income adults believe their health is fair to poor, a rate more than four times greater than higher-income residents.

According to the CDC and a growing body of research, poor oral health early in life is linked to the development of serious disease later in life, including heart disease, diabetes and stroke. Not surprisingly, lower-income adults in this Northern Virginia survey suffer from heart disease at a rate of 6% versus 2% for higher-income individuals. Similarly, they are more likely to report having diabetes (11% lower-income versus 5% higher-income) and asthma and lung disease (10% versus 6%). Lower-income and higher-income adults report suffering equally from hypertension or high blood pressure.

## Dental Pain Affects Ability to Work, Sleep

Toothaches, infections, and other oral health problems are far more likely to hamper a lower-income person from getting or reporting to work than a higher-income worker. In fact, 6% of lower-income Northern Virginians report that they have difficulty

obtaining work because of the state of their teeth, while another 16% say that they miss work for the same reason. In contrast, 99% of the higher-income adults say their teeth do not affect their ability to get a job, and only 3% say the condition of their teeth stops them from working.



► 22% of lower-income adults in Northern Virginia report that dental pain keeps them from being able to work, sleep or perform regular activities.

Perception of Respondents General and Oral Health						
	General Health			Oral Health		
	All	<\$40K	\$40K+	All	<\$40K	\$40K+
Excellent	28%	11%	33%	24%	8%	28%
Very good	31	21	36	27	16	33
Good	31	44	26	34	38	32
Fair	6	14	4	8	15	7
Poor	3	9	1	5	17	0
Neither good nor poor	0	1	0	1	5	1
<b>Excellent/Very Good</b>	<b>59%</b>	<b>32%</b>	<b>69%</b>	<b>51%</b>	<b>24%</b>	<b>61%</b>
<b>Good</b>	<b>31</b>	<b>44</b>	<b>26</b>	<b>34</b>	<b>38</b>	<b>32</b>
<b>Fair/Poor</b>	<b>10</b>	<b>24</b>	<b>5</b>	<b>13</b>	<b>37</b>	<b>8</b>

Percentages in red are statistically significantly higher than percentages in italics. That is, in 95 cases out of 100, the differences between the two percentages would not occur from chance or normal statistical variation. (Because of rounding, some totals do not = 100%)

Overall, 22% of lower-income adults say that dental pain keeps them from being able to do one of three things: work, sleep or perform regular activities. In fact, oral health problems keep 18% from sleeping, and 15% from performing regular activities. The corresponding numbers for higher-income residents are significantly less: 4% can't sleep, and 3% can't do their regular activities.

## Lower-Income Residents Likely to Defer Needed Dental Procedures

Lower-income adults are in greater need of dental implants and dentures and suffer more dental pain since they often cannot afford treatment. As a result, they put off needed procedures such as getting a tooth pulled. In fact, 26% of lower-income adults report that they need to have a tooth pulled, compared to just 6% of higher-income adults.

Once teeth are compromised, there are a number of procedures patients in both economic groups face: dentures, dental implants and crowns. Poor residents are more likely to lose their teeth and five times as likely to

Possession and Need for Various Dental Treatments									
	Dentures			Dental Implants			Crowns		
	All	<\$40K	\$40K+	All	<\$40K	\$40K+	All	<\$40K	\$40K+
<b>Currently Have</b>									
Yes	9%	20%	4%	8%	11%	8%	40%	28%	46%
No	91	80	96	91	88	92	59	71	54
<b>Will Need in Next Year</b>									
Yes	9%	22%	4%	9%	21%	5%	14%	21%	12%
No	89	72	95	88	75	94	82	75	83

Percentages in red are statistically significantly higher than percentages in *italics*. That is, in 95 cases out of 100, the differences between the two percentages would not occur from chance or normal statistical variation. (Because of rounding, some totals do not = 100%)

report needing or wearing dentures. Twenty percent of lower-income people have dentures compared to 4% of higher-income people. Furthermore, 95% in the higher-income group say they will not need dentures next year. That is not the case for those with lower incomes; 22% say they will need them.

Few in either group have dental implants: 11% lower-income and 8% higher-income. However, 21% in the lower economic group say they will need them next year, while only 5% in the upper group say they will. Crowns, on the other hand, present another story: 46% of the higher-income adults surveyed have crowns and 12% say they will need them next year. Twenty-eight percent of lower-income adults have them, but 21% say they will need them.

## Cost and Dental Insurance Affect Access to Dental Care

Lower-income residents report seeing a dentist on a regular basis far less frequently than higher-income residents. While 91% of higher-income adults report seeing a dentist in the last two years – with 76% of these adults saying that they go at least twice a year for a check-up – only 63% of lower-income adults have gone to the dentist in the last two years. Of that 63%, less than half (44%) of lower-income residents get regular dental check-ups twice a year. And 16% haven't been for more than five years.

Lack of insurance and the high cost of dental care are among the largest impediments to lower-income residents seeking dental care in Northern Virginia. In fact:

- ▶ 24% of lower-income adults who have not had recent care report that they put off dental treatment because they did not have the money to pay for it. Just 11% of higher-income adults say that they have put off their care for this reason.
- ▶ For higher-income adults with health insurance coverage, the percentage that has dental coverage (64%) is triple that of those who have insurance coverage but no dental care (24%).

When it comes to paying out-of-pocket costs, both lower-income and higher-income adults are not immune. In fact, a similar percentage (19% lower-income and 15% higher-income) reports paying more than \$500 in out-of-pocket expenses for dental care.



► Only 63% of lower-income adults in Northern Virginia had received dental care in the past two years, compared to 91% of higher-income adults.

Some respondents even cited high costs as a reason to seek treatment outside of the United States. Specifically, 16% of lower-income adults who have had recent care received it internationally. Of those who sought care internationally, 84% of lower-income adults say it is less expensive overseas and 65% say they can't afford dentists in the U.S. In addition, 58% of lower-income patients say they are more comfortable seeing dentists in their home countries.

## Barriers to Care Beyond Cost and Insurance

In addition to cost and dental coverage, lower-income adults cite several other reasons that have kept them from obtaining dental care in the last two years.

Fifteen percent say they didn't have the transportation to get to the dentist, a rate almost four times as great as the rate for higher-income residents. And 10% of lower-income respondents said that they needed to find child care in order to go to the dentist.

### Reasons for Not Seeing a Dentist

	All	≤\$40K	\$40K+
Only get health or dental care in emergencies	51%	53%	55%
Take care of my teeth fine and do not have problems	51	53	53
Do not have dental insurance coverage	50	73	19
Not able to afford it	47	66	30
Don't have time	24	18	32
Afraid or nervous	13	10	13
Don't have transportation	12	15	4
Dentist stopped taking my health insurance	11	13	7
Need child care in order to go	10	10	5
Couldn't get an appointment	7	7	3

Percentages in **red** are statistically significantly higher than percentages in *italics*. That is, in 95 cases out of 100, the differences between the two percentages would not occur from chance or normal statistical variation.

In addition, both economic groups (7%) say they or someone in their household could not see a dentist because the dental office was not handicapped-accessible. Seven percent of lower-income residents report having a condition that makes it difficult for them to receive dental care.

Having a dentist who doesn't treat people with special needs is more of a problem for lower-income residents – 6% report having this issue compared to just 1% of higher-income adults.



► 66% of lower-income adults report not seeing a dentist because they can't afford it, compared to 30% of higher-income adults. In addition, 15% of lower-income adults say they didn't have transportation to get to the dentist, compared to 4% of higher-income adults.

## The Health of Children

While the survey focused on oral health for adults, it did address access to oral health for children in the region as well. Given that oral health can have a significant impact on overall health later in life, the importance of improving access to dental care for children should not be overlooked.

The survey showed that both lower-income and higher-income households have similar levels of dental coverage for their children (80% compared to 88%). And lower-income children appear to fare better than their parents in accessing dental care. Yet, disparities in care do exist in the two income groups even prior to birth.



► 52% of lower-income parents report that they only seek dental care for their children in emergencies, compared to 21% of higher-income parents.

Two thirds (67%) of higher-income women went to the dentist or dental clinic for a cleaning or check-up during their pregnancy, almost twice the percentage (35%) of lower-income women who saw the dentist while pregnant. Furthermore, 23% of lower-income women say they had problems with their gums and teeth during the pregnancy, but did not seek help. Just 3% of higher-income women report this difficulty.

Of the adults surveyed, 44% have a child or stepchild, 18 or younger, still at home. According to the survey, more than eight in 10 children (84%) have visited a dentist in the last two years. Specific findings include:

- Of the parents surveyed, 75% say that their only child or all of their children have received care.
- However, lower-income parents are more likely to report that only some of their children have gone to the dentist in the last two years (16% lower-income versus 7% higher-income).
- 82% of higher-income parents say their children receive dental care twice a year or more, while 73% of lower-income parents say their children receive biannual or more frequent visits.

Those who reported that their children did not see a dentist in the last two years offered a variety of reasons, ranging from not being able to afford care, to seeking care only in emergencies, to not having dental insurance for their children.

**Reasons for Children Not Receiving Dental Care**  
(Among Those Who Have Not Visited in Last Two Years)

	<b>All</b>	<b>&lt;\$40K</b>	<b>\$40K+</b>
Children take care of their teeth fine and do not have problems	39%	47%	41%
Only get health or dental care in emergencies	32	52	21
Do not have dental insurance coverage	28	39	25
Not able to afford it	24	45	15
Don't have time	23	8	31
Couldn't get an appointment	13	12	13
Dentist stopped taking my health insurance	8	4	8
Don't have transportation	6	11	0

Percentages in **red** are statistically significantly higher than percentages in *italics*. That is, in 95 cases out of 100, the differences between the two percentages would not occur from chance or normal statistical variation.

Among lower-income parents whose children have not received recent care, 45% say their child had not had a visit in the past two years because they could not afford it, compared to 15% of higher-income parents. And 52% of lower-income parents report that they only seek dental care for their children in emergencies, compared to 21% of higher-income parents.



## Conclusion

Over the years, we have all heard stories of people who cannot afford dental care and of children who suffer through school with untreated toothaches.

This survey goes beyond anecdotal evidence and represents the first hard look at oral health in Northern Virginia to show the depth of the problem.

The data in this survey clearly show that income level and access to dental coverage are significant factors affecting one's ability to obtain oral health care. The survey tells us that:

- ▶ Lower-income adults are far more likely to seek dental care on an emergency or as-needed basis.
- ▶ Lower-income adults often defer treatment due to cost or lack of dental coverage and do not regularly access routine, preventive care.
- ▶ Only 7% of all adults in Northern Virginia are aware of any programs that help pay for dental visits for adults.

In addition, while the Commonwealth has made progress in expanding access to dental care for children, close to half of Virginia's lower-income children still do not receive dental services. This is particularly troubling because lower-income children have access to dental care through Smiles for Children, the dental program for children enrolled in FAMIS (Family Access to Medical Insurance Security), Virginia's Medicaid program for children.

The effect of inadequate dental care on residents goes far beyond the pain of a toothache or a dental infection. Poor oral health can impact overall health for years to come and is clearly linked to serious health conditions such as heart disease, diabetes and stroke. Furthermore, oral health problems can affect the ability of people to work, sleep or even go about their daily activities.

We can solve this problem, but to do so, we must acknowledge the importance of oral health to the overall health, well-being and productivity of residents.

Too many North Virginian adults and children are suffering unnecessarily. There are steps we can take right now to make oral health care more accessible to those who need it.

## New Oral Health Coalitions

The findings from this survey point out the disparities in utilization of and access to oral health care between lower- and higher-income residents of Northern Virginia. They also suggest recommendations to assure that every Northern Virginian enjoys good oral health. Recently, two organizations have emerged that we believe will help lower-income Northern Virginians access quality oral health care.

### Northern Virginia Oral Health Services Coalition

The Northern Virginia Oral Health Services Coalition was formed officially in July 2011 to build a high quality, accessible and outcome-driven oral health services delivery system to support the needs of lower-income, uninsured or underinsured individuals in Northern Virginia.

Made up of public, private nonprofit and private providers delivering direct services to lower-income Northern Virginians, it will:

- ▶ Serve as a planning body for facilitating access to oral health services;
- ▶ Provide a forum to collaborate and problem-solve regarding major issues in developing and expanding oral health services;
- ▶ Increase public awareness of the importance of oral health as a component of overall well-being;
- ▶ Support sharing of resources (data, physical and human), ideas, and knowledge to expand availability of and access to oral health services;
- ▶ Support the development of an integrated system of oral, physical and behavioral health, when and where opportunities exist;
- ▶ Identify funding opportunities to support expansion and integration of oral health services; and
- ▶ Stimulate the creation of a coordinated oral health service delivery system across all jurisdictions in Northern Virginia.

The Foundation began convening these providers in 2008 and will continue to provide technical assistance to this group as it moves forward in its efforts.

### Virginia Oral Health Coalition

The newly formed Virginia Oral Health Coalition, of which the Foundation is a member, is a statewide coalition of individuals and organizations committed to bringing excellent oral health care to all Virginians. The Coalition drives the Virginia Oral Health Plan, which has the following objectives:

- ▶ To utilize advocacy, public awareness, and innovative new programs to change perceptions of oral health;
- ▶ To remove known barriers between people and oral health services;
- ▶ And to build an effective oral health infrastructure by ensuring that dental providers and future dental providers are prepared to meet the needs of the underserved in Virginia.

The complete Virginia Oral Health Plan can be found on the Coalition's website: [www.vaoralhealth.org](http://www.vaoralhealth.org).

## Recommendations

To ensure that Northern Virginians enjoy good oral health, local, regional and state efforts must explore short-term and long-term strategies that:

- ▶ Reinforce the link between oral and overall health among health professionals and the general public. Increasing understanding of the link is important for the oral and overall health of all populations.
- ▶ Foster integration of oral health and primary care. Several safety-net clinics in Northern Virginia already provide integrated primary, oral and behavioral health care, and new models of integration should be explored.
- ▶ Increase the number of providers who offer children a dental home.
- ▶ Increase the number of providers who offer reduced-cost oral health care to lower-income adults.
- ▶ Include comprehensive dental services for all who are Medicaid eligible.
- ▶ Ensure that dental hygienists and other dental professionals are able to practice to the full extent of their education and training.
- ▶ Work to ensure that reimbursement for dental services through Medicaid is at least at the 65th percentile of the American Dental Association rate survey. Reimbursing dental services for Medicaid-eligible patients at a higher rate could increase the number of providers willing to see patients.

Oral health is crucial to overall health. Yet thousands of Northern Virginia residents do not have access to needed dental care. Before another decade ends, we must pursue innovations and programs to ensure better oral health for all residents, not just those who can afford it.

## APPENDIX

### Oral Health Safety Net Resources in Northern Virginia

The following organizations and programs comprise the oral health safety net in Northern Virginia:

#### **Alexandria Neighborhood Health Services**

Alexandria Neighborhood Health Services utilizes the dental operatories at the Alexandria and Arlington Health Departments to provide oral health services to children and adults. Services provided include cleanings, x-rays, fillings and extractions.

#### **Greater Prince William Community Health Center**

The Greater Prince William Community Health Center offers a range of oral health services to patients of all ages at its facility in Woodbridge. There are no eligibility requirements and a sliding fee scale is available for uninsured patients.

#### **Loudoun Community Health Center**

The Loudoun Community Health Center works directly with the Northern Virginia Dental Clinic to provide services to those in need of care and also refers Loudoun County patients directly to dentists who will treat them at a reduced fee.

#### **Mission of Mercy**

Mission of Mercy is a three-day annual event that provides volunteer dentists, dental assistants and dental hygienists who treat low-income patients referred from local health department clinics or social service agencies.

#### **Northern Virginia Community College Dental Restorative Clinic**

Northern Virginia Community College provides restorative dental care to adult residents (16 years and older) of Northern Virginia at its Medical Education Campus in Springfield. There is a fixed fee for the first visit and fees for subsequent visits are based on a sliding scale, based upon income.

#### **Northern Virginia Dental Clinic**

The Northern Virginia Dental Clinic offers comprehensive oral health services to residents Arlington, Fairfax, Loudoun, or Prince William Counties, and the Cities of Alexandria, Fairfax, and Falls Church to adults age 18 or older who have an annual income at or below 200% of the Federal Poverty Guidelines. Patients are seen at the Clinic's facilities in Falls Church and Loudoun.

#### **Northern Virginia Dental Society's Give Kids a Smile Day**

Organized by the Northern Virginia Dental Society, this one-day event provides volunteer dentists who provide free care to uninsured children in Northern Virginia.

#### **Northern Virginia Dental Society's Mission of Mercy**

A two-day event at which volunteer dentists, hygienists, assistants, dental students, hygiene students and general volunteers provide dental care to low-income uninsured adults.

#### **Northern Virginia Family Service Oral Health Access Program**

The Oral Health Access Program at Northern Virginia Family Service refers clients seeking dental care to dentists across Northern Virginia who agree to offer their services at a discounted fee.

#### **Northern Virginia Health Departments**

Local public health departments offer limited dental services to income-eligible residents of their respective jurisdictions. The types of services vary by health department.

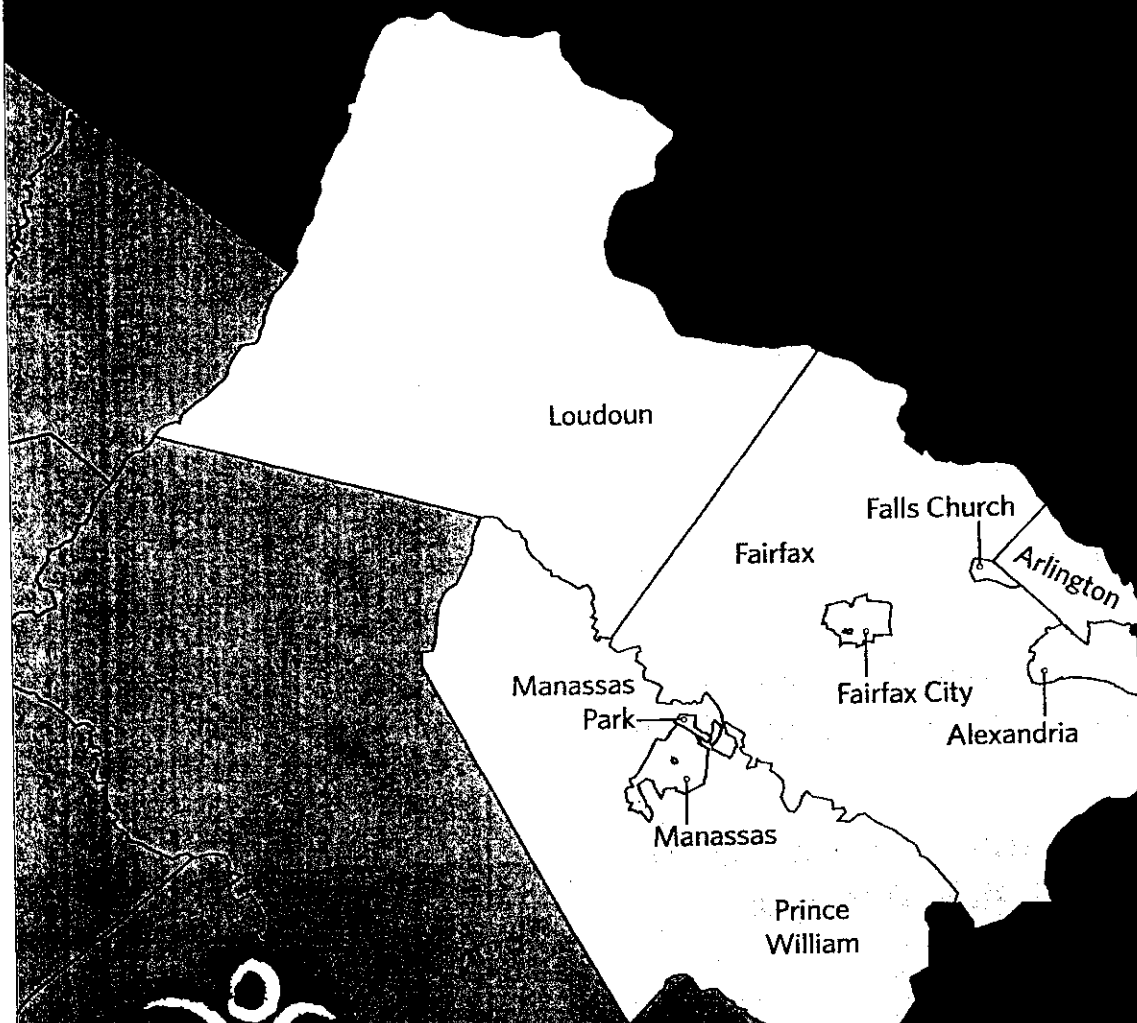


1940 Duke Street  
Suite 200  
Alexandria, VA 22314  
**[www.novahealthfdn.org](http://www.novahealthfdn.org)**

# How Healthy Is Northern Virginia?

A Look at the Latest Community Health Indicators

MAY 2013



Northern Virginia  
Health Foundation

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# Executive Summary

Northern Virginia is a region of roughly 2.2 million people living in four counties: Arlington, Fairfax, Loudoun, and Prince William, and the cities of Alexandria, Fairfax City, Falls Church, Manassas, and Manassas Park. The region, which neighbors the nation's capital, is one of the most prosperous in the nation and, at the same time, one of the most diverse, with about 42 percent of the population Hispanic, Asian, and African American, among other racial and ethnic groups.

By many accounts, the health of residents of Northern Virginia is quite good: According to the *County Health Rankings* published by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, seven of the nine jurisdictions in Northern Virginia ranked in the top ten of 133 Virginia cities and counties for health outcomes.

But dig a little deeper, and the reality of Northern Virginia's health status is revealed:

- More than 1 million adult residents are overweight or obese;
- More than 340,000 adults are at risk for binge drinking;
- One quarter of all youth admit that they have felt sad or hopeless for two or more weeks in a row;
- More than one quarter of all youth can be classified as overweight or obese;
- More than 400,000 adults have not had a dental visit in the last two years;
- Roughly 35 percent of all kindergarten to 12<sup>th</sup> grade students are eligible for free or reduced lunch; and
- More than 5,000 pregnant women gave birth without receiving early prenatal care.

We know that some of these realities are based on income—or, rather, limited income. But others are not. They reflect the fact that many residents, from various income levels and various racial and ethnic groups, face conditions that are challenging to their health.

We know, too, that many of the conditions that contribute to poor health are preventable, and have to do with the built environment, the social environment, and policies and regulations at the local, county, and/or state level. The data provided serve as guides to understanding these realities and to encouraging community stakeholders to come together—across interest areas and across jurisdictions—to address the challenges of creating a healthy region for all Northern Virginians.



# Introduction

This report provides a set of health indicators for the communities that together define the region of Northern Virginia. Indicators are provided for the Northern Virginia region as a whole, for each of the nine cities and counties within the region, and for smaller geographic areas within the region. This introductory section outlines how to use the report to inform community health improvement efforts.

The health of a community, like the health of an individual, is dependent on multiple factors. The characteristics of the population, the social environment, the physical environment, the accessibility and quality of services, and the policy structure can all play an influential role in determining the health of a community. Within each community, these factors interact to produce a distinctive mosaic of community health. It is important to understand this mosaic as a starting point for improving community health.

This document is intended to be a resource for individuals and organizations engaged in the vital work of improving community health in Northern Virginia. The information in this report may be used to:

- Enhance understanding of community health status, including the variations in health status that may be found in the diverse communities of the region;
- Engage key stakeholders from multiple sectors in dialog about community health improvement;
- Inform planning, implementation, and evaluation of community health initiatives; and
- Educate policymakers and the public about community health needs in the region.

It is important to note that this document is provided as a starting point and reference for community health improvement. The document does not provide all of the community health indicators one might wish to incorporate when considering ways to improve health outcomes. Also, this document should not be viewed as a 'report card' on the quality of health services in Northern Virginia. There are many factors that influence the health of communities, and an evaluation of these factors would go far beyond the limits of this document.

## How to Use This Report

In this context, the authors recommend that this document be used as a reference resource for community health improvement. A suggested approach for utilizing the report is as follows:

- **Start with County Health Rankings.** Section I of this document provides an overview of the region based on the *County Health Rankings* published by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. The *County Health Rankings* are a widely used tool for engaging stakeholders in dialog about health outcomes and health factors at the city and county level. With a few exceptions, Northern Virginia jurisdictions are at or near the top of the *County Health Rankings* for

Virginia, and this is a testament to the many strengths of the region. However, the *Rankings* are not designed to tell the entire story about community health, and they are subject to some technical limitations. The *Rankings* are presented here as a starting point for additional exploration of community health.

- **Expand the view with City and County Health Indicators.** *Section II* provides an expanded view of the region based on a broader and more contemporary array of community health indicators than are provided in the *County Health Rankings*. The indicators are provided for each city and county as well as the Northern Virginia region as a whole. This section can be especially helpful for understanding the substantial numbers of people facing health challenges in Northern Virginia. These numbers can inform efforts to ‘make the case’ for health improvement to audiences that may assume that health needs are minimal in Northern Virginia based on the *County Health Rankings* and other broad measures of health in the region.
- **Take a close-up view with the Health Opportunity Index.** *Section III* provides a close-up view of the region with the help of the *Health Opportunity Index* produced by the Virginia Department of Health. In a region as large and diverse as Northern Virginia, city- and county-level analysis can often mask important variations in health opportunity within and across city and county boundaries. The *Health Opportunity Index* measures a core set of ‘social determinants of health’ for 328 census tracts in the Northern Virginia region. The *Health Opportunity Index* can be used to identify small geographic areas in which the population is likely to be more at risk for health problems. This information can be helpful for focusing community health initiatives in communities where they are most needed.

## Data, Methods, and Questions

This document contains a wide array of community health indicators from multiple sources. Among the indicators are demographic estimates from different federal, state, and commercial sources. In some cases these estimates might not match with other sources of local demographic estimates. Also among the indicators are selected estimates in which state or national survey data are applied to local demographic profiles in order to produce a local estimate. These estimates are identified when they appear, and they are accompanied by appropriate technical notes. Technical questions about data sources or methods can be directed to Stephen Horan, Ph.D., of Community Health Solutions, at (804) 673-0166 or [shoran@chsresults.com](mailto:shoran@chsresults.com).

## SECTION I

# The *County Health Rankings*

This section provides an overview of the Northern Virginia region based on the *County Health Rankings* published by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. The *County Health Rankings* are a widely used tool for engaging stakeholders in dialog about health outcomes and health factors at the city and county level. As stated by the publishers of the *Rankings*:

"The *County Health Rankings* are designed as a call to action....We encourage any community that has not already done so to use the *Rankings* as a stimulus to engage community members in a more detailed community health assessment, using whatever additional data sources they have available. The *Rankings* can be used as a pointer to suggest areas where more in-depth analysis might be helpful."

Accordingly, the *County Health Rankings* for Northern Virginia are included in this report as a starting point for more comprehensive analysis in the following sections.

## Summary of *County Health Rankings* for Northern Virginia

The *County Health Rankings* for Northern Virginia are summarized in **Exhibit I-1**. As shown, the rankings are provided in two broad categories of *Health Outcomes* and *Health Factors*. The *Health Outcomes* rank is based on two sub-rankings on measures of mortality and morbidity. The *Health Factors* rank is based on four sub-rankings on measures of health behaviors, clinical care, social and economic factors, and physical environment. **Appendix A** provides a detailed explanation of the methods and measures used to produce the rankings.

# EXHIBIT I-1

## Summary of *County Health Rankings* for Northern Virginia (2013 Version)

Indicator	Alexandria City of	Arlington County	Fairfax City of	Fairfax County	Falls Church City of	Loudoun County	Manassas City of	Manassas Park City of	Prince William County
Estimated Population (2012)	144,055	214,681	22,899	1,108,149	13,028	331,662	39,372	15,210	424,232
Health Outcomes Rank	8	3	55	1	16	2	7	9	10
Mortality Rank	9	3	97	2	18	1	15	6	8
Morbidity Rank	11	6	9	3	22	8	4	31	41
Health Factors Rank	12	3	7	4	1	2	50	65	21
Health Behaviors Rank	2	1	10	5	3	4	18	66	31
Clinical Care Rank	52	17	16	15	1	9	69	124	76
Social & Economic Factors Rank	23	5	13	2	4	1	75	36	18
Physical Environment Rank	30	18	1	46	2	35	42	104	64

(Ranking figures indicate rank among 133 Virginia cities and counties, where 1 = best)

Source: Population estimates: Community Health Solutions analysis of data from Alteryx, Inc. Rankings: Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. [www.countyhealthrankings.org](http://www.countyhealthrankings.org).

## Health Outcomes Rank

**Exhibit I-1** shows that Fairfax County, Loudoun County, and Arlington County are ranked first, second, and third among Virginia cities and counties on *Health Outcomes*. Alexandria, Manassas, Manassas Park, and Prince William are ranked in the top ten, and Falls Church is ranked 16<sup>th</sup>.

The outlier is the City of Fairfax, which is ranked 55<sup>th</sup>. The primary factor in the City of Fairfax's relatively low ranking on health outcomes is a mortality ranking of 97. This mortality ranking is based on a relatively high rate of premature death, defined as years of potential life lost (YPLL) before age 75 per 100,000 population (age-adjusted). It is worth noting that the City of Fairfax is a relatively small jurisdiction in terms of population, and the YPLL measure is based on a relatively small sample of records from 2008-2010.

Because of the small sample size, there may be considerable fluctuation in this measure from year to year. To illustrate this point, in the 2012 version of the *County Health Rankings*, the City of Fairfax was ranked 63<sup>rd</sup> on this measure—a considerable difference from the 2013 rank of 97.

## Health Factors Rank

**Exhibit I-1** shows that Falls Church, Loudoun County, and Arlington County are the three highest ranked jurisdictions in Virginia on *Health Factors*. Fairfax County is ranked 4<sup>th</sup>, the City of Fairfax is ranked 7<sup>th</sup>, the City of Alexandria is ranked 12<sup>th</sup>, and Prince William County is ranked 21<sup>st</sup>. Manassas and Manassas Park are ranked much lower at 50<sup>th</sup> and 65<sup>th</sup>, respectively. Also notable are the relative rankings of Alexandria and Prince William on selected indicators. There are several reasons for these notably low rankings, as outlined below.

*City of Manassas.* The City of Manassas' rank of 50<sup>th</sup> is a result of relatively low rankings for clinical care, social and economic factors, and physical environment. The clinical care rank of 69 is caused in part by a high estimated rate of uninsured, plus missing data for several indicators used to produce the rankings (the statewide mean is used as a substitute indicator for missing data). The social and economic factors rank of 75 is a result of relatively low rates of educational attainment, and relatively high rates of unemployment, children in poverty, children in single-parent households, and violent crime. The physical environment rank of 42 is a result of measures indicating a relatively high prevalence of fast food restaurants and missing data on drinking water safety (the statewide mean is used as a substitute indicator).

*City of Manassas Park.* The City of Manassas Park's rank of 65<sup>th</sup> on health factors is a result of relatively low rankings for health behaviors, clinical care, social and economic factors, and physical environment. The health behaviors rank of 66 is a result of relatively high rates of adult obesity, adult physical inactivity, and teen births plus missing data for several indicators (the statewide mean is used as a substitute indicator). The clinical care rank of 124 is influenced by several factors, including a high estimated rate of uninsured, a relatively low rate of mammography screening, and missing data for indicators of primary care providers and dentists (the statewide mean is used as a substitute indicator). The social and economic factors rank of 36 is a result of relatively low rankings on educational attainment and a high number of children in single-parent households. The physical environment rank of 104 is influenced by relatively low rankings on access to recreational facilities, access to healthy foods, and prevalence of fast food restaurants. Another factor is missing data on drinking water safety (the statewide mean is used as a substitute indicator).

*City of Alexandria.* Although Alexandria ranks high overall on summary rankings of health outcomes and health factors, it does rank comparatively low (52<sup>nd</sup>) on the clinical care sub-ranking. This ranking is influenced by three indicators for which Alexandria scored about the same or worse than the statewide rate, including the uninsured rate, and the rates of diabetic screening, and mammography screening for Medicare enrollees. (See Appendix A for details).

*Fairfax County.* Although Fairfax County ranks 4<sup>th</sup> in the state on the overall health factors rank, it ranks 46<sup>th</sup> on the physical environment sub-ranking. This ranking is influenced by scores about the same or worse than the statewide rate for daily fine particulate matter, access to recreational facilities, and availability of fast food restaurants. (See Appendix A for details).

*Prince William County.* Prince William ranks high overall on summary rankings of health outcomes and health factors, but ranks comparatively low (76<sup>th</sup>) on the clinical care sub-ranking. This ranking is influenced by five indicators that were about the same or worse than the statewide rate, including the uninsured rate, primary care physician supply, dentist supply, and diabetic and mammography screening rates for Medicare patients. Prince William also ranks comparatively low (64<sup>th</sup>) on the physical environment sub-ranking. This ranking is influenced by scores that were about same or worse than the statewide rate for daily fine particulate matter, access to recreational facilities, access to healthy foods, and availability of fast food restaurants.

## **Summary: The *County Health Rankings* in Context**

The *County Health Rankings* show that on broad measures of health outcomes and health factors, most of the localities in the region rank at or near the top compared to the rest of Virginia (although there are some exceptions, as outlined above). As stated in the introduction to this section, the *County Health Rankings* for Northern Virginia provide a starting point for examining community health in the Northern Virginia region. More comprehensive analysis is warranted for two primary reasons. First, it is important to consider a broader array of indicators that depict the substantial numbers of Northern Virginia residents facing health challenges. Secondly, it is important to look within and across city and county boundaries to identify communities that are vulnerable to adverse health outcomes because of social determinants of health. These two perspectives are addressed in the next two sections of the document.

## SECTION II

# City and County Health Indicators

The previous section provided an overview of the Northern Virginia region based on the *County Health Rankings*. This section provides a more comprehensive view of the region based on a more expansive and contemporary array of indicators. The indicators are organized into a set of 'community health profiles' as follows:

- |  |  |
|--|--|
| 1. Demographic Profile                 | 7. Behavioral Health Hospitalization Profile |
| 2. Maternal and Infant Health Profile  | 8. Adult Health Risk Factor Profile          |
| 3. Mortality Profile                   | 9. Youth Health Risk Factor Profile          |
| 4. Cancer Profile                      | 10. Oral Health Profile                      |
| 5. HIV and Tuberculosis Profile        | 11. Nutrition Assistance Program Profile     |
| 6. Preventable Hospitalization Profile | 12. Health Coverage Profile                  |

Each profile provides both *counts* and *rates* for various health indicators. *Counts* refer to the number of cases of a particular health condition, such as the number of newborns with low birth weight. *Rates* refer to the number of cases per capita, such as the percent of all newborns with low birth weight. *Counts* are helpful for understanding the magnitude of need within a region, while *rates* are helpful for comparing health indicators across cities and counties with different population sizes. In a region such as Northern Virginia, it is especially important to understand both counts and rates because a city or county with a large population could have a comparatively healthy rate of a health condition while still having a large number (or count) of people affected by the condition.

## 1. Demographic Profile

Community health is driven in part by community demographics. Population demographics such as age, sex, race, ethnicity, education status, and income status are strong predictors of community health status and community health needs.

**Exhibit II-1** provides a snapshot of selected demographic indicators for the Northern Virginia region as of 2012. Northern Virginia is home to a large population of more than 2.3 million people residing in its nine cities and counties. Overall, the region is generally younger, more racially and ethnically diverse, more educated, and more affluent than the Commonwealth of Virginia as a whole. However, it is important to remember that demographic indicators based on rates can sometimes mask the existence of *substantial* numbers of potentially vulnerable residents within a community. For example, within the region there are more than 150,000 people in poverty, more than 126,000 adults age 25+ who have not graduated from high school, more than 214,000 seniors, and more than 567,000 children. There is also significant variation across cities and counties on measures of income, education, and racial/ethnic diversity.

EXHIBIT II-1  
Demographic Profile

Demographic						
Count Estimates (2012)	2012 Population	Asian	Black/African American	White	Other/Multi Race	Hispanic Ethnicity <sup>1</sup>
Region Total	2,313,288	317,207	272,687	1,460,051	263,343	379,083
Alexandria (City of)	144,055	8,872	31,634	87,053	16,496	23,257
Arlington County	214,681	21,071	18,488	153,045	22,077	32,418
Fairfax (City of)	22,899	3,515	1,091	15,908	2,385	3,608
Fairfax County	1,108,149	195,811	102,474	691,333	118,531	173,694
Falls Church (City of)	13,028	1,230	566	10,398	834	1,159
Loudoun County	331,662	50,550	24,454	225,840	30,818	41,038
Manassas (City of)	39,372	2,011	5,408	24,193	7,760	12,487
Manassas Park (City of)	15,210	1,377	1,976	8,485	3,372	5,025
Prince William County	424,232	32,770	86,596	243,796	61,070	86,397
Virginia	8,154,815	459,660	1,579,659	5,573,480	542,016	655,986
Rate Estimates (2012)	Asian Percent of Total Population	Black/African American Percent of Total Population	White Percent of Total Population	Other/Multi Race Percent of Total Population	Hispanic Ethnicity Percent of Total Population	
Region Total	14%	12%	63%	11%	16%	
Alexandria (City of)	6%	22%	60%	11%	16%	
Arlington County	10%	9%	71%	10%	15%	
Fairfax (City of)	15%	5%	69%	10%	16%	
Fairfax County	18%	9%	62%	11%	16%	
Falls Church (City of)	9%	4%	80%	6%	9%	
Loudoun County	15%	7%	68%	9%	12%	
Manassas (City of)	5%	14%	61%	20%	32%	
Manassas Park (City of)	9%	13%	56%	22%	33%	
Prince William County	8%	20%	57%	14%	20%	
Virginia	6%	19%	68%	7%	8%	

<sup>1</sup> Classification of ethnicity; therefore, Hispanic individuals are also included in the race categories.



EXHIBIT II-1 (CONTINUED)  
Demographic Profile

Count Estimates (2012)	2012 Population	Children 0-17	Seniors 65+	Age 25+ and Did Not Graduate High School	Population in Poverty	
Region Total	2,313,288	567,552	214,007	126,424	150,083	
Alexandria (City of)	144,055	26,079	14,003	11,554	11,522	
Arlington County	214,681	34,367	19,217	11,793	15,894	
Fairfax (City of)	22,899	4,603	3,277	1,158	1,619	
Fairfax County	1,108,149	263,756	117,480	57,646	73,792	
Falls Church (City of)	13,028	3,141	1,431	369	372	
Loudoun County	331,662	100,136	23,379	9,725	12,996	
Manassas (City of)	39,372	10,963	2,867	4,189	4,035	
Manassas Park (City of)	15,210	4,267	916	1,792	1,214	
Prince William County	424,232	120,240	31,437	28,198	28,639	
Virginia	8,154,815	1,857,225	1,045,339	675,228	912,776	
Rate Estimates (2012)	Children 0-17 Percent of Total Population	Seniors 65+ Percent of Total Population	Age 25+ Percent of Total Population	Percent of Total Population in Poverty	Per Capita Income	Median Income
Region Total	25%	9%	8%	7%	\$49,382	\$104,018
Alexandria (City of)	18%	10%	11%	8%	\$53,496	\$78,300
Arlington County	16%	9%	7%	8%	\$61,694	\$98,894
Fairfax (City of)	20%	14%	7%	7%	\$46,873	\$99,364
Fairfax County	24%	11%	8%	7%	\$51,572	\$108,580
Falls Church (City of)	24%	11%	4%	3%	\$58,896	\$112,486
Loudoun County	30%	7%	5%	4%	\$50,911	\$122,627
Manassas (City of)	28%	7%	17%	10%	\$30,925	\$75,795
Manassas Park (City of)	28%	6%	19%	8%	\$28,578	\$75,737
Prince William County	28%	7%	11%	7%	\$37,140	\$95,939
Virginia	23%	13%	12%	11%	\$34,307	\$64,118

Source: Community Health Solutions analysis of population estimates from Alteryx, Inc. (2012). Alteryx, Inc., a commercial vendor of demographic data; and U.S. Census Bureau Small Area Income and Poverty Estimates (2011) <http://www.census.gov/did/www/saie/data/interactive/#>.

## 2. Maternal and Infant Health Profile

Maternal and infant health is traditionally one of the most important indicators of community health status. **Exhibit II-2** shows selected maternal and infant health indicators for the region. In 2011, there were 33,921 live births in the region. Among these were 2,367 low weight births, 5,189 births with late prenatal care, and 7,887 non-marital births. There were also 1,643 teen pregnancies in 2011. Over the five-year period from 2007 to 2011, there were 842 infant deaths in the region.

Compared to Virginia as a whole, the region had higher rates of births with late prenatal care. The region also had lower rates of low weight births, teen pregnancy, and five-year infant mortality. Within the region, four localities exceeded the statewide rate of births without early prenatal care (Prince William County and the cities of Alexandria, Fairfax, and Manassas). Also four localities exceeded the statewide rate of teen pregnancy (cities of Alexandria, Fairfax, Falls Church, and Manassas).

## EXHIBIT 11-2

## Maternal and Infant Health Profile

Counts (2011)	Total Live Births	Low Weight Births	Births w/o Early Prenatal Care	Non-Marital Births	Teen Pregnancies (age 10-19)	Infant Deaths (2007-2011)
Region Total	33,921	2,367	5,189	7,887	1,643	842
Alexandria (City of)	2,632	181	502	746	157	66
Arlington County	3,049	176	637	529	79	64
Fairfax (City of)	496	42	72	94	35	8
Fairfax County	15,148	1,061	2,110	3,420	595	377
Falls Church (City of)	148	12	17	18	33	3
Loudoun County	4,970	329	443	780	142	93
Manassas (City of)	721	50	188	292	139	15
Manassas Park (City of)	66	8	18	23	4	7
Prince William County	6,691	508	1,202	1,985	459	209
Virginia	102,525	8,204	13,500	36,390	9,630	3,675
Rates (2011)	Birth Rate per 1,000 Population	Percent of Total Live Births	Percent of Total Live Births	Percent of Total Live Births	Teenage Pregnancy Rate per 1,000 Teenage Female Population Age 10-19	Five-Year Average Infant Mortality Rate 2007-2011
Region Total	14.8	7%	15%	23%	11.7	5.0
Alexandria (City of)	18.2	7%	19%	28%	33.4	5.1
Arlington County	14.1	6%	21%	17%	10.6	4.3
Fairfax (City of)	22.0	8%	15%	19%	27.1	--
Fairfax County	13.8	7%	14%	23%	8.6	4.9
Falls Church (City of)	11.6	--	--	--	37.2	--
Loudoun County	15.3	7%	9%	16%	6.1	3.6
Manassas (City of)	18.3	7%	26%	40%	52.3	--
Manassas Park (City of)	4.3	--	--	--	--	--
Prince William County	16.0	8%	18%	30%	15.4	6.3
Virginia	12.7	8%	13%	35%	18.6	7.0

-- Rates are not calculated where the number of cases is less than 30.

Source: Community Health Solutions analysis of Virginia Department of Health birth record data (2011).

### 3. Mortality Profile

Along with maternal and infant health, mortality is another traditionally important indicator of community health status. **Exhibit II-3** shows selected mortality indicators for the Northern Virginia region. In 2011, the Northern Virginia population had 9,269 total deaths. The exhibit shows the five leading causes of death, including malignant neoplasms (cancer), heart disease, cerebrovascular disease (stroke), unintentional injury, and chronic lower respiratory disease. Together these five causes accounted for 59 percent of all deaths in the region. Other leading causes of death not shown in the exhibit include septicemia, diabetes, Alzheimer's, influenza and pneumonia, and suicide. The age-adjusted death rates for the region were below statewide rates for deaths overall and for all leading causes. This same pattern held for all cities and counties in the region, although there was substantial variation in death rates across the localities.

**EXHIBIT II-3**  
**Mortality Profile**

Counts (2011)	Total Deaths	Malignant Neoplasm (Cancer)	Heart Disease	Cerebrovascular Disease (Stroke)	Unintentional Injury	Chronic Lower Respiratory Disease
Region Total	9,269	2,388	1,837	490	421	361
Alexandria (City of)	679	160	147	36	26	21
Arlington County	928	214	207	56	33	36
Fairfax (City of)	169	27	34	18	10	7
Fairfax County	4,657	1,219	924	247	205	183
Falls Church (City of)	70	13	17	1	5	3
Loudoun County	1,062	303	190	47	44	38
Manassas (City of)	180	33	37	10	8	4
Manassas Park (City of)	50	13	12	3	5	3
Prince William County	1,474	406	269	72	85	66
Virginia	60,325	14,261	13,201	3,327	2,726	3,097
Rates (2011)	Age-Adjusted Rate Per 100,000					
Region Total	535.7	131.2	109.5	30.0	21.6	22.8
Alexandria (City of)	551.7	127.5	121.9	28.0	--	--
Arlington County	553.8	129.3	128.3	36.1	15.7	23.6
Fairfax (City of)	631.4	--	130.8	--	--	--
Fairfax County	503.5	125.4	102.0	28.0	20.5	21.3
Falls Church (City of)	590.3	--	--	--	--	--
Loudoun County	545.1	145.3	101.2	24.9	18.8	21.8
Manassas (City of)	693.4	116.9	138.9	--	--	--
Manassas Park (City of)	677.5	--	--	--	--	--
Prince William County	595.7	146.9	118.7	34.0	27.3	29.8
Virginia	735.8	169.5	161.3	41.4	33.4	38.4

-- Rates are not calculated where the number of cases is less than 30.

Source: Community Health Solutions analysis of Virginia Department of Health death record data (2011).

## 4. Cancer Profile

Cancer is the leading cause of death in the Northern Virginia region, as well as a serious health condition for thousands of people living with cancer. **Exhibit II-4** shows selected cancer indicators for the region at the health district level. From 2005-2009, there were 35,490 new cancer diagnoses in Northern Virginia. The leading diagnoses were for breast cancer, lung and bronchus cancer, and colorectal cancer. Rates of cancer incidence were generally lower in Northern Virginia than for Virginia as a whole, with the exceptions being breast cancer in the Fairfax Health District and melanoma in the Loudoun Health District.

**EXHIBIT II-4**  
**Cancer Profile**

<b>Counts of Cancer Incidence (2005-2009)</b>	<b>All Cancers</b>	<b>Breast Cancer</b>	<b>Cervical Cancer</b>	<b>Colorectal Cancer</b>	<b>Lung and Bronchus Cancer</b>	<b>Melanoma</b>	<b>Oral Cavity Cancer</b>
Region Total	35,490	6,231	306	3,043	3,689	1,659	793
Alexandria Health District	2,363	404	19	210	254	106	67
Arlington Health District	3,282	565	21	302	338	174	72
Fairfax Health District	19,654	3,522	164	1,652	1,963	867	412
Loudoun Health District	3,946	714	36	327	374	224	86
Prince William Health District	6,245	1,026	66	552	760	288	156
Virginia	178,501	26,763	1,349	16,716	25,969	8,099	4,210
<b>Rates of Cancer Incidence (2005-2009)</b>	<b>Rate per 100,000</b>	<b>Rate per 100,000 (Females)</b>	<b>Rate per 100,000</b>	<b>Rate per 100,000</b>	<b>Rate per 100,000</b>	<b>Rate per 100,000</b>	<b>Rate per 100,000</b>
Region Total	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alexandria Health District	346.6	108.2	5.2	30.4	39.6	14.6	9.7
Arlington Health District	376.6	122.1	4.2	35.4	41.9	18.6	8.0
Fairfax Health District	403.6	127.9	6.0	35.5	45.1	17.5	8.0
Loudoun Health District	410.1	123.4	5.3	37.5	47.6	21.2	8.1
Prince William Health District	426.8	117.5	6.8	41.2	61.5	17.4	10.0
Virginia	454.4	124.0	6.6	43.1	67.4	20.7	10.5

N/A- Data were not available

Source: Community Health Solutions analysis of Virginia Department of Health data from *Cancer In Virginia: Overview and Data Tables* report (July 2012). Counts show the number of newly diagnosed cases (incidence).

## 5. HIV and Tuberculosis Profile

HIV and tuberculosis (TB) are two infectious diseases that are often linked.<sup>2</sup> Exhibit II-5 shows HIV and TB statistics for the region. In 2011, there were 238 diagnoses of HIV and 137 diagnoses of TB. The HIV diagnoses rate was higher than the statewide rate in Alexandria and Arlington. The TB diagnosis rate was higher than the statewide rate throughout the region.

EXHIBIT II-5  
HIV and Tuberculosis Profile

Counts (2011)	HIV	Tuberculosis
Region Total	238	137
Alexandria (City of)	40	13
Arlington County	37	9
Fairfax (City of)	2	Included in Fairfax County
Fairfax County	105	82
Falls Church (City of)	0	Included in Fairfax County
Loudoun County	21	12
Manassas (City of)	1	Included in Prince William County
Manassas Park (City of)	0	Included in Prince William County
Prince William County	32	21
Virginia	914	221
Rates (2011)	Rate per 100,000	Rate per 100,000
Region Total	10.4	6.0
Alexandria (City of)	27.7	9.1
Arlington County	17.1	4.2
Fairfax (City of)	8.9	Included in Fairfax County
Fairfax County	9.5	7.2
Falls Church (City of)	0	Included in Fairfax County
Loudoun County	6.5	3.7
Manassas (City of)	2.5	Included in Prince William County
Manassas Park (City of)	0	Included in Prince William County
Prince William County	7.6	4.5
Virginia	11.3	2.7

Source: Community Health Solutions analysis of Virginia Department of Health data from quarterly surveillance reports.  
<http://www.vdh.virginia.gov/epidemiology/DiseasePrevention/Data/>

<sup>2</sup>For example, the CDC reports that people with HIV and latent TB infection are at much higher risk for progressing to active TB disease than people with latent TB infection alone. The CDC also recommends that all people newly diagnosed with HIV should be tested for TB infection. If they are infected with TB bacteria, immediate treatment can prevent them from progressing to TB disease. For more information, see <http://www.cdc.gov/hiv/resources/factsheets/hivtb.htm>

## 6. Preventable Hospitalization Profile

Preventable hospitalization is a community health indicator that is receiving increasing interest as the health system focuses on patient-centered care and avoidance of unnecessary hospitalization. From a community health perspective, preventable hospitalization is an important indicator of access to outpatient services within a community. If the number of preventable hospitalizations is substantial, this suggests that action should be taken to improve access to outpatient services for the populations most at risk for hospitalization.

In this context, the U.S. Agency for Healthcare Research and Quality (AHRQ) has defined a set of conditions called Prevention Quality Indicators, or 'PQIs,' for which hospitalization should be avoidable with proper outpatient care.<sup>3</sup> These conditions are defined in terms of specific types of diagnoses and (in some cases) procedures. **Exhibit II-6** shows indicators of PQI hospital discharges for Northern Virginia residents. In 2011, the Northern Virginia region had 12,175 PQI hospital discharges from Virginia community hospitals. The leading diagnoses for these discharges were bacterial pneumonia, congestive heart failure, urinary tract infection, diabetes, and chronic obstructive pulmonary disease. The age-adjusted PQI discharge rate for the Northern Virginia region was below the statewide rate. Within the region there was substantial variation, and two cities (Fairfax and Manassas) had rates above the statewide rate.

### EXHIBIT II-6

#### Preventable Hospitalization Profile

Counts (2011)	Total PQI Discharges	Bacterial Pneumonia	Congestive Heart Failure	Urinary Tract Infection	Diabetes	Chronic Obstructive Pulmonary Disease (COPD)
Region Total	12,175	2,536	2,464	1,967	1,526	1,205
Alexandria (City of)	1,052	194	190	171	143	75
Arlington County	899	210	176	155	107	94
Fairfax (City of)	306	68	54	64	32	33
Fairfax County	5,289	1,083	1,123	923	604	536
Falls Church (City of)	78	22	20	10	10	6
Loudoun County	1,593	375	324	245	169	167
Manassas (City of)	346	85	64	37	68	37
Manassas Park (City of)	1	0	0	1	0	0
Prince William County	2,611	499	513	361	393	257
Virginia	83,392	16,221	18,990	10,496	11,326	11,439

<sup>3</sup> The PQI definitions are detailed in their specification of ICD-9 diagnosis codes and procedure codes. Not every hospital admission for congestive heart failure, bacterial pneumonia, etc., is included in the PQI definition, only those meeting the detailed specifications. Low birth weight is one of the PQI indicators, but for the purpose of this report, low birth weight is included in the Maternal and Infant Health Profile. Also, there are three diabetes-related PQI indicators which have been combined into one for the report. For more information, visit the AHRQ website at [www.qualityindicators.ahrq.gov/pqi\\_overview.htm](http://www.qualityindicators.ahrq.gov/pqi_overview.htm)

EXHIBIT II-6 (CONTINUED)  
Preventable Hospitalization Profile

Rates (2011)	Age-Adjusted Rate Per 100,000					
Region Total	672.8	144.1	149.6	114.8	71.2	69.7
Alexandria (City of)	891.2	169.6	169.6	152.6	107.2	63.3
Arlington County	533.3	125.6	109.2	93.9	57.7	62.4
Fairfax (City of)	1,228.4	269.8	208.5	251.7	139.8	129.9
Fairfax County	553.8	116.6	126.8	100.6	54.7	57.5
Falls Church (City of)	628.7	--	--	--	--	--
Loudoun County	768.6	180.8	182.8	124.2	65.5	86.4
Manassas (City of)	1,218.4	324.6	263.2	138.3	188.9	135.1
Manassas Park (City of)	--	--	--	--	--	--
Prince William County	961.0	192.7	218.3	151.2	114.3	98.2
Virginia	1,006.8	197.4	233.0	131.0	133.2	134.2

-- Rates are not calculated where the number of cases is less than 30

Source: Community Health Solutions analysis of hospital discharge data from the Virginia Health Information (VHI) dataset (January 1-December 31, 2011) and demographic data from Alteryx, Inc. (2011). Data include discharges from Virginia hospitals reporting to Virginia Health Information, Inc. These data do not include discharges from state behavioral health facilities or federal (military) facilities. Data reported are based on the patient's primary diagnosis.<sup>4</sup>

<sup>4</sup> Virginia Health Information (VHI) requires the following statement to be included in all reports utilizing its data: VHI has provided non-confidential patient level information used in this report which was compiled in accordance with Virginia law. VHI has no authority to independently verify this data. By accepting this report the requester agrees to assume all risks that may be associated with or arise from the use of inaccurately submitted data. VHI edits data received and is responsible for the accuracy of assembling this information, but does not represent that the subsequent use of this data was appropriate or endorse or support any conclusions or inferences that may be drawn from the use of this data.



## 7. Behavioral Health Hospitalization Profile

Behavioral health hospitalization is an important indicator of behavioral health needs within a community. Although preventable behavioral health hospitalizations are not as well-defined as the *Prevention Quality Indicators* listed in the previous profile, some hospitalizations for behavioral health conditions can be prevented with appropriate outpatient care. **Exhibit II-7** shows indicators of behavioral health hospitalizations for Northern Virginia residents. In 2011, the Northern Virginia region had 10,100 behavioral health discharges from Virginia hospitals (excluding state and federal facilities).<sup>5</sup> The leading diagnoses were affective psychoses, general symptoms, schizophrenic disorders, alcoholic psychoses, and other nonorganic psychoses. The age-adjusted discharge rate for the Northern Virginia region was below the statewide rate, although within the region, two cities (Fairfax and Manassas) had rates above the statewide rate.

### EXHIBIT II-7

#### Behavioral Health Hospitalization Profile

Counts (2011)	Total Behavioral Health Discharges	Affective Psychoses <sup>6</sup>	General Symptoms <sup>7</sup>	Schizophrenic Disorders	Alcoholic Psychoses	Other Nonorganic Psychoses <sup>8</sup>
Region Total	10,100	4,733	1,634	952	912	394
Alexandria (City of)	639	213	119	77	77	28
Arlington County	925	345	156	142	106	42
Fairfax (City of)	204	89	25	17	19	8
Fairfax County	4,097	1,905	660	391	364	118
Falls Church (City of)	80	44	13	4	6	3
Loudoun County	1,321	743	233	69	89	49
Manassas (City of)	408	200	47	38	54	17
Manassas Park (City of)	0	0	0	0	0	0
Prince William County	2,426	1,194	381	214	197	129
Virginia	64,892	27,277	11,135	8,042	3,283	2,148

<sup>5</sup> NOTE: Virginia Health Information (VHI) requires the following statement to be included in all reports utilizing its data: VHI has provided non-confidential patient level information used in this report which was compiled in accordance with Virginia law. VHI has no authority to independently verify this data. By accepting this report the requester agrees to assume all risks that may be associated with or arise from the use of inaccurately submitted data. VHI edits data received and is responsible for the accuracy of assembling this information, but does not represent that the subsequent use of this data was appropriate or endorse or support any conclusions or inferences that may be drawn from the use of this data.

<sup>6</sup> Includes major depressive, bipolar affective, and manic depressive disorders.

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

<sup>8</sup> Psychotic conditions due to or provoked by emotional stress, environmental factors, or as major part of etiology.

EXHIBIT II-7 (CONTINUED)  
**Behavioral Health Hospitalization Profile**

<b>Rates (2011)</b>	<b>Age-Adjusted Rate Per 100,000</b>					
Region Total	459.2	210.5	88.0	39.9	36.7	17.6
Alexandria (City of)	473.0	159.9	102.5	52.4	49.7	--
Arlington County	462.5	168.4	93.8	64.7	49.6	17.6
Fairfax (City of)	876.1	385.7	--	--	--	--
Fairfax County	379.9	176.7	66.4	34.6	29.9	10.8
Falls Church (City of)	645.6	375.1	--	--	--	--
Loudoun County	473.7	252.5	106.6	22.1	25.8	17.2
Manassas (City of)	1,060.8	492.4	160.5	100.4	132.9	--
Manassas Park (City of)	--	--	--	--	--	--
Prince William County	626.7	282.4	139.5	49.6	44.5	32.0
Virginia	786.8	332.7	136.4	95.0	38.0	26.2

-- Rates are not calculated where the number of cases is less than 30

Source: Community Health Solutions analysis of hospital discharge data from the Virginia Health Information (VHI) dataset (January 1-December 31, 2011) and demographic data from Alteryx, Inc. (2011). Data include discharges from Virginia hospitals reporting to Virginia Health Information, Inc. These data do not include discharges from state behavioral health facilities or federal (military) facilities. Data reported are based on the patient's primary diagnosis.

## 8. Adult Health Risk Factor Profile

**Exhibit II-8** shows indicators of selected health risks for adults. The indicators are estimates based on multiple years of data from the Virginia Behavioral Risk Factor Surveillance Survey, applied to local demographics for 2012 (see source for details on methods). The estimates indicate that more than 497,100 adults may have high blood pressure, more than 612,400 may have high cholesterol, more than 1,021,100 may be overweight or obese, more than 344,800 may be at risk for binge drinking, more than 316,600 may be smokers, and more than 286,500 may be in fair or poor health (as self-reported in surveys).

### EXHIBIT II - 8

#### Adult Health Risk Factor Profile

Count Estimates (2012)	High Blood Pressure <sup>9</sup>	High Cholesterol <sup>10</sup>	Overweight or Obese	At Risk for Binge Drinking <sup>11</sup>	Smoke	Fair or Poor Health Status
Region Total	497,157	612,445	1,021,123	344,890	316,675	286,576
Alexandria (City of)	34,765	41,895	71,261	21,528	15,770	18,950
Arlington County	53,450	64,423	106,662	35,565	29,848	30,666
Fairfax (City of)	4,889	6,425	10,674	3,814	3,785	3,081
Fairfax County	242,731	297,080	498,966	158,021	166,247	140,853
Falls Church (City of)	2,960	3,500	6,061	1,449	1,746	1,661
Loudoun County	64,887	80,055	131,921	47,503	26,037	37,175
Manassas (City of)	8,571	10,269	17,005	5,860	5,160	4,817
Manassas Park (City of)	2,966	3,806	6,386	2,229	1,811	1,641
Prince William County	81,937	104,992	172,186	68,921	66,273	47,732
Virginia	1,859,926	2,230,623	3,893,354	1,145,316	1,206,498	999,124
Rate Estimates (2012)	Percent of Total Pop. Age 18+ -----					
Region Total	28%	35%	58%	20%	18%	16%
Alexandria (City of)	29%	36%	60%	18%	13%	16%
Arlington County	30%	36%	59%	20%	17%	17%
Fairfax (City of)	27%	35%	58%	21%	21%	17%
Fairfax County	29%	35%	59%	19%	20%	17%
Falls Church (City of)	30%	35%	61%	15%	18%	17%
Loudoun County	28%	35%	57%	21%	11%	16%
Manassas (City of)	30%	36%	60%	21%	18%	17%
Manassas Park (City of)	27%	35%	58%	20%	17%	15%
Prince William County	27%	35%	57%	23%	22%	16%
Virginia	30%	35%	62%	18%	19%	16%

Source: All indicators are estimates based on Community Health Solutions analysis of a multi-year dataset from the Virginia Behavioral Risk Factor Surveillance System (2006-2010), applied to local demographic data from Alteryx, Inc. (2012). Local-level synthetic estimates are based on state-level Virginia data. The indicators are estimates subject to measurement error, and should be used for planning purposes only. Differences between local rates and state rates may reflect estimation error rather than valid differences.

<sup>9</sup> Includes only cases where the survey respondent was told of high blood pressure by a health care professional.

<sup>10</sup> Includes only cases where the survey respondent was told of high cholesterol by a health care professional.

<sup>11</sup> Males having five or more drinks on one occasion, females having four or more drinks on one occasion.

## 9. Youth Health Risk Factor Profile

**Exhibit II-9** shows indicators of selected health risks for children age 14-19. The indicators are estimates based on statewide data from the Virginia Youth Risk Behavioral Surveillance Survey as applied to local demographics for 2012 (see the source note in the exhibit for details). The estimates indicate that more than 33,000 youth may use tobacco, more than 47,000 may use alcohol, more than 42,000 may be at risk for depression (based on sad or hopeless feelings), and more than 46,000 may be overweight or obese.

**EXHIBIT II-9**  
**Youth Health Risk Factor Profile**

<b>Count Estimates (2012)</b>	<b>Used Tobacco in Past 30 Days</b>	<b>Consumed Alcohol in Past 30 Days</b>	<b>Felt Sad or Hopeless for Two or More Weeks in a Row</b>	<b>Classified as Overweight or Obese</b>
Region Total	33,353	47,381	42,340	46,007
Alexandria (City of)	1,021	1,468	1,383	1,698
Arlington County	1,691	2,395	2,151	2,399
Fairfax (City of)	292	412	367	375
Fairfax County	16,622	23,543	21,171	22,234
Falls Church (City of)	224	317	258	265
Loudoun County	5,635	8,046	6,793	7,052
Manassas (City of)	663	926	828	986
Manassas Park (City of)	232	323	298	349
Prince William County	6,974	9,952	9,092	10,648
Virginia	130,030	189,350	159,249	179,073
<b>Rate Estimates (2012)</b>	<b>Percent of Total Pop. Age 14-19</b>	<b>Percent of Total Pop. Age 14-20</b>	<b>Percent of Total Pop. Age 14-21</b>	<b>Percent of Total Pop. Age 14-22</b>
Region Total	20%	28%	25%	28%
Alexandria (City of)	19%	27%	26%	32%
Arlington County	20%	29%	26%	29%
Fairfax (City of)	20%	29%	25%	26%
Fairfax County	20%	28%	25%	26%
Falls Church (City of)	21%	30%	25%	25%
Loudoun County	21%	30%	25%	26%
Manassas (City of)	21%	29%	26%	31%
Manassas Park (City of)	20%	28%	26%	31%
Prince William County	20%	28%	26%	30%
Virginia	20%	30%	25%	28%

Source: All indicators are estimates based on Community Health Solutions analysis of the statewide Virginia Youth Risk Behavioral Surveillance Survey from the Centers for Disease Control (2011), applied to local demographic data from Alteryx, Inc. (2012). Local-level synthetic estimates are based on state-level Virginia data. The indicators are estimates subject to measurement error, and should be used for planning purposes only. Differences between local rates and state rates may reflect estimation error rather than valid differences.

## 10. Oral Health Profile

**Exhibit II-10** shows indicators of oral health status for adults age 18+ and children age 0-17. The indicators are estimates based on multiple years of the Virginia Behavioral Risk Factor Surveillance Survey for adults, and the 2010 National Health and Nutrition Examination Survey for children, as applied to local demographics for 2012 (see the source note in the exhibit for details). The estimates indicate that more than 123,100 children may not have had a dental visit in the prior year, more than 102,000 children may have dental caries, and more than 33,300 children may have teeth in fair/poor condition. Focusing on adults, the estimates indicate that more than 410,700 may not have had a dental visit in the prior two years.

**EXHIBIT II-10**  
**Oral Health Profile**

Count Estimates (2012)	Children Age 0-17 with No Dental Visit in Past Year	Children Age 0-17 with Dental Caries in Primary or Permanent Teeth	Children Age 0-17 with Teeth in Fair/Poor Condition	Adults Age 18+ with No Dental Visit in Last Two Years
Region Total	123,163	102,041	33,331	410,793
Alexandria (City of)	5,759	5,070	1,624	24,592
Arlington County	7,557	6,170	2,040	42,444
Fairfax (City of)	1,000	798	267	4,452
Fairfax County	56,723	46,455	15,216	197,248
Falls Church (City of)	658	531	170	2,070
Loudoun County	21,055	17,070	5,541	57,136
Manassas (City of)	2,581	2,108	723	6,108
Manassas Park (City of)	1,007	820	281	1,810
Prince William County	26,882	23,019	7,470	74,941
Virginia	384,359	339,855	104,969	1,411,421

EXHIBIT II-10 (CONTINUED)  
Oral Health Profile

Rate Estimates (2012)	Percent of Total Pop. Age 0-17	Percent of Total Pop. Age 0-17	Percent of Total Pop. Age 0-17	Percent of Total Pop. Age 18+
Region Total	22%	18%	6%	24%
Alexandria (City of)	22%	19%	6%	21%
Arlington County	22%	18%	6%	24%
Fairfax (City of)	22%	17%	6%	24%
Fairfax County	22%	18%	6%	23%
Falls Church (City of)	21%	17%	5%	21%
Loudoun County	21%	17%	6%	25%
Manassas (City of)	24%	19%	7%	22%
Manassas Park (City of)	24%	19%	7%	17%
Prince William County	22%	19%	6%	25%
Virginia	21%	18%	6%	22%

Source: All indicators are estimates based on Community Health Solutions analysis of state and national survey data applied to local demographic data. Survey data included a multi-year dataset from the Virginia Behavioral Risk Factor Surveillance System-Adults 18+ (2006-2010), and National Health and Nutrition Examination Survey data from the Centers for Disease Control for Children 0-17 (2010). Local demographic data were obtained from Alteryx, Inc. (2012). Local-level synthetic estimates are based on state-level Virginia data. Attempts to contrast local estimates versus state estimates would result in a circular comparison. The indicators are estimates subject to measurement error, and should be used for planning purposes only. Differences between local rates and state rates may reflect estimation error rather than valid differences.

Additional insight into oral health can be found in a 2011 report commission by the Northern Virginia Health Foundation. The report titled *Oral Health in Virginia* "...describes the importance of oral health to overall health, details the status of oral health for Northern Virginians, identifies barriers they face in obtaining needed dental care, and offers specific steps that policymakers and other leaders can take to improve oral health in the region."

**Appendix C** provides a summary of selected indicators from this report. Obstacles to Northern Virginians receiving dental care as identified in the report included lack of health coverage, unaffordable cost, only seeking care in emergencies, relying on self-care, lack of time, being afraid or nervous, lack of transportation, lack of child care, and inability to get an appointment.

## 11. Nutrition Assistance Program Profile

**Exhibit II-11** shows selected indicators of children and families served in nutrition assistance programs. In the 2012/2013 school year, 112,362 students in the Northern Virginia region were eligible for free or reduced lunch services. The percent of students in the region eligible for free or reduced lunch was lower than the statewide rate. However, the rate of students eligible for free or reduced lunch was higher in the cities of Alexandria, Manassas, and Manassas Park than the state as a whole. Also, in 2010/2011 a total of 161,507 individuals received services through the Supplemental Nutrition Assistance Program.

### EXHIBIT II-11

#### Nutrition Assistance Program Profile

Counts	K-12 Student Eligible for Free or Reduced Lunch (School Year 2012-2013)	Supplemental Nutrition Assistance Program Individual Participation (July 1, 2010-June 30, 2011)
Region Total	112,362	161,507
Alexandria (City of)	7,394	13,844
Arlington County	7,138	11,526
Fairfax (City of)	Included in Fairfax County	Included in Fairfax County
Fairfax County	47,874	70,184
Falls Church (City of)	155	Included in Fairfax County
Loudoun County	11,911	14,048
Manassas (City of)	4,015	7,188
Manassas Park (City of)	1,813	2,241
Prince William County	32,062	42,476
Virginia	498,648	1,261,109
Rates	Percent of Total K-12 Population	N/A
Region Total	28%	N/A
Alexandria (City of)	57%	N/A
Arlington County	31%	N/A
Fairfax (City of)	Included in Fairfax County	N/A
Fairfax County	27%	N/A
Falls Church (City of)	7%	N/A
Loudoun County	17%	N/A
Manassas (City of)	56%	N/A
Manassas Park (City of)	58%	N/A
Prince William County	38%	N/A
Virginia	40%	N/A

N/A- Data were not available

Source: Community Health Solutions analysis of National School Lunch Program-Free and Reduced Price Eligibility Report data from Virginia Department of Education (2012-2013 School Year); Supplemental Nutrition Assistance Program data from Virginia Department of Social Services (July 1, 2010-June 30, 2011). [http://www.dss.virginia.gov/geninfo/reports/financial\\_assistance/fs.cgi](http://www.dss.virginia.gov/geninfo/reports/financial_assistance/fs.cgi)

## 12. Health Coverage Profile

**Exhibit II-12** shows indicators of health coverage for adults and children. The indicators are estimates based on 2010 U.S. Census Bureau Small Area Health Insurance Estimates (see source note in exhibit for details). The estimates indicate that at a given point in time during 2010, more than 263,800 Northern Virginians age 0-64 were uninsured. Among the estimated 38,296 uninsured children under age 19, an estimated 19,400 had income at or below 200 percent of the federal poverty level (FPL), which is the income limit for children eligible for Virginia Medicaid and FAMIS. Among the estimated 229,197 uninsured adults age 18-64, an estimated 65,887 had income at or below 138 percent of the federal poverty level, which is the income limit for the optional Medicaid expansion under the Patient Protection and Affordable Care Act.<sup>12</sup> Overall, the estimated uninsured rate for the region was 13 percent of people age 0-64, with a range of 8 percent to 24 percent across the nine cities and counties.

EXHIBIT II-12

### Health Care Coverage Profile (2010)

Counts (2010)	Uninsured Age 0-64		Uninsured Age 0-19		Uninsured Age 18-64		
	All Income Levels	All Income Levels	At or Below 200% FPL	At or Below 250% FPL (cumulative)	All Income Levels	At or Below 138% FPL	At or Below 250% FPL (cumulative)
Region Total	263,895	38,296	19,400	24,466	229,197	65,887	131,689
Alexandria (City of)	18,912	1,632	978	1,211	17,421	5,933	10,948
Arlington County	22,549	1,776	1,045	1,265	20,940	6,916	12,875
Fairfax (City of)	2,638	335	174	220	2,337	710	1,407
Fairfax County	124,784	18,970	9,703	12,112	107,598	29,975	60,686
Falls Church (City of)	906	121	52	70	801	228	458
Loudoun County	25,479	4,555	2,052	2,642	21,335	5,244	11,149
Manassas (City of)	7,451	1,060	584	729	6,499	2,462	4,395
Manassas Park (City of)	3,204	448	226	302	2,796	1,015	1,854
Prince William County	57,972	9,399	4,586	5,915	49,470	13,404	27,917
Virginia	1,009,466	133,975	73,337	91,021	889,641	325,997	582,316

<sup>12</sup> Please note that the overlapping age groupings in the table were defined by the U.S. Census Bureau. Also note that income level is not the only factor that determines eligibility for Medicaid or FAMIS. Detailed information on eligibility for Medicaid and FAMIS can be found at [http://www.dss.virginia.gov/benefit/medical\\_assistance/](http://www.dss.virginia.gov/benefit/medical_assistance/)



EXHIBIT II-12 (CONTINUED)  
**Health Care Coverage Profile (2010)**

Rates (2010)	Percent of Total Pop. Age 0-64	Percent of Total Pop. Age 0-19	Percent of Total Pop. Age 18-64
	All Income Levels	All Income Levels	All Income Levels
Region Total	13%	7%	15%
Alexandria (City of)	15%	7%	17%
Arlington County	12%	5%	13%
Fairfax (City of)	14%	7%	16%
Fairfax County	13%	7%	15%
Falls Church (City of)	8%	4%	10%
Loudoun County	9%	5%	11%
Manassas (City of)	21%	9%	26%
Manassas Park (City of)	24%	11%	29%
Prince William County	16%	8%	19%
Virginia	15%	7%	18%

Source: Community Health Solutions analysis of U.S. Census Bureau Small Area Health Insurance Estimates 2010  
 (<http://www.census.gov/did/www/sahie/data/index.html>.)

## SECTION III

# The Health Opportunity Index

Section I of the report presented a starting point for exploring community health through the lens of the *County Health Rankings*. Section II presented a broader view of the region, with an emphasis on the magnitude of need across the nine jurisdictions. Both sections provide important insights about the health of Northern Virginia residents, but they do not fully portray the diversity of needs that exist within and across the cities and counties of the region.

This section provides a closer look at Northern Virginia through the lens of the *Health Opportunity Index* (HOI). The HOI was developed by the Virginia Department of Health (VDH) to identify those geographic areas and populations that are most vulnerable to adverse health outcomes. The HOI is produced at the census-tract level, making it possible to identify pockets of vulnerability within the boundaries of larger cities and counties. When we apply the HOI to Northern Virginia, we find some of the most vulnerable census tracts in the Commonwealth of Virginia.

## About the Health Opportunity Index

VDH has recently published the HOI for each of more than 1,500 census tracts across Virginia. (Census tracts vary in size, but on average there are about 4,000 people within a census tract.) The HOI is comprised of ten indicators that reflect a broad array of social determinants of health within each census tract. Social determinants of health include a range of personal, social, economic, and environmental factors that can contribute to individual and population health. The ten indicators used to produce the HOI include the following:

1. *Affordability*. The affordability indicator measures the proportion of income households spend on housing and transportation. A higher proportion spent on these items indicates a lower proportion available for other needs including health.
2. *Education*. The education indicator measures the overall level of educational attainment achieved by the adult population. Lower levels of education are strongly associated with poorer health status.
3. *Environment*. The environmental indicator measures the level of air pollution based on data from the Environmental Protection Agency. The higher the indicator, the greater the exposure to environmental conditions that may result in adverse health outcomes.
4. *Income Diversity*. The income diversity indicator measures the distribution of household income within a census tract. When income diversity is low and average income is low, this signifies a high concentration of low-income individuals who may be at risk for poor health status.

5. *Job Participation.* The job participation indicator measures the percent of the population age 16 through 64 who are either unemployed or seeking work. The higher the job participation rate, the greater the opportunity for employment, income, and better health status.
6. *Local Commute of Workers.* The local commute indicator measures the inflow of workers to an area compared to the outflow from that same area. As with the job participation indicator, the higher the indicator, the greater the opportunity for local employment, income, and better health status.
7. *Population Churning.* The population churning indicator measures the sum number of migrants in and out of an area in relation to the total population. High levels of population churn can influence population health measures depending on the types of people that are moving in or out of the census tract.
8. *Population Density.* The population density indicator measures the concentration of people per square mile within a census tract. It is often used as a measure of rural and urban populations, and can be helpful for identifying special health needs of communities that are especially sparsely populated or crowded.
9. *Racial Diversity.* The racial diversity indicator measures the racial distribution of the population within a census tract. According to research cited by VDH, low diversity may be associated with poor health when the area is predominantly non-white.
10. *Townsend Index.* The Townsend Index measures economic deprivation. It is based on four equally weighted variables including percent unemployed, percent of private households that do not possess a car or van, percent of private households that are not owner-occupied, and percent of private households that are over-crowded (more than one person per room). The higher the Townsend Index, the higher the economic deprivation and the higher the risk of adverse health.

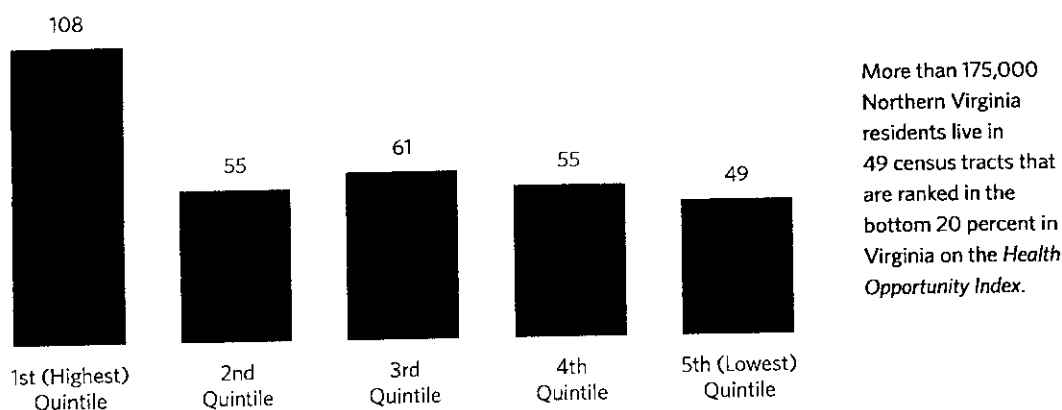
These ten indicators are statistically combined to produce a single index of health opportunity called the *Health Opportunity Index*. To evaluate the HOI, VDH conducted a series of studies to test the relationship between the HOI and a set of widely used indicators of community health. The results indicate that patterns of variation in the HOI are strongly related to patterns of variation in life expectancy, HIV disease, infant mortality, and low birth weight. Consequently, the HOI can be useful as a guide for identifying small geographic areas that are at relative risk for adverse health outcomes.

## The Health Opportunity Index in Northern Virginia

VDH provides *Health Opportunity Index* scores for 328 census tracts in the Northern Virginia region. **Exhibit III-1** provides a summary of the statewide rankings for Northern Virginia census tracts. As illustrated in **Exhibit III-1**, 108 Northern Virginia census tracts are ranked in the top quintile (top 20 percent) statewide on the *Health Opportunity Index*. Another 55 census tracts are ranked in the second quintile. These rankings reflect the high level of health opportunity in many parts of Northern Virginia. They also help explain why Northern Virginia cities and counties tend to rank so highly in the *County Health Rankings* and other measures of health at the city and county level.

EXHIBIT III-1

### Number of Northern Virginia Census Tracts by Statewide Ranking on *Health Opportunity Index* (2009)



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

At the opposite end of the spectrum, 55 census tracts are ranked in the 4<sup>th</sup> quintile, and 49 census tracts are ranked in the 5<sup>th</sup> (lowest) quintile statewide. These rankings indicate that substantial numbers of Northern Virginia residents are vulnerable to adverse health outcomes based on social determinants of health. To put this in perspective, more than 175,000 residents live in the 49 census tracts ranked in the bottom 20 percent statewide. This dynamic is easily masked by analyses focused solely on city- and county-level indicators of health.

## Identifying Census Tracts with Low Scores on the *Health Opportunity Index*

**Exhibit III-2** lists the specific census tracts that ranked in the bottom quintile statewide on the *Health Opportunity Index*. As shown, these census tracts can be found in the City of Alexandria, Arlington County, Fairfax County, and Prince William County. (Please note that these census tracts are based on 2000 census designations.) Appendix B provides a listing of all Northern Virginia census tracts by rank on the *Health Opportunity Index*. For further reference, beginning in June of 2013, the *Virginia Atlas of Community Health* will provide an interactive mapping portal where visitors will be able to map the *Health Opportunity Index* for any region of the state.

### EXHIBIT III - 2

#### Northern Virginia Census Tracts Ranked in the 5<sup>th</sup> Quintile (Bottom 20%) on the *Virginia Health Opportunity Index (HOI)*

Notes: Census Tracts are based on Year 2000 U.S. Census Boundaries. The HOI score is on a scale of 0 to 1 where a lower score indicates a lower opportunity for health. The HOI ranking is from 1 to 1,523, where a lower ranking indicates a lower opportunity for health.

Census Tract	Jurisdiction	Statewide HOI Score	Statewide HOI Ranking
51510200105	Alexandria City	0.363388	6
51510201203	Alexandria City	0.403103	12
51013102700	Arlington County	0.432427	18
51059422200	Fairfax County	0.463594	23
51013102200	Arlington County	0.471257	24
51013101700	Arlington County	0.475134	28
51013102000	Arlington County	0.482561	30
51059451400	Fairfax County	0.502488	35
51153900903	Prince William County	0.527913	49
51059451600	Fairfax County	0.551662	63
51510200301	Alexandria City	0.56025	70
51013103500	Arlington County	0.564958	75
51013103800	Arlington County	0.566876	76
51510201204	Alexandria City	0.578483	89
51059421900	Fairfax County	0.582681	91
51059416200	Fairfax County	0.58466	95
51059421500	Fairfax County	0.587521	98
51510200402	Alexandria City	0.589055	100
51059421400	Fairfax County	0.591485	103
51059452300	Fairfax County	0.593259	107
51059461900	Fairfax County	0.596459	112

EXHIBIT III-2 (CONTINUED)

**Northern Virginia Census Tracts Ranked in the 5<sup>th</sup> Quintile (Bottom 20%) on the Virginia Health Opportunity Index (HOI)**

Notes: Census Tracts are based on Year 2000 U.S. Census Boundaries. The HOI score is on a scale of 0 to 1 where a lower score indicates a lower opportunity for health. The HOI ranking is from 1 to 1,523, where a lower ranking indicates a lower opportunity for health.

51059421600	Fairfax County	0.599315	117
51059451500	Fairfax County	0.60426	127
51153901100	Prince William County	0.607944	132
51510200103	Alexandria City	0.609102	133
51510200500	Alexandria City	0.61411	143
51510200104	Alexandria City	0.615662	145
51510200303	Alexandria City	0.622114	163
51013102800	Arlington County	0.630397	181
51013102600	Arlington County	0.632212	185
51059452800	Fairfax County	0.639188	194
51510200102	Alexandria City	0.639916	197
51013102500	Arlington County	0.640309	198
51153900901	Prince William County	0.640504	199
51153900600	Prince William County	0.645112	209
51013103100	Arlington County	0.649224	217
51059452700	Fairfax County	0.653654	225
51059420400	Fairfax County	0.654516	226
51013103200	Arlington County	0.656016	229
51510201202	Alexandria City	0.656065	230
51153900200	Prince William County	0.656963	231
51059450200	Fairfax County	0.659101	235
51013103300	Arlington County	0.668688	259
51153901701	Prince William County	0.671316	267
51013103401	Arlington County	0.674049	275
51059421800	Fairfax County	0.675563	282
51059420600	Fairfax County	0.678607	292
51510201600	Alexandria City	0.681699	296
51059440200	Fairfax County	0.681902	298

Source: Community Health Solutions analysis of *Health Opportunity Index* data from the Virginia Department of Health.  
<http://www.vdh.virginia.gov/OMHHE/2012report.htm>

## SECTION IV

# From Indicators to Action

The preceding sections of this report provided an overview of the health of Northern Virginia. In presenting them, the Northern Virginia Health Foundation hopes that all sectors of the community will begin to understand the important role non-health factors play in community health and will work across sectors to enhance the health and well-being of all of Northern Virginia's residents.

Each of the major jurisdictions in Northern Virginia has public-private initiatives focused on assessing and promoting health within their community. Building on that work, the health summit sponsored by the Foundation, *"The Health of Northern Virginia: Where Are We, and Where Could We Go,"* was a first step in bringing together key stakeholders from all the communities in Northern Virginia, and from various sectors within them, to start conversations about how each can contribute to the health of Northern Virginia. Too often, we work in silos of our own making, using political boundaries, funding streams, professional training, and a narrow understanding of what contributes to individual and community health as the materials to construct them.

Many of the diseases and conditions described in this report are preventable. If we are to have any impact on those diseases, we need to look at health through a wide lens and ask ourselves how factors such as the social environment, the built environment, the availability and quality of services, and organizational and government policies at every level contribute to—or impede—community health. And then we need to ask: "Who in the community can influence those factors, and how can we engage them?"

Since the Northern Virginia Health Foundation was created, it has invested both financial and other resources to meet its mission to improve the health and health care of low-income Northern Virginians. It has engaged in traditional grantmaking, providing funding to organizations providing primary, behavioral, and oral health care services. It has also helped build community collaborations, served as a neutral convener, and helped educate policymakers and the public about important health issues in the community. The Foundation believes that its non-grantmaking activities are every bit as important as the funding it provides, because many of the policy, system, and environmental changes it engages in can significantly impact health—and don't require funding. Nor do these changes have to occur at the macro level. A local business that adopts a health vending policy for its employees, an apartment complex that sets aside some land on its property for a community garden, a neighborhood that establishes a neighborhood watch program—all of these efforts can affect the non-health factors that shape the health and well-being of a community.

The Northern Virginia Health Foundation invites all segments of the community to engage in and build on the work of existing community coalitions and continue the dialog begun at the summit to answer this most important question: "How can we work across sectors to ensure the optimal health of every resident of Northern Virginia?"

## APPENDIX A

# County Health Rankings and Indicators (2013)

The *County Health Rankings* rank cities and counties within states based on a portfolio of health measures related to health outcomes (morbidity and mortality) and health factors (health behaviors, clinical care, social and economic factors, and physical environment). A detailed listing of the rankings and the underlying indicators is provided in **Exhibit A-1**. The exhibit is followed by technical notes on interpreting the rankings.

### EXHIBIT A - 1

#### Detailed Listing of *County Health Rankings*

Note: The indicators in this exhibit are generally from different sources and from different years than the indicators shown in *Section II* of this report. Therefore, some figures may not match. Blank values reflect unreliable or missing data. Source: Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. <http://www.countyhealthrankings.org/app/virginia/2013/rankings/outcomes/overall/by-rank>

Indicator	Alexandria City	Arlington	Fairfax	Fairfax City	Falls Church City	Loudoun	Manassas City	Manassas Park City	Prince William
<b>Health Outcomes Rank</b>	<b>8</b>	<b>3</b>	<b>1</b>	<b>55</b>	<b>16</b>	<b>2</b>	<b>7</b>	<b>9</b>	<b>10</b>
<b>Mortality Rank</b>	<b>9</b>	<b>3</b>	<b>2</b>	<b>97</b>	<b>18</b>	<b>1</b>	<b>15</b>	<b>6</b>	<b>8</b>
Premature death (Years of potential life lost before age 75 per 100,000 population (age-adjusted))	5,139	3,842	3,617	8,652	5,628	3,290	5,509	4,760	4,881
<b>Morbidity Rank</b>	<b>11</b>	<b>6</b>	<b>3</b>	<b>9</b>	<b>22</b>	<b>8</b>	<b>4</b>	<b>31</b>	<b>41</b>
Poor or fair health (Percent of adults reporting fair or poor health (age-adjusted))	10%	9%	7%	10%		11%	6%		15%
Poor physical health days (Average number of physically unhealthy days reported in past 30 days (age-adjusted))	2.4	2.5	2.2	2.1	2.4	2.3	2.1		3.3
Poor mental health days (Average number of mentally unhealthy days reported in past 30 days (age-adjusted))	2.1	2.4	2	1.5	1.9	2.4	2.3		3
Low birth weight (Percent of live births with low birth weight (< 2500 grams))	7.5%	6.5%	6.9%	8.0%	7.8%	6.9%	7.2%	6.3%	7.2%



## EXHIBIT A-1 (CONTINUED)

## Detailed Listing of County Health Rankings

Note: The indicators in this exhibit are generally from different sources and from different years than the indicators shown in Section II of this report. Therefore, some figures may not match. Blank values reflect unreliable or missing data. Source: Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. <http://www.countyhealthrankings.org/app/virginia/2013/rankings/outcomes/overall/by-rank>

Indicator	Alexandria City	Arlington	Fairfax	Fairfax City	Falls Church City	Loudoun	Manassas City	Manassas Park City	Prince William
<b>Health Factors Rank</b>	<b>12</b>	<b>3</b>	<b>4</b>	<b>7</b>	<b>1</b>	<b>2</b>	<b>50</b>	<b>65</b>	<b>21</b>
<b>Health Behaviors Rank</b>	<b>2</b>	<b>1</b>	<b>5</b>	<b>10</b>	<b>3</b>	<b>4</b>	<b>18</b>	<b>66</b>	<b>31</b>
Adult smoking (Percent of adults that report smoking $\geq 100$ cigarettes and currently smoking)	10%	11%	12%	6%	4%	12%	12%		18%
Adult obesity (Percent of adults that report a BMI $\geq 30$ )	20%	19%	24%	28%	26%	23%	29%	30%	27%
Physical inactivity (Percent of adults age 20 and over reporting no leisure time physical activity)	18%	17%	19%	27%	22%	20%	25%	25%	21%
Excessive drinking (Binge plus heavy drinking)	20%	19%	20%	11%		19%	7%		18%
Motor vehicle crash death rate (Motor vehicle crash deaths per 100,000 population)	6	3	5	11	18	6	8		8
Sexually transmitted infections (Chlamydia rate per 100,000 population)	354	182	127	328	438	104	407		245
Teen birth rate (Teen birth rate per 1,000 female population, ages 15-19)	48	24	17	21	9	15	48	49	34
<b>Clinical Care Rank</b>	<b>52</b>	<b>17</b>	<b>15</b>	<b>16</b>	<b>1</b>	<b>9</b>	<b>69</b>	<b>124</b>	<b>76</b>
Uninsured (Percent of population under age 65 without health insurance)	15%	12%	13%	14%	8%	9%	21%	24%	16%
Primary care physicians (Ratio of population to primary care physicians)	1,329:1	1,414:1	1,066:1	427:01:00	320:01:00	1,467:1	797:01:00		2,363:1
Dentists (Ratio of population to dentists)	1,442:1	2,060:1	1,202:1		348:01:00	1,683:1	766:01:00		2,350:1
Preventable hospital stays (Hospitalization rate for ambulatory-care sensitive conditions per 1,000 Medicare enrollees)	49	36	39		40	53		63	56

EXHIBIT A-1 (CONTINUED)

**Detailed Listing of County Health Rankings**

Note: The indicators in this exhibit are generally from different sources and from different years than the indicators shown in Section II of this report. Therefore, some figures may not match. Blank values reflect unreliable or missing data. Source: Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. <http://www.countyhealthrankings.org/app/virginia/2013/rankings/outcomes/overall/by-rank>

Indicator	Alexandria City	Arlington	Fairfax	Fairfax City	Falls Church City	Loudoun	Manassas City	Manassas Park City	Prince William
Diabetic screening (Percent of diabetic Medicare enrollees that receive HbA1c screening)	81%	82%	84%		81%	84%		90%	84%
Mammography screening (Percent of female Medicare enrollees that receive mammography screening)	66%	68%	65%		73%	66%		51%	58%
<b>Social &amp; Economic Factors Rank</b>	<b>23</b>	<b>5</b>	<b>2</b>	<b>13</b>	<b>4</b>	<b>1</b>	<b>75</b>	<b>36</b>	<b>18</b>
High school graduation (Percent of 9 <sup>th</sup> grade cohort that graduates in 4 years)	82%	89%	91%	91%	97%	95%	80%	85%	89%
Some college (Percent of adults age 25-44 years with some post-secondary education)	81%	88%	79%	85%	84%	83%	48%	55%	67%
Unemployment (Percent of population age 16+ unemployed but seeking work)	4.80%	3.80%	4.30%	6.40%	7.20%	4.20%	6.50%	5.20%	5.10%
Children in poverty (Percent of children under age 18 in poverty)	15%	10%	9%	9%	3%	5%	17%	14%	10%
Inadequate social support (Percent of adults without social/emotional support)	14%	18%	14%			12%			21%
Children in single-parent households (Percent of children that live in household headed by single parent)	33%	23%	18%	17%	14%	15%	29%	28%	25%
Violent crime rate (Violent crime rate per 100,000 population)	208	155	85	124	139	100	424	139	167

## EXHIBIT A-1 (CONTINUED)

**Detailed Listing of County Health Rankings**

Note: The indicators in this exhibit are generally from different sources and from different years than the indicators shown in Section II of this report. Therefore, some figures may not match. Blank values reflect unreliable or missing data. Source: Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. <http://www.countyhealthrankings.org/app/virginia/2013/rankings/outcomes/overall/by-rank>

Indicator	Alexandria City	Arlington	Fairfax	Fairfax City	Falls Church City	Loudoun	Manassas City	Manassas Park City	Prince William
<b>Physical Environment Rank</b>	<b>30</b>	<b>18</b>	<b>46</b>	<b>1</b>	<b>2</b>	<b>35</b>	<b>42</b>	<b>104</b>	<b>64</b>
Daily fine particulate matter (The average daily measure of fine particulate matter in micrograms per cubic meter (PM2.5) in a county)	12.4	12.4	12.4	12.4	12.4	12.5	12.4	12.4	12.4
Drinking water safety (Percentage of population exposed to water exceeding a violation limit during the past year)		0%	0%			0%			0%
Access to recreational facilities (Rate of recreational facilities per 100,000 population)	11	15	11	57	32	15	13	0	10
Limited access to healthy foods (Percent of population who are low-income and do not live close to a grocery store)	0%	0%	1%	0%	0%	1%	1%	5%	3%
Fast food restaurants (Percent of all restaurants that are fast-food establishments)	46%	51%	54%	45%	42%	51%	51%	56%	56%

It is important to keep the following considerations in mind when interpreting the *County Health Rankings*:

- *Comparing Regions or States.* The *County Health Rankings* are not designed to support rankings across states or regions. The rankings only support comparisons between cities and counties within a single state.
- *Choice of Indicators.* The rankings are derived based on a set of underlying indicators chosen by the researchers that produce the rankings. The underlying indicators were chosen based on multiple criteria including availability and relevance. They are not intended to represent the full spectrum of indicators that may be of interest to community stakeholders.
- *Grouping and Weighting.* The 33 indicators are grouped and weighted to produce the eight ranking categories shown in Exhibit A-1. As with the choice of indicators, the grouping and weighting decisions were made by the researchers that produce the rankings.
- *Currency of Indicators.* The *County Health Rankings* project is national in scope, and many of the indicators are derived from national databases. In some cases, the national databases contain data that are several years old, and there are more contemporary indicators available from local Virginia sources than are shown in the *County Health Rankings*.
- *Sampling and Missing Data.* Many of the indicators in the *Rankings* are based on samples of records or surveys. Due to small sample sizes, some indicators are not reported for smaller communities such as the cities of Fairfax, Falls Church, Manassas, and Manassas Park. In some instances, if a city or county is missing data for any individual measure, the statewide mean is used as a substitute measure. This can result in a lower ranking for some small localities.
- *Interpreting Ranks.* It is important to note that because of the technical considerations outlined above, a unit difference in ranking does not necessarily mean a substantial difference in health. For example, the difference between a ranking of eight or nine may reflect only a slight difference in the underlying indicators.

## APPENDIX B

# Northern Virginia Census Tracts Ranked on the Virginia *Health Opportunity Index* (HOI)

### EXHIBIT B - 1

#### Northern Virginia Census Tracts Ranked on the Virginia *Health Opportunity Index* (HOI)

Notes: Census Tracts are based on Year 2000 U.S. Census Boundaries. The HOI score is on a scale of 0 to 1 where a lower score indicates a lower opportunity for health. The HOI ranking is from 1 to 1,523, where a lower ranking indicates a lower opportunity for health.

Census Tract	Jurisdiction	Statewide HOI Score	Statewide HOI Ranking
51510200105	Alexandria City	0.363388	6
51510201203	Alexandria City	0.403103	12
51013102700	Arlington County	0.432427	18
51059422200	Fairfax County	0.463594	23
51013102200	Arlington County	0.471257	24
51013101700	Arlington County	0.475134	28
51013102000	Arlington County	0.482561	30
51059451400	Fairfax County	0.502488	35
51153900903	Prince William County	0.527913	49
51059451600	Fairfax County	0.551662	63
51510200301	Alexandria City	0.56025	70
51013103500	Arlington County	0.564958	75
51013103800	Arlington County	0.566876	76
51510201204	Alexandria City	0.578483	89
51059421900	Fairfax County	0.582681	91
51059416200	Fairfax County	0.58466	95
51059421500	Fairfax County	0.587521	98
51510200402	Alexandria City	0.589055	100
51059421400	Fairfax County	0.591485	103
51059452300	Fairfax County	0.593259	107
51059461900	Fairfax County	0.596459	112
51059421600	Fairfax County	0.599315	117
51059451500	Fairfax County	0.60426	127

EXHIBIT B-1 (CONTINUED)

**Northern Virginia Census Tracts Ranked on the Virginia**

***Health Opportunity Index (HOI)***

Notes: Census Tracts are based on Year 2000 U.S. Census Boundaries. The HOI score is on a scale of 0 to 1 where a lower score indicates a lower opportunity for health. The HOI ranking is from 1 to 1,523, where a lower ranking indicates a lower opportunity for health.

Census Tract	Jurisdiction	Statewide HOI Score	Statewide HOI Ranking
51153901100	Prince William County	0.607944	132
51510200103	Alexandria City	0.609102	133
51510200500	Alexandria City	0.61411	143
51510200104	Alexandria City	0.615662	145
51510200303	Alexandria City	0.622114	163
51013102800	Arlington County	0.630397	181
51013102600	Arlington County	0.632212	185
51059452800	Fairfax County	0.639188	194
51510200102	Alexandria City	0.639916	197
51013102500	Arlington County	0.640309	198
51153900901	Prince William County	0.640504	199
51153900600	Prince William County	0.645112	209
51013103100	Arlington County	0.649224	217
51059452700	Fairfax County	0.653654	225
51059420400	Fairfax County	0.654516	226
51013103200	Arlington County	0.656016	229
51510201202	Alexandria City	0.656065	230
51153900200	Prince William County	0.656963	231
51059450200	Fairfax County	0.659101	235
51013103300	Arlington County	0.668688	259
51153901701	Prince William County	0.671316	267
51013103401	Arlington County	0.674049	275
51059421800	Fairfax County	0.675563	282
51059420600	Fairfax County	0.678607	292
51510201600	Alexandria City	0.681699	296
51059440200	Fairfax County	0.681902	298
51059420500	Fairfax County	0.685377	307

EXHIBIT B-1 (CONTINUED)

**Northern Virginia Census Tracts Ranked on the Virginia**

***Health Opportunity Index (HOI)***

Notes: Census Tracts are based on Year 2000 U.S. Census Boundaries. The HOI score is on a scale of 0 to 1 where a lower score indicates a lower opportunity for health. The HOI ranking is from 1 to 1,523, where a lower ranking indicates a lower opportunity for health.

Census Tract	Census Tract	Census Tract	Census Tract
51059430600	Fairfax County	0.688093	313
51510200401	Alexandria City	0.690046	319
51510200101	Alexandria City	0.690061	320
51059481000	Fairfax County	0.691833	324
51059421700	Fairfax County	0.694534	330
51059452500	Fairfax County	0.698256	342
51153901008	Prince William County	0.706463	367
51013101400	Arlington County	0.706925	369
51059452200	Fairfax County	0.708327	373
51013103600	Arlington County	0.708704	375
51013102400	Arlington County	0.709986	382
51059450700	Fairfax County	0.71104	388
51059422100	Fairfax County	0.71164	390
51059422000	Fairfax County	0.711834	392
51153901900	Prince William County	0.712215	393
51013101800	Arlington County	0.712275	394
51510200600	Alexandria City	0.713458	400
51059461700	Fairfax County	0.72245	430
51153900405	Prince William County	0.723555	433
51059480900	Fairfax County	0.725153	441
51153901404	Prince William County	0.726	447
51059431600	Fairfax County	0.726032	448
51059451900	Fairfax County	0.726189	451
51059416000	Fairfax County	0.727789	455
51059450300	Fairfax County	0.727966	456
51153900500	Prince William County	0.728022	457
51153900403	Prince William County	0.731246	470
51153901403	Prince William County	0.732634	475
51059415400	Fairfax County	0.735176	489
51013100800	Arlington County	0.737377	497
51059491200	Fairfax County	0.738257	499

EXHIBIT B-1 (CONTINUED)

**Northern Virginia Census Tracts Ranked on the Virginia**

**Health Opportunity Index (HOI)**

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Census Tract	Census Tract	Census Tract	Census Tract
51013102900	Arlington County	0.738546	502
51153900700	Prince William County	0.739192	506
51059450100	Fairfax County	0.739404	508
51059450500	Fairfax County	0.739421	509
51059452600	Fairfax County	0.739796	512
51013102300	Arlington County	0.740018	514
51059491600	Fairfax County	0.741893	522
51685920100	Manassas Park City	0.742177	523
51059471300	Fairfax County	0.74253	524
51153901702	Prince William County	0.74556	541
51059461600	Fairfax County	0.746842	548
51059471400	Fairfax County	0.746892	549
51107611400	Loudoun County	0.747233	551
51683910300	Manassas City	0.748386	557
51059482100	Fairfax County	0.74849	558
51059415300	Fairfax County	0.74941	562
51153900404	Prince William County	0.750606	569
51059471200	Fairfax County	0.752262	580
51600300100	Fairfax City	0.752266	581
51153900300	Prince William County	0.753685	588
51510200302	Alexandria City	0.755521	594
51059492400	Fairfax County	0.756694	603
51059481200	Fairfax County	0.757485	608
51013102100	Arlington County	0.758339	615
51059450600	Fairfax County	0.758621	616
51153900406	Prince William County	0.75884	618
51059480800	Fairfax County	0.759462	621
51107611600	Loudoun County	0.760706	627
51153901214	Prince William County	0.761694	632
51059452400	Fairfax County	0.762987	639
51013103402	Arlington County	0.763714	645



EXHIBIT B-1 (CONTINUED)

**Northern Virginia Census Tracts Ranked on the Virginia**

***Health Opportunity Index (HOI)***

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Census Tract	Census Tract	Census Tract	Census Tract
51153901211	Prince William County	0.764687	651
51153901221	Prince William County	0.765063	653
51683910400	Manassas City	0.766247	660
51153901203	Prince William County	0.767097	664
51107611300	Loudoun County	0.767134	666
51153900800	Prince William County	0.767389	671
51013100600	Arlington County	0.768745	677
51153901213	Prince William County	0.769762	683
51059421000	Fairfax County	0.770325	690
51059461800	Fairfax County	0.770561	693
51107610501	Loudoun County	0.771272	696
51153900902	Prince William County	0.772505	700
51013101500	Arlington County	0.774015	705
51107611205	Loudoun County	0.774093	706
51600300300	Fairfax City	0.77415	707
51107611500	Loudoun County	0.774734	709
51153901001	Prince William County	0.777823	720
51107611204	Loudoun County	0.77825	721
51510201802	Alexandria City	0.778798	724
51107611700	Loudoun County	0.778863	725
51013101600	Arlington County	0.779444	730
51013100700	Arlington County	0.780122	735
51683910200	Manassas City	0.780491	738
51059420100	Fairfax County	0.780536	740
51600300400	Fairfax City	0.781672	747
51153901212	Prince William County	0.783604	753
51510200201	Alexandria City	0.78417	758
51059482300	Fairfax County	0.785271	764
51013101200	Arlington County	0.785908	769
51510200700	Alexandria City	0.787726	781
51059415500	Fairfax County	0.788063	785

EXHIBIT B-1 (CONTINUED)

**Northern Virginia Census Tracts Ranked on the Virginia**

**Health Opportunity Index (HOI)**

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Census Tract	Census Tract	Census Tract	Census Tract
51153901602	Prince William County	0.788594	788
51059491300	Fairfax County	0.788647	789
51059482200	Fairfax County	0.790576	801
51059432700	Fairfax County	0.791722	806
51510201300	Alexandria City	0.791983	808
51059422300	Fairfax County	0.792239	810
51107611101	Loudoun County	0.79252	811
51510201400	Alexandria City	0.793744	822
51153901223	Prince William County	0.794995	828
51059432000	Fairfax County	0.796566	835
51059491700	Fairfax County	0.796999	836
51685920200	Manassas Park City	0.797717	841
51059422400	Fairfax County	0.799908	861
51510200802	Alexandria City	0.800159	863
51059460600	Fairfax County	0.800334	865
51059431000	Fairfax County	0.801367	872
51059430900	Fairfax County	0.801516	874
51059432200	Fairfax County	0.802144	879
51610500300	Falls Church City	0.803676	892
51059420200	Fairfax County	0.80476	896
51059491800	Fairfax County	0.805454	901
51610500200	Falls Church City	0.80641	907
51059452000	Fairfax County	0.807002	913
51059440500	Fairfax County	0.807124	915
51510201900	Alexandria City	0.808157	925
51107610602	Loudoun County	0.808335	928
51059471100	Fairfax County	0.808385	929
51059450800	Fairfax County	0.808842	932
51510201000	Alexandria City	0.810093	939
51153901209	Prince William County	0.81151	950
51153901208	Prince William County	0.812054	954

EXHIBIT B - 1 (CONTINUED)

**Northern Virginia Census Tracts Ranked on the Virginia  
Health Opportunity Index (HOI)**

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Census Tract	Census Tract	Census Tract	Census Tract
51153901601	Prince William County	0.812125	955
51059432800	Fairfax County	0.813536	964
51107610502	Loudoun County	0.814295	967
51683910100	Manassas City	0.814422	968
51059491400	Fairfax County	0.81458	969
51107611202	Loudoun County	0.816042	983
51059431800	Fairfax County	0.817006	987
51153901007	Prince William County	0.818137	993
51059430700	Fairfax County	0.81869	996
51059452100	Fairfax County	0.818792	998
51059430800	Fairfax County	0.818801	999
51059492300	Fairfax County	0.82049	1008
51600300200	Fairfax City	0.820538	1009
51107611002	Loudoun County	0.821361	1015
51059430500	Fairfax County	0.823695	1031
51059481100	Fairfax County	0.827094	1046
51059421100	Fairfax County	0.828327	1058
51059430200	Fairfax County	0.830092	1067
51059451000	Fairfax County	0.831511	1081
51153901222	Prince William County	0.831525	1082
51059431400	Fairfax County	0.832754	1092
51013100900	Arlington County	0.833493	1096
51059420700	Fairfax County	0.834466	1101
51153901005	Prince William County	0.834643	1104
51059460700	Fairfax County	0.834747	1105
51153901006	Prince William County	0.836874	1115
51153901220	Prince William County	0.837599	1119
51059491100	Fairfax County	0.838025	1123
51059420300	Fairfax County	0.838559	1127
51059440100	Fairfax County	0.838623	1128
51059490100	Fairfax County	0.83879	1132

EXHIBIT B-1 (CONTINUED)

**Northern Virginia Census Tracts Ranked on the Virginia**

***Health Opportunity Index (HOI)***

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Census Tract	Census Tract	Census Tract	Census Tract
51013103000	Arlington County	0.83998	1142
51600300500	Fairfax City	0.840168	1143
51153901301	Prince William County	0.84133	1148
51107611102	Loudoun County	0.842021	1152
51153901210	Prince William County	0.842203	1154
51059420800	Fairfax County	0.843205	1159
51107611201	Loudoun County	0.844223	1167
51059432600	Fairfax County	0.84457	1172
51059432100	Fairfax County	0.844659	1174
51510201100	Alexandria City	0.846752	1188
51153901218	Prince William County	0.848387	1193
51013101000	Arlington County	0.848802	1196
51059432400	Fairfax County	0.851252	1205
51107610601	Loudoun County	0.852254	1210
51059430400	Fairfax County	0.852807	1214
51107610400	Loudoun County	0.854218	1223
51107611003	Loudoun County	0.855609	1232
51059421300	Fairfax County	0.855706	1233
51059490500	Fairfax County	0.855781	1235
51059431900	Fairfax County	0.856711	1245
51059461100	Fairfax County	0.856764	1246
51510202002	Alexandria City	0.8581	1250
51059432500	Fairfax County	0.858717	1255
51013101900	Arlington County	0.858758	1256
51059451800	Fairfax County	0.859712	1260
51059460400	Fairfax County	0.860394	1265
51107611006	Loudoun County	0.860886	1268
51059432300	Fairfax County	0.861029	1270
51059461500	Fairfax County	0.863086	1281
51059450400	Fairfax County	0.863343	1282
51059460800	Fairfax County	0.864292	1287

EXHIBIT B-1 (CONTINUED)

**Northern Virginia Census Tracts Ranked on the Virginia**

***Health Opportunity Index (HOI)***

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Census Tract	Census Tract	Census Tract	Census Tract
51107611005	Loudoun County	0.865151	1294
51059431300	Fairfax County	0.866296	1296
51059430100	Fairfax County	0.866704	1299
51510201801	Alexandria City	0.866728	1301
51059421200	Fairfax County	0.867437	1303
51013101300	Arlington County	0.867715	1304
51059440600	Fairfax County	0.86971	1313
51107611800	Loudoun County	0.870126	1315
51059450900	Fairfax County	0.870527	1317
51059440800	Fairfax County	0.871299	1321
51059481400	Fairfax County	0.871574	1324
51153901405	Prince William County	0.874974	1337
51107610900	Loudoun County	0.876736	1342
51059481900	Fairfax County	0.877039	1347
51107611004	Loudoun County	0.878086	1353
51059431500	Fairfax County	0.878154	1354
51059415200	Fairfax County	0.880272	1360
51059480200	Fairfax County	0.880987	1362
51059482600	Fairfax County	0.881484	1365
51059470500	Fairfax County	0.881833	1366
51107610700	Loudoun County	0.882625	1370
51059461000	Fairfax County	0.883081	1372
51510200801	Alexandria City	0.883582	1373
51107611203	Loudoun County	0.885227	1377
51059415100	Fairfax County	0.885348	1378
51059460500	Fairfax County	0.885806	1380
51013101100	Arlington County	0.886108	1381
51153901502	Prince William County	0.886348	1383
51059482500	Fairfax County	0.888253	1388
51059480500	Fairfax County	0.888826	1390
51059491500	Fairfax County	0.890913	1396

EXHIBIT B-1 (CONTINUED)

**Northern Virginia Census Tracts Ranked on the Virginia**

***Health Opportunity Index (HOI)***

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Census Tract	Census Tract	Census Tract	Census Tract
51107611007	Loudoun County	0.890956	1397
51153901501	Prince William County	0.891142	1398
51013100100	Arlington County	0.892546	1400
51059440700	Fairfax County	0.893889	1402
51153901302	Prince William County	0.894021	1403
51510201500	Alexandria City	0.895891	1405
51059470800	Fairfax County	0.896184	1406
51153901406	Prince William County	0.898058	1411
51107610100	Loudoun County	0.899397	1413
51107610800	Loudoun County	0.905793	1431
51059451300	Fairfax County	0.906766	1435
51059460900	Fairfax County	0.908014	1437
51610500100	Falls Church City	0.909382	1439
51153901219	Prince William County	0.909944	1440
51059440300	Fairfax County	0.910605	1441
51059470700	Fairfax County	0.911778	1445
51107611001	Loudoun County	0.911902	1446
51153901217	Prince William County	0.912508	1448
51510202001	Alexandria City	0.912768	1450
51510200202	Alexandria City	0.914025	1452
51510200900	Alexandria City	0.916077	1454
51107610200	Loudoun County	0.917784	1455
51059481700	Fairfax County	0.918625	1456
51059470900	Fairfax County	0.920838	1461
51059492200	Fairfax County	0.921324	1462
51107610300	Loudoun County	0.921732	1463
51059415900	Fairfax County	0.922222	1465
51059491000	Fairfax County	0.925699	1474
51013103700	Arlington County	0.926248	1475
51059416300	Fairfax County	0.927562	1476
51013100200	Arlington County	0.928582	1477
51013100500	Arlington County	0.929327	1479

Census Tract	Census Tract	Census Tract	Census Tract
51059460300	Fairfax County	0.929658	1480
51059490900	Fairfax County	0.930139	1481
51059471000	Fairfax County	0.930331	1482
51059460100	Fairfax County	0.933887	1483
51059451100	Fairfax County	0.935426	1485
51059415700	Fairfax County	0.936285	1486
51059415800	Fairfax County	0.938643	1488
51059482000	Fairfax County	0.943397	1491
51059492000	Fairfax County	0.944523	1492
51059482400	Fairfax County	0.946247	1493
51107611008	Loudoun County	0.952619	1499
51059470600	Fairfax County	0.953238	1500
51059481600	Fairfax County	0.956988	1503
51059481500	Fairfax County	0.957797	1504
51059416100	Fairfax County	0.959891	1505
51059470100	Fairfax County	0.960586	1507
51059492100	Fairfax County	0.960821	1508
51059451200	Fairfax County	0.961325	1509
51059470400	Fairfax County	0.96171	1510
51059461200	Fairfax County	0.963053	1511
51059470300	Fairfax County	0.963575	1512
51013100300	Arlington County	0.966494	1513
51059480400	Fairfax County	0.966942	1514
51059491900	Fairfax County	0.967983	1515
51059460200	Fairfax County	0.9702	1516
51013100400	Arlington County	0.975258	1518
51059415600	Fairfax County	0.979048	1520
51059480300	Fairfax County	0.982639	1521
51059480100	Fairfax County	0.999027	1522

Source: Community Health Solutions analysis of *Health Opportunity Index* data from the Virginia Department of Health.  
<http://www.vdh.virginia.gov/OMHHE/2012report.htm>

## APPENDIX C

# Selected Indicators from the *Oral Health in Northern Virginia* Report (2011)

Additional insight on oral health can be found in the 2011 report, *Oral Health in Northern Virginia*, commissioned by the Northern Virginia Health Foundation. The report "...describes the importance of oral health to overall health, details the status of oral health for Northern Virginians, identifies barriers they face in obtaining needed dental care, and offers specific steps that policymakers and other leaders can take to improve oral health in the region." **Exhibit C-1** provides a summary of selected indicators from this report.

### EXHIBIT C - 1

#### Reasons for Not Seeing a Dentist-Adults Total Northern Virginia Region

	All Income Levels	Income <\$40K	Income \$40K+
Only get health or dental care in emergencies	51%	53%	55%
Take care of my teeth fine and do not have problems	51%	53%	53%
Do not have dental insurance coverage	50%	73%	19%
Not able to afford it	47%	66%	30%
Don't have time	24%	18%	32%
Afraid or nervous	13%	10%	13%
Don't have transportation	12%	15%	4%
Dentist stopped taking my health insurance	11%	13%	7%
Need child care in order to go	10%	10%	5%
Couldn't get an appointment	7%	7%	3%
Children take care of their teeth fine and do not have problems	39%	47%	41%
Only get health or dental care in emergencies	32%	52%	21%
Do not have dental insurance coverage	28%	39%	25%
Not able to afford it	24%	45%	15%
Don't have time	23%	8%	31%
Couldn't get an appointment	13%	12%	13%
Dentist stopped taking my health insurance	8%	4%	8%
Don't have transportation	6%	11%	0%

Source: *Oral Health in Northern Virginia* -A report commissioned by the Northern Virginia Health Foundation (September 2011).  
<http://novahealthfdn.org/wp-content/uploads/NVHF-OralHealth-Report-FINAL.pdf>



# Acknowledgements

The Northern Virginia Health Foundation would like to thank Stephen Horan, Ph.D., and the staff of Community Health Solutions, whom we commissioned to develop this report. Their data analysis, insights, and feedback were crucial in launching this work. We would also like to thank the staff of Burness Communications for their guidance and design work. We couldn't have done it without you.



Northern Virginia  
Health Foundation

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1940 Duke Street  
Suite 200  
Alexandria, Virginia 22314  
(o) 703.486.5691  
(f) 703.486.5692  
[www.novahealthfdn.org](http://www.novahealthfdn.org)

# **Community Health Needs Assessment**

*Prepared for*  
INOVA FAIRFAX MEDICAL  
CAMPUS

*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 Fairfax Medical Campus 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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## INTRODUCTION

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This community health needs assessment (CHINA) was conducted by Inova Fairfax Medical Campus (Inova Fairfax 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 [CHINA] every three years and adopt an implementation strategy to

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

CHINAs 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, 2012.

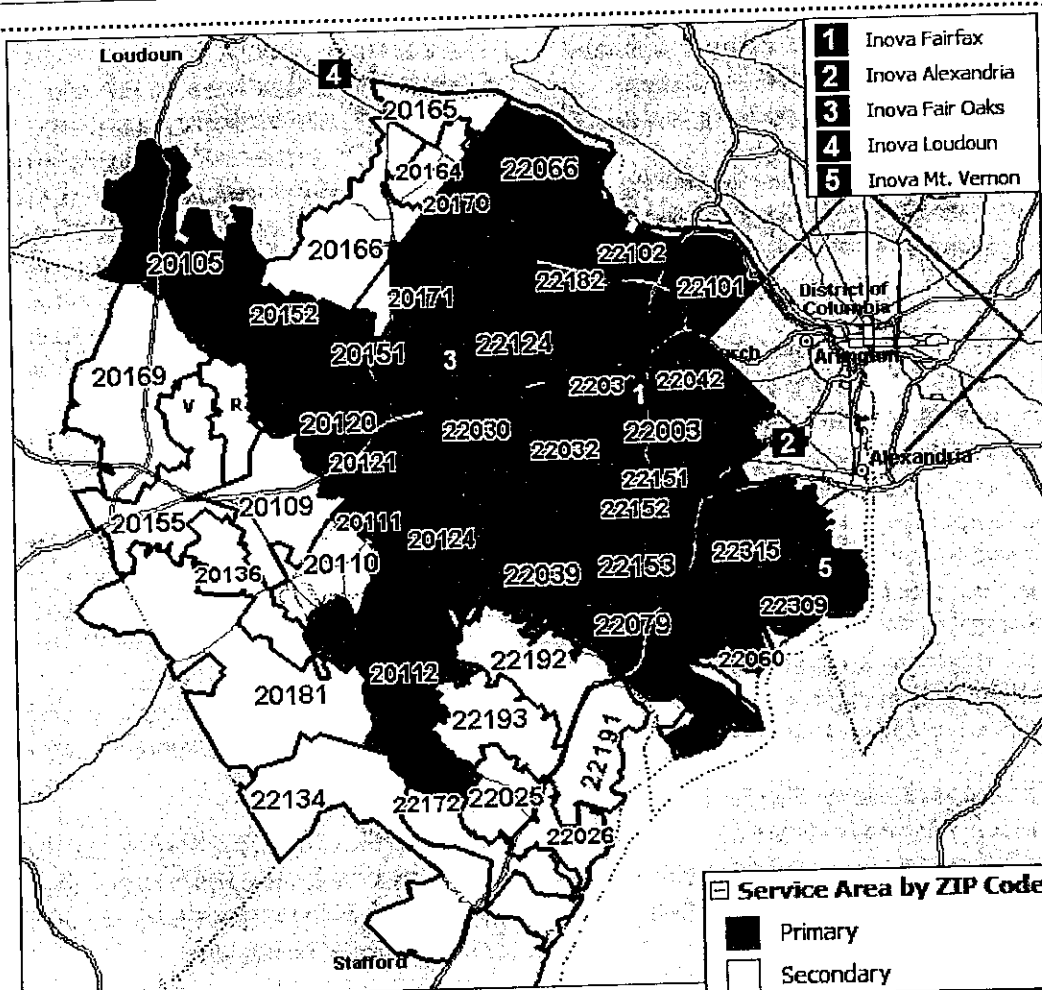
<sup>2</sup> Patient Protection and Affordable Care Act.

- 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.

The assessment identifies a prioritized list of community health needs. Inova Fairfax Medical Campus will be preparing an Implementation Strategy that describes how the hospital plans to address the identified needs.



## EXECUTIVE SUMMARY



## Inova Fairfax Medical Campus Community By the Numbers

- 64 ZIP codes in Fairfax, Loudoun, and Prince William counties and the cities of Falls Church and Manassas
- Estimated Population (2012): 1,673,930
- 69% of community population resides in the primary service area (2012)
- Population change (2013-2018):
  - Growth of 1% in primary service area and 3% in secondary service area
  - 7% increase in 65+ population
- Below VA average poverty rates, with pockets of low-income people across the community
- Growing diversity:
  - Rapidly growing Hispanic (or Latino) population
  - 41% non-White in 2013; 42% by 2018
- 8% of Inova Fairfax Medical Campus discharges for ambulatory care sensitive conditions (ACSC)

In general, the Inova Fairfax 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.

Fairfax 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 poverty and unemployment rates than the U.S. average, unemployed, lower income, and uninsured people are in: Lincolnia/Bailey's Crossroad, Reston/Herndon, Manassas, and the Richmond Highway corridor. These areas are home to relatively high proportions of Black and Hispanic (or Latino) residents.

Parts of Loudoun County, Fairfax County, Manassas and Manassas Park Cities, and Prince William County contain federally-designated 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.

Eight percent of Inova Fairfax Medical Campus 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.

## 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 health needs identified throughout the assessment as priorities in the community served by Inova Fairfax Medical Campus.

# METHODOLOGY

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## Analytic Methods

This Appendix begins by identifying the communities served by Inova Fairfax. 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 Fairfax-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.

## APPENDIX

Services (including enhanced prenatal care in the first trimester in Prince William County, Manassas City, and Manassas Park City) are needed to reduce the ratios of Black to White infant mortality and Black to White low and very low birth weight infants.

#### **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, low-income and uninsured/underinsured residents, those suffering from stress, veterans, and persons with chronic/severe mental illness.

#### **Morbidity and Mortality**

- **Diet and Exercise-Related Issues**

Poor diet and a lack of exercise contribute to poor health status in the community, particularly the prevalence of obesity/overweight and diabetes, as well as disparities in diabetes mortality.

- **High Rates of Communicable Diseases**

The incidence of tuberculosis is above the Virginia average in the community as a whole. The percentage of residents living with HIV/AIDS is comparatively high in the cities of Fairfax, Falls Church, and Manassas. The percentage diagnosed with chlamydia is comparatively high in Fairfax and Falls Church cities.

- **High Rates of Lyme Disease – (Loudoun County)**

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

#### **Physical Environment**

- **Poor Air Quality**

The community has comparatively high concentrations of particulate matter and ozone.

- **Poor Community Safety - (Manassas City and Manassas Park City)**

Efforts are needed in Prince William County and in Falls Church, Manassas, and Manassas Park cities to address community safety issues.

#### **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 of Mt. Vernon South/Ft. Belvoir, Dale City/Dumfries/Quantico, and Manassas East. The economic downturn also has led to pockets of unemployment and poverty, as well as community concerns about homelessness in Loudoun and Prince William counties.

- **Lack of Health Education**

Increased health education and awareness of existing services is needed in the community, particularly for children and families.

- **Poor Educational Achievement - (Manassas City and Manassas Park City)**

High school graduation rates are comparatively low in Manassas and Manassas Park cities.

## **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 (e.g., primary care and mental health) and coordination of care across (e.g., primary care referrals to specialists) the community-wide system of services and providers. Effective communication and active relationships between these organizations would be beneficial, especially to vulnerable populations.

### **• Insufficient Case/Care Management for Seniors - (Fairfax County, Fairfax City, Falls Church City)**

Disease management and self-sufficiency education and assistance are needed for the senior population, particularly for those with mental health issues.

### **• Lack of Affordable and Accessible Primary and Specialty Care and Insurance**

Low-income and minority populations have difficulty accessing health care services and insurance. Clinics and other community organizations are struggling to meet growing demand. Access to specialty care is particularly problematic for Medicaid and uninsured patients.

### **• Lack of Access to Preventive Care**

Residents in Mt. Vernon South/Ft. Belvoir experience comparatively high rates of ambulatory care sensitive admissions that could be avoided with improved access to primary and preventive care. Residents, especially low-income and uninsured people, are not accessing these services due to high cost, lack of convenience, or awareness of available services.

### **• Lack of Transportation to Health and Human Services**

Community residents experience difficulty accessing services due to gaps in the public transportation system 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 increases.

## **Chronic Disease**

### **• High Rates of Cancer Incidence and Disparities in Cancer Mortality**

Fairfax County, Fairfax City, and Falls Church City exhibit comparatively high rates of breast and ovarian cancer. Cancer mortality is comparatively high for the Other<sup>3</sup> (non-White, non-Black) population in Prince William County.

### **• Disparities in Chronic Liver Disease and Cirrhosis Mortality**

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

## **Dental Health**

### **• Lack of Access to Dental Care and Poor Dental Health Status**

Additional, affordable dental care services are needed for low-income, uninsured, and undocumented 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.

### **• High Rates of Smoking - (Manassas City and Manassas Park City)**

Efforts to reduce the prevalence of smoking are needed, especially among adolescents, young adults, and lower-income populations.

### **• Unsafe Sex - (Manassas City and Manassas Park City)**

Efforts to promote safe sex habits are needed in the cities of Fairfax, Manassas, and Manassas Park.

## **Maternal and Child Health**

### **• Disparities in Infant Health Outcomes**

**Exhibit 1: Example Prioritization Process by Data Source and Indicator, Fairfax 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>-</b>	<b>0.8</b>
Previous Assessments	-	2	-
<b>Previous Assessments - Weighted Average (10%)</b>	<b>-</b>	<b>0.2</b>	<b>-</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>-</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 Fairfax's ability to reach reasonable conclusions regarding priority community health needs.

## Collaborating Organizations

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

## DEFINITION OF COMMUNITY ASSESSED

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

Inova Fairfax's community is comprised of 64 ZIP codes within 26 subregions that extend into (and overlap with) the counties of Fairfax, Loudoun, and Prince William and the cities of Falls Church and Manassas (**Exhibits 2 and 3**). The hospital is located in Falls Church (ZIP code 22042).



## Exhibit 2: Community Population, 2012

Subregion	2012 Population*	Percent of Population 2012
<b>Primary Service Area</b>		
Fairfax County Subregions	1,048,568	62.6%
Annandale/North Springfield	67,032	4.0%
Centreville	71,817	4.3%
Chantilly	21,260	1.3%
Clifton/Fairfax Station	35,722	2.1%
East Fairfax 29/50 Corridor	73,904	4.4%
Fairfax City	49,121	2.9%
Franconia/Kingstowne	55,557	3.3%
GMU/Burke	68,703	4.1%
Lincolnia/Bailey's Crossroads	56,948	3.4%
Lorton/Newington	28,516	1.7%
McLean/Great Falls	64,440	3.8%
Mt. Vernon South/Ft. Belvoir	79,758	4.8%
Oakton/Fair Lakes/South Herndon	99,857	6.0%
Reston/Herndon	102,323	6.1%
Springfield	87,803	5.2%
Vienna	63,871	3.8%
West Falls Church	21,936	1.3%
Falls Church City Subregions	14,589	0.9%
West Falls Church	14,589	0.9%
Loudoun County Subregions	33,970	2.0%
South Riding/Aldie	33,970	2.0%
Prince William County Subregions	61,939	3.7%
Manassas East	61,939	3.7%
<b>Primary Service Area Total</b>	<b>1,159,161</b>	<b>69.2%</b>
<b>Secondary Service Area</b>		
Fairfax County Subregions		
Dulles International Airport	-	
Loudoun County Subregions	95,127	5.7%
Sterling/Dulles	95,127	5.7%
Manassas City Subregions	43,326	2.6%
Manassas West	43,326	2.6%
Prince William County Subregions	376,411	22.5%
Manassas West	40,458	2.4%
Gainesville/Haymarket/Bull Run	87,730	5.2%
Dale City/Dumfries/Quantico	129,754	7.8%
Woodbridge	55,493	3.3%
Lake Ridge/Occoquan	62,976	3.8%
<b>Secondary Service Area Total</b>	<b>514,864</b>	<b>30.8%</b>
<b>Combined Service Area Total</b>	<b>1,673,930</b>	<b>100.0%</b>

Source: Fairfax County Council of Government, 2012

\*2012 projections based on Verité analysis of 2008 and 2013 population estimates.

*The Inova Fairfax  
community included  
1,673,930 residents in  
2012*

...

*The majority (63%) of  
the community  
population resided in  
Fairfax County*

In 2012, the Inova Fairfax community was estimated to have a population of approximately 1,674,000 persons. Approximately 69 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 jurisdiction. **Exhibit 3** shows that Inova Fairfax community ZIP codes accounted for 40 percent of Loudoun County's total population. Accordingly, caution should be used when assessing data available only for Loudoun County as a whole.

**Exhibit 3: Community and Jurisdiction Population Overlap, 2012**

Jurisdiction	Community Population*	Percent of Community Population	Total Jurisdiction Population*	Community Percent of Total Jurisdiction
Fairfax County	1,048,568	62.6%	1,083,557 <sup>4</sup>	96.8%
Falls Church City	14,589	0.9%	11,577 <sup>4</sup>	100.0%
Loudoun County	129,097	7.7%	320,160	40.3%
Manassas City	43,326	2.6%	36,626 <sup>4</sup>	100.0%
Prince William County	438,350	26.2%	416,403 <sup>4</sup>	100.0%
<b>Total</b>	<b>1,673,930</b>	<b>100.0%</b>	<b>1,868,322</b>	<b>89.6%</b>

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

\* Jurisdiction population estimated were based on Verité analysis of data from the U.S. Census Bureau, American Community Survey, 5 Year Estimates 2006-2010. Community population estimates were retrieved from Inova Health System.

\*\* For the assessment, Fairfax County includes Fairfax City; Prince William County includes Manassas Park City. Some county-level data for these jurisdictions are assessed independently.

The community was defined based on the geographic origins of Inova Fairfax inpatients. In 2010, approximately 72 percent of the hospital's inpatients originated from the primary service area and 68 percent from Fairfax County (**Exhibit 4**). The service area collectively accounted for 84 percent of the hospital's inpatient discharges.

The community definition was confirmed by examining the geographic origin of emergency department encounters. In 2010, nearly 82 percent of Inova Fairfax's emergency department visits originated from the primary and secondary service areas (**Exhibit 4**).

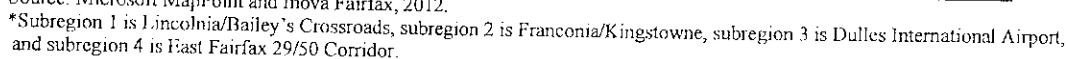
#### Exhibit 4: Inova Fairfax Inpatient Discharges and Emergency Department Visits, 2010

Jurisdiction	Percent of Inpatient Discharges	Percent of Emergency Department Visits
<b>Primary Service Area</b>		
Fairfax County	68.2%	70.8%
Falls Church City	0.8%	1.3%
Loudoun County	0.9%	0.5%
Prince William County	1.6%	1.0%
<b>Primary Service Area Total</b>	<b>71.5%</b>	<b>73.5%</b>
<b>Secondary Service Area</b>		
Fairfax County	-	-
Loudoun County	1.7%	0.9%
Manassas City	1.0%	0.7%
Prince William County	10.0%	6.7%
<b>Secondary Service Area Total</b>	<b>12.7%</b>	<b>8.3%</b>
<b>Combined Service Areas Total</b>	<b>84.2%</b>	<b>81.8%</b>
<b>Other Areas</b>	<b>15.8%</b>	<b>18.2%</b>
<b>All Discharges</b>	<b>42,246</b>	<b>103,386</b>

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

*Fairfax County  
accounted for 68% of  
all Inova Fairfax  
inpatient discharges  
and 71% of all  
emergency department  
visits*

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



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*Estimated population 2012: 1,673,930*

## SECONDARY DATA ASSESSMENT

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This section assesses secondary data regarding health needs in Inova Fairfax'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 7.6 percent between 2008 and 2013 and is expected to increase by another 1.8 percent between 2013 and 2018 (**Exhibit 6**).

**Exhibit 6: Percent Change in Community Population by Subregion, 2008-2013 and 2013-2018**

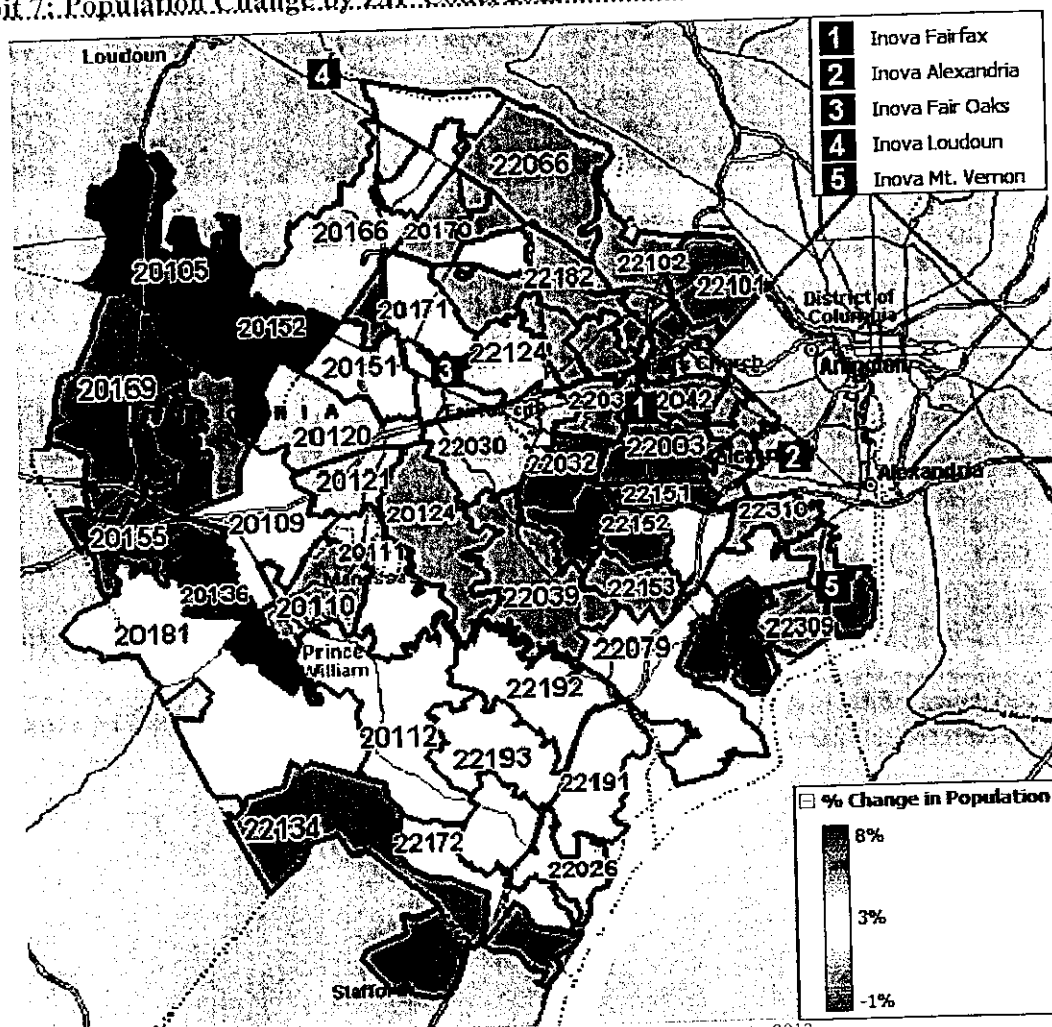
Subregion	Total Population			Percent Change in Population	
	2008	2013	2018	2008-2013	2013-2018
<b>Primary Service Area</b>					
Fairfax County Subregions	1,023,372	1,055,083	1,063,944	3.1%	0.8%
Annandale/North Springfield	67,682	66,871	66,787	-1.2%	-0.1%
Centreville	68,479	72,677	73,775	6.1%	1.5%
Chantilly	20,032	21,579	21,958	7.7%	1.8%
Clifton/Fairfax Station	34,863	35,940	36,286	3.1%	1.0%
East Fairfax 29/50 Corridor	72,937	74,148	74,503	1.7%	0.5%
Fairfax City	46,207	49,878	50,702	7.9%	1.7%
Franconia/Kingstowne	53,742	56,020	56,623	4.2%	1.1%
GMU/Burke	69,976	68,388	68,234	-2.3%	-0.2%
Lincolnia/Bailey's Crossroads	55,813	57,235	57,616	2.5%	0.7%
Lorton/Newington	25,497	29,325	30,222	15.0%	3.1%
McLean/Great Falls	64,141	64,515	64,704	0.6%	0.3%
Mt. Vernon South/Ft. Belvoir	79,134	79,915	80,204	1.0%	0.4%
Oakton/Fair Lakes/South Herndon	94,317	101,292	103,057	7.4%	1.7%
Reston/Herndon	99,563	103,025	104,003	3.5%	0.9%
Springfield	86,121	88,229	88,852	2.4%	0.7%
Vienna	62,692	64,169	64,564	2.4%	0.6%
West Falls Church	22,176	21,877	21,854	-1.3%	-0.1%
Falls Church City Subregions	14,309	14,660	14,752	2.5%	0.6%
West Falls Church	14,309	14,660	14,752	2.5%	0.6%
Loudoun County Subregions	25,742	36,409	39,128	41.4%	7.5%
South Riding/Aldie	25,742	36,409	39,128	41.4%	7.5%
Prince William County Subregions	56,036	63,509	65,223	13.3%	2.7%
Manassas East	56,036	63,509	65,223	13.3%	2.7%
<b>Primary Service Area Total</b>	<b>1,119,459</b>	<b>1,169,661</b>	<b>1,183,048</b>	<b>4.5%</b>	<b>1.1%</b>
<b>Secondary Service Area</b>					
Fairfax County Subregions					
Dulles International Airport	-	-	-	-	-
Loudoun County	84,499	97,986	101,164	16.0%	3.2%
Sterling/Dulles	84,499	97,986	101,164	16.0%	3.2%
Manassas City Subregions	42,014	43,660	44,042	3.9%	0.9%
Manassas West	42,014	43,660	44,042	3.9%	0.9%
Prince William County Subregions	333,805	388,105	401,174	16.3%	3.4%
Manassas West	36,720	41,450	42,535	12.9%	2.6%
Gainesville/Haymarket/Bull Run	69,634	92,946	98,627	33.5%	6.1%
Dale City/Dumfries/Quantico	119,064	132,573	135,945	11.3%	2.5%
Woodbridge	50,058	56,942	58,511	13.8%	2.8%
Lake Ridge/Occoquan	58,329	64,194	65,557	10.1%	2.1%
<b>Secondary Service Area Total</b>	<b>460,318</b>	<b>529,751</b>	<b>546,380</b>	<b>15.1%</b>	<b>3.1%</b>
<b>Combined Service Areas Total</b>	<b>1,579,777</b>	<b>1,699,412</b>	<b>1,729,428</b>	<b>7.6%</b>	<b>1.8%</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 subregions of South Riding/Aldie and Gainesville/Haymarket/Bull Run are expecting the fastest growth (Exhibit 7).

Exhibit 7 maps the anticipated population change by ZIP code from 2013 to 2018. The highest population growth is anticipated in Loudoun and Prince William counties.

Exhibit 7: Population Change by ZIP Code, 2013-2018



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

Exhibit 8 indicates that the 65+ age cohort is expected to increase faster than the population of the community as a whole. The proportion aged 18 to 44 years is expected to decline.

**Exhibit 8: 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	25.4%	25.0%	24.8%	2.7%	0.6%
Female 18-44	17.2%	15.6%	15.3%	-5.2%	-1.0%
Male 18-44	17.6%	16.3%	16.0%	-3.2%	-0.6%
45-54	16.8%	16.2%	16.0%	0.4%	0.3%
55-64	13.3%	14.7%	14.9%	15.0%	2.9%
65+	9.6%	12.3%	12.9%	33.3%	6.2%
<b>Total</b>	<b>1,119,459</b>	<b>1,169,661</b>	<b>1,183,048</b>	<b>4.5%</b>	<b>1.1%</b>
<b>Secondary Service Area</b>					
0-17	28.5%	28.2%	28.1%	13.7%	2.9%
Female 18-44	20.8%	18.9%	18.5%	4.4%	0.9%
Male 18-44	21.4%	19.5%	19.1%	4.6%	0.9%
45-54	14.1%	15.0%	15.2%	23.1%	4.2%
55-64	8.9%	10.5%	10.8%	35.4%	6.4%
65+	6.2%	7.9%	8.3%	46.0%	8.4%
<b>Total</b>	<b>460,318</b>	<b>529,751</b>	<b>546,380</b>	<b>15.1%</b>	<b>3.1%</b>
<b>Combined Service Areas</b>					
0-17	26.3%	26.0%	25.9%	6.2%	1.4%
Female 18-44	18.3%	16.6%	16.3%	-2.0%	-0.3%
Male 18-44	18.7%	17.3%	17.0%	-0.6%	0.0%
45-54	16.0%	15.8%	15.8%	6.2%	1.5%
55-64	12.0%	13.4%	13.6%	19.4%	3.8%
65+	8.6%	10.9%	11.4%	36.0%	6.7%
<b>Total</b>	<b>1,579,777</b>	<b>1,699,412</b>	<b>1,729,428</b>	<b>7.6%</b>	<b>1.8%</b>

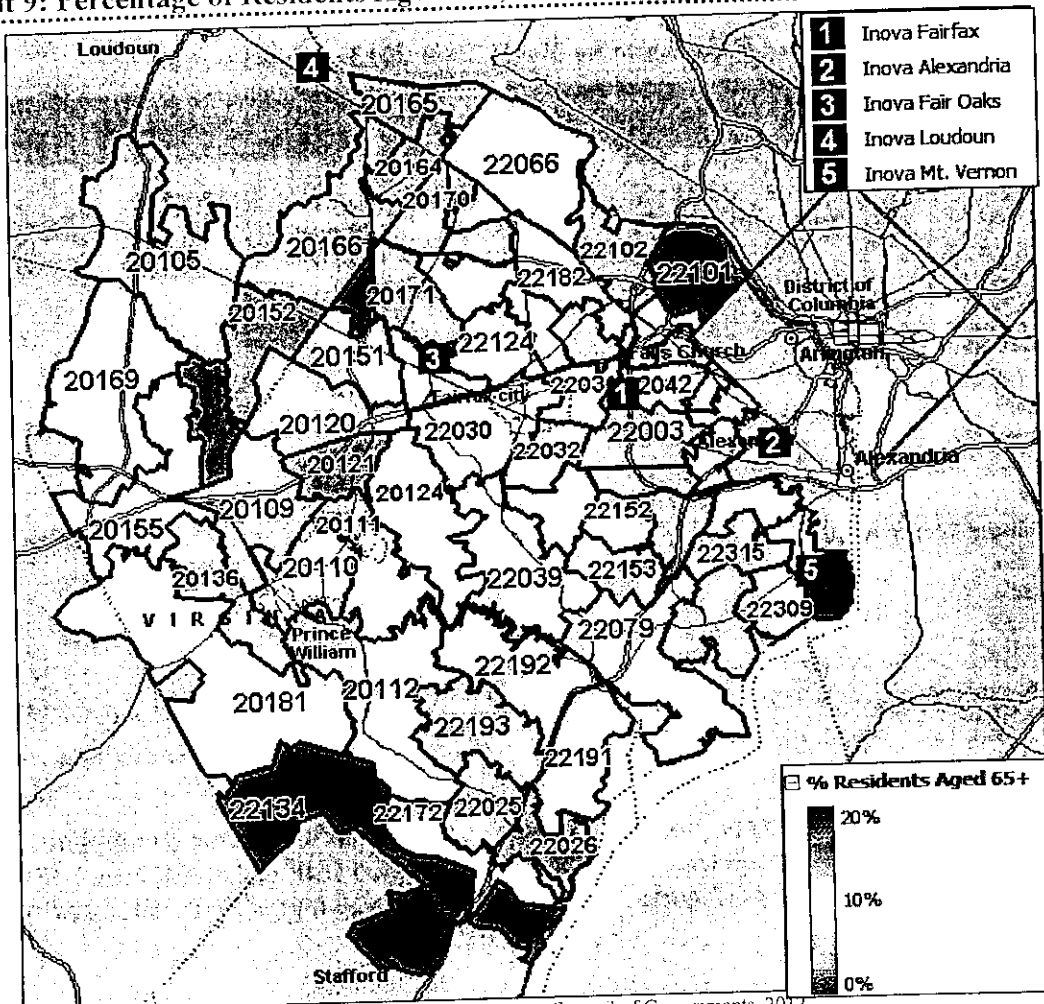
Source: The Metropolitan Washington Council of Governments, 2012.

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



The proportion of the population 65 years of age and older varies by ZIP code. The subregions of Mt. Vernon South/Ft. Belvoir and Mclean/Great Falls (ZIP codes 22308 and 22101, respectively) have comparatively high proportions of this population (Exhibit 9).

**Exhibit 9: 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*

...

*Areas most proximate to Inova Fairfax Medical Campus have higher proportions of the population aged 65+*

In 2008, about 63 percent of the community's population was White. Non-White populations are expected to grow faster than White populations in the community. The Asian and "Other" populations are expected to increase the most (**Exhibit 10**). The growing diversity of the community is important to recognize given health disparities present. There is a need to enhance the cultural competency of health care providers.

**Exhibit 10: Distribution of Population by Race, 2008-2013 and 2013-2018**

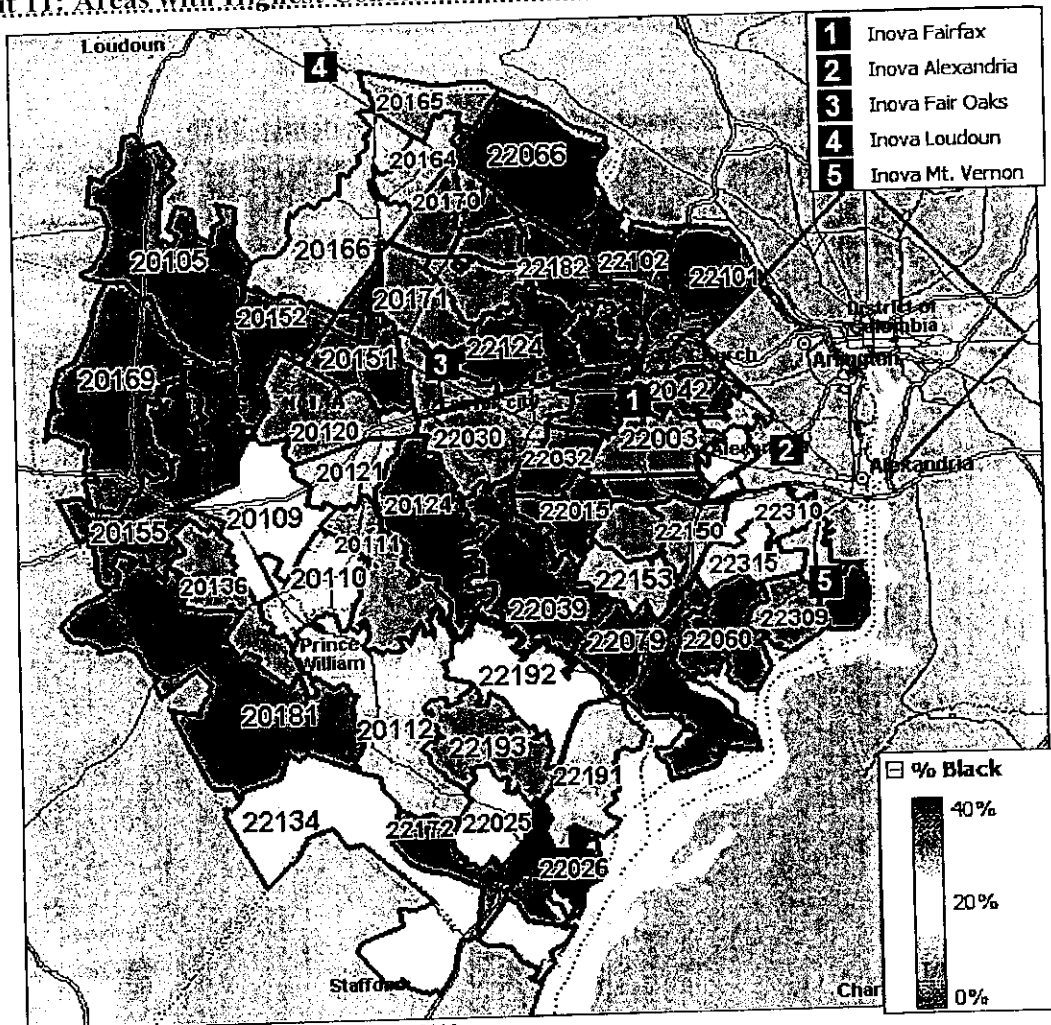
Racial Cohort	Community Population			% Change in Population	
	2008	2013	2018	2008-2013	2013-2018
<b>Primary Service Area</b>					
Asian	15.1%	16.8%	17.2%	16.3%	3.3%
Black	9.4%	9.9%	10.0%	10.2%	2.1%
Other	10.0%	11.0%	11.2%	15.3%	3.1%
White	65.6%	62.3%	61.6%	-0.7%	0.0%
<b>Total</b>	<b>1,119,459</b>	<b>1,169,661</b>	<b>1,182,234</b>	<b>4.5%</b>	<b>1.1%</b>
<b>Secondary Service Area</b>					
Asian	9.9%	12.8%	13.4%	50.1%	8.6%
Black	17.6%	17.8%	17.7%	16.7%	3.2%
Other	14.6%	18.0%	18.7%	42.9%	7.7%
White	58.0%	51.4%	50.2%	2.4%	1.3%
<b>Total</b>	<b>458,711</b>	<b>529,939</b>	<b>549,721</b>	<b>15.5%</b>	<b>3.7%</b>
<b>Combined Service Areas</b>					
Asian	13.6%	15.6%	16.0%	23.4%	4.6%
Black	11.8%	12.3%	12.4%	13.1%	2.6%
Other	11.3%	13.2%	13.6%	25.7%	5.0%
White	63.4%	58.9%	58.0%	0.1%	0.3%
<b>Total</b>	<b>1,578,170</b>	<b>1,699,600</b>	<b>1,731,955</b>	<b>7.7%</b>	<b>1.9%</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 11** portrays the concentration of Black residents in the Inova Fairfax community. Black populations are most prevalent in Dale City/Dumfries/Quantico (ZIP codes 22026 and 22172), Mt. Vernon South/Ft. Belvoir (ZIP code 22060), and Lorton/Newington (ZIP code 22079).

**Exhibit 11: Areas with Highest Concentration of Black Residents, 2008**



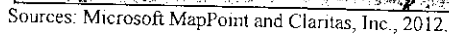
Sources: Microsoft MapPoint and Claritas, Inc., 2012.

*Black populations are expected to increase by 13% between 2008 and 2013 and 3% between 2013 and 2018*

...

*Black populations are most prevalent in Prince William and Fairfax counties along the Richmond Highway corridor*

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



...

**VERITÉ HEALTHCARE CONSULTING**

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 Fairfax community is projected to experience growth in the Hispanic (or Latino) population of approximately 30 percent between 2008 and 2013 and six percent between 2013 and 2018. Growth is particularly high in the hospital's secondary service area (Exhibit 13).

**Exhibit 13: Distribution of Population by Ethnicity, 2008-2013 and 2013-2018**

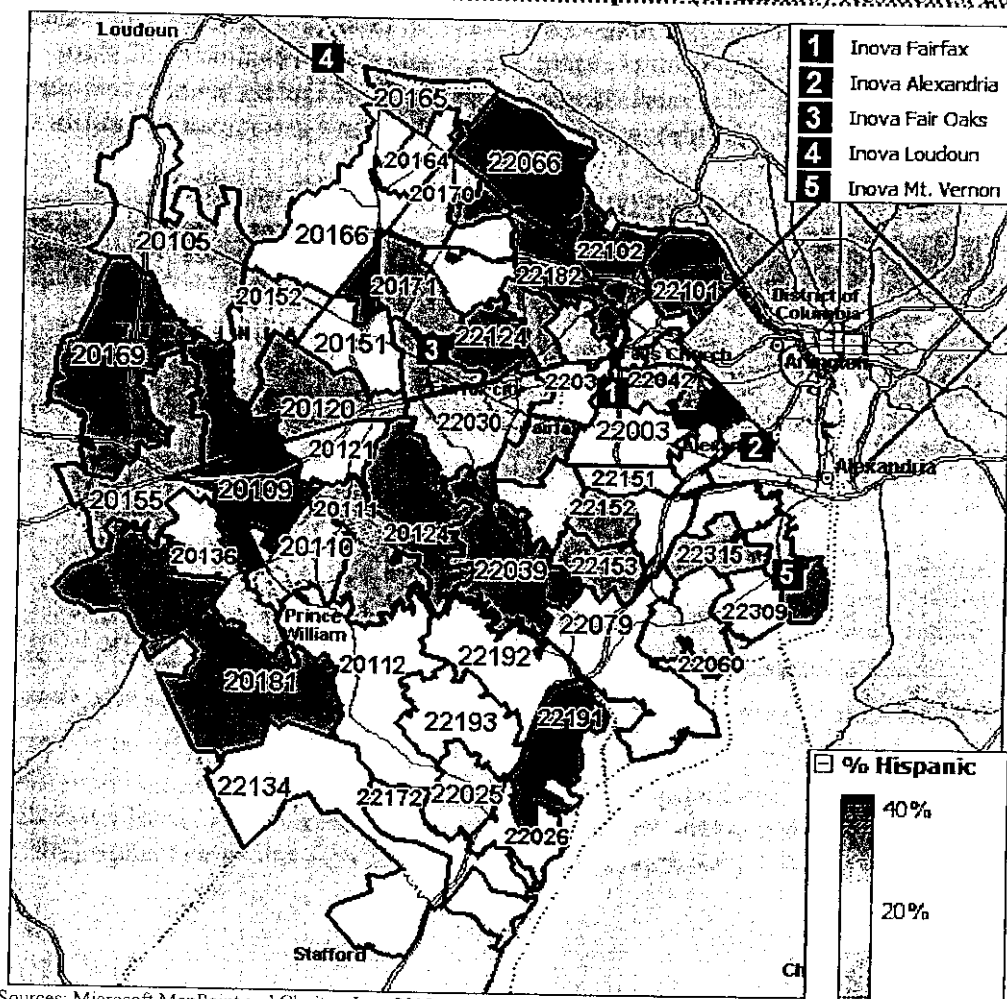
Ethnic Cohort	Community Population			% Change in Population	
	2008	2013	2018	2008-2013	2013-2018
<b>Primary Service Area</b>					
Hispanic (or Latino)	13.5%	15.2%	15.5%	17.8%	3.6%
Not Hispanic (or Latino)	86.5%	84.8%	84.5%	2.4%	0.6%
<b>Total</b>	<b>1,119,459</b>	<b>1,169,661</b>	<b>1,182,234</b>	<b>4.5%</b>	<b>1.1%</b>
<b>Secondary Service Area</b>					
Hispanic (or Latino)	20.8%	27.1%	28.4%	50.3%	8.7%
Not Hispanic (or Latino)	79.2%	72.9%	71.6%	6.4%	1.9%
<b>Total</b>	<b>458,711</b>	<b>529,939</b>	<b>549,721</b>	<b>15.5%</b>	<b>3.7%</b>
<b>Combined Service Areas</b>					
Hispanic (or Latino)	15.6%	18.9%	19.6%	30.4%	5.8%
Not Hispanic (or Latino)	84.4%	81.1%	80.4%	3.5%	1.0%
<b>Total</b>	<b>1,578,170</b>	<b>1,699,600</b>	<b>1,731,955</b>	<b>7.7%</b>	<b>1.9%</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 14 illustrates the concentration of Hispanic (or Latino) residents in the Inova Fairfax community. Hispanic communities appear to be most highly concentrated in Lincolnia/Bailey's Crossroads (ZIP code 22041), Manassas West (ZIP code 22109), and Woodbridge (ZIP code 22191).

Exhibit 14: 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 Lincolnia/Bailey's Crossroads (ZIP code 22041), Manassas West (ZIP code 22109), and Woodbridge (ZIP code 22191)*

Other demographic characteristics are presented in **Exhibit 15**.

**Exhibit 15: Prevalence of Demographic Indicators and Variation from the Commonwealth of Virginia, 2010**

Demographic Indicators	Fairfax County	Loudoun County	Prince William County	Virginia	U.S.
Total Population With Any Disability	6.0%	4.5%	6.0%	10.8%	11.9%
Population 0-18 With Any Disability	2.2%	1.9%	2.0%	3.4%	4.0%
Population 18-64 With Any Disability	4.5%	3.7%	5.6%	8.9%	10.0%
Population 65+ With Any Disability	25.9%	26.6%	28.1%	35.1%	36.7%
Residents 25+ Who Did Not Graduate High School	8.4%	6.6%	12.4%	13.5%	14.4%
Residents 5+ Who Are Linguistically Isolated	15.0%	9.4%	13.5%	5.7%	8.7%
Housing Units With No Car	4.0%	2.9%	3.1%	6.2%	9.1%

Source: U.S. Census Bureau, 2012.

These characteristics include:

- In 2010, the three counties presented had lower percentages of disabled residents than Virginia and national averages. More community residents aged 25 and older have graduated from high school than the Virginia and national averages. Prince William County had the highest non-graduation rate at 12 percent.
- All three counties had a higher percentage of linguistically isolated individuals than the Virginia and national averages, with Fairfax County having the highest percentage at 15 percent. 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.”

## 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. Manassas City reported a poverty rate in 2010 that was higher than the Virginia average (**Exhibit 16**). The pediatric population in all jurisdictions except Falls Church City reports a higher poverty rate than the adult population.

**Exhibit 16: Percent of People in Poverty, 2010**

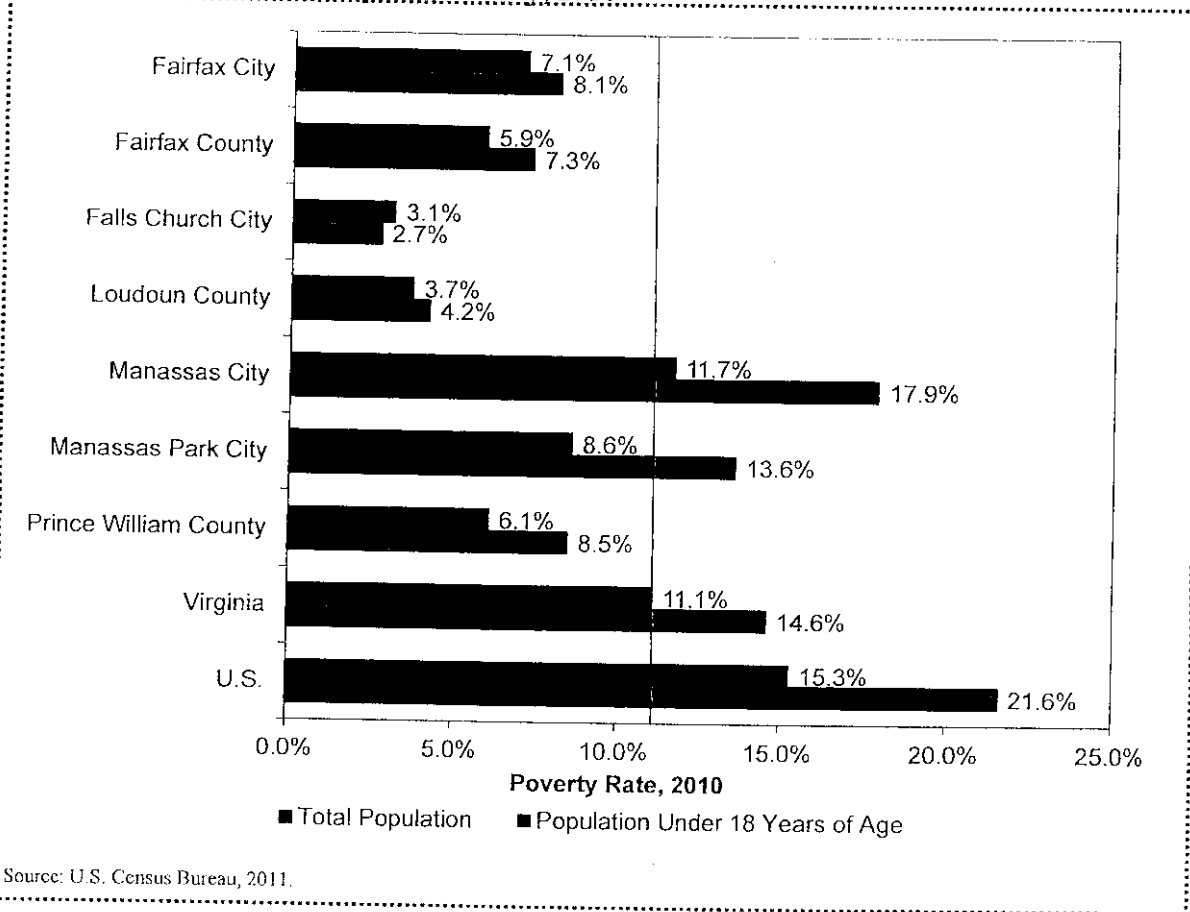
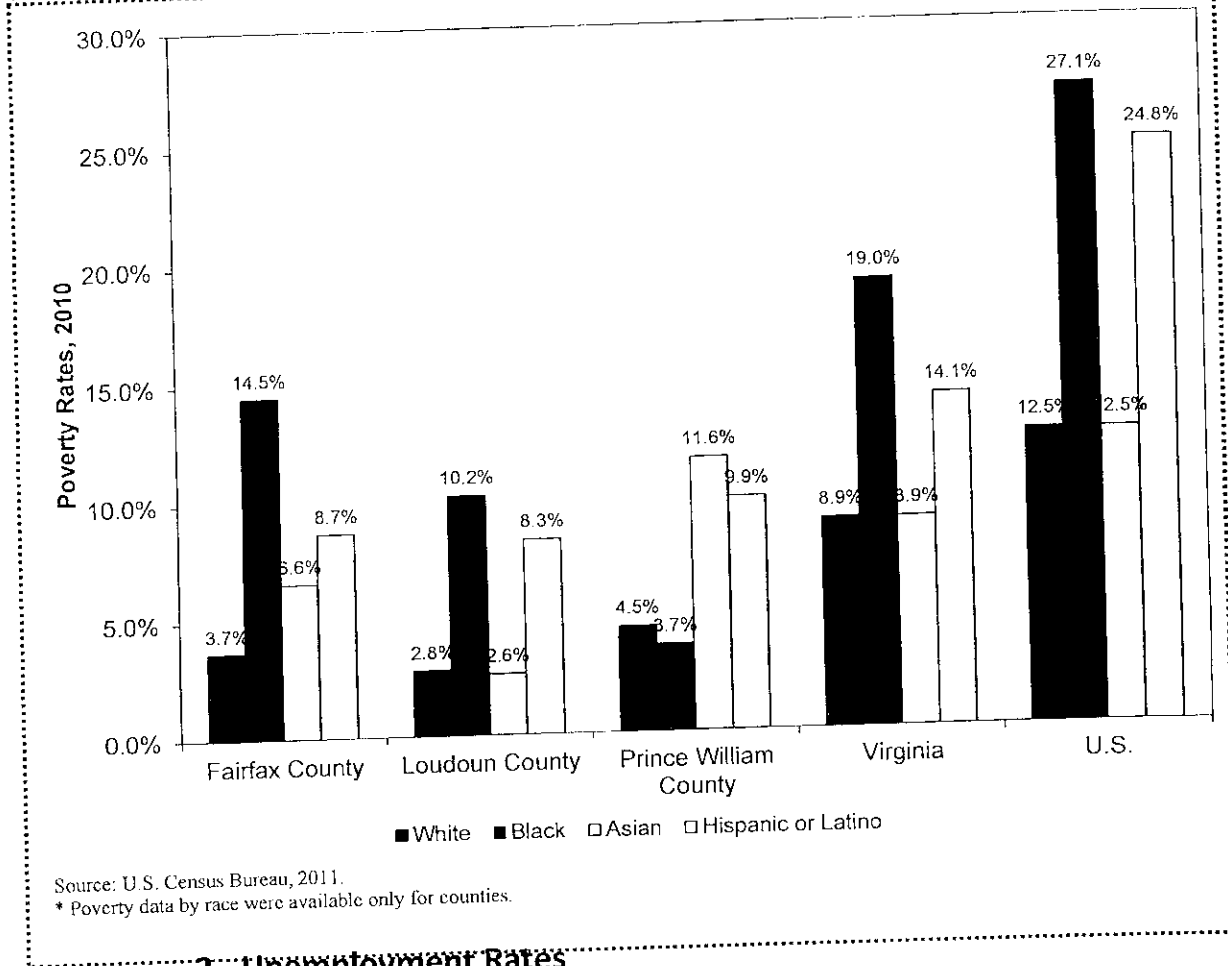


Exhibit 17 presents poverty rates by race. The poverty rates for the Black and Hispanic (or Latino) populations of Fairfax and Loudoun counties and the Asian and Hispanic (or Latino) populations of Prince William County were higher than other groups.



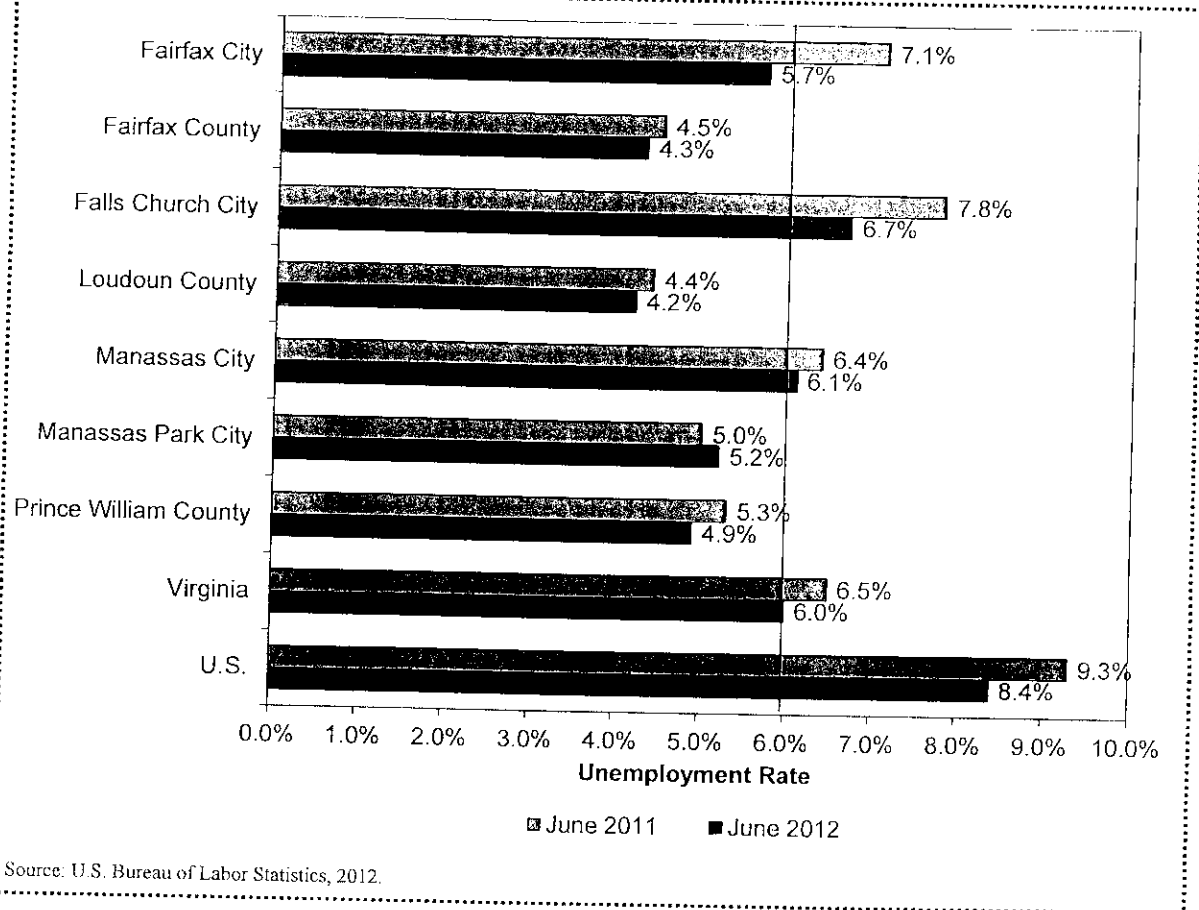
**Exhibit 17: Percent of People in Poverty by Race, 2010\***



## 2. Unemployment Rates

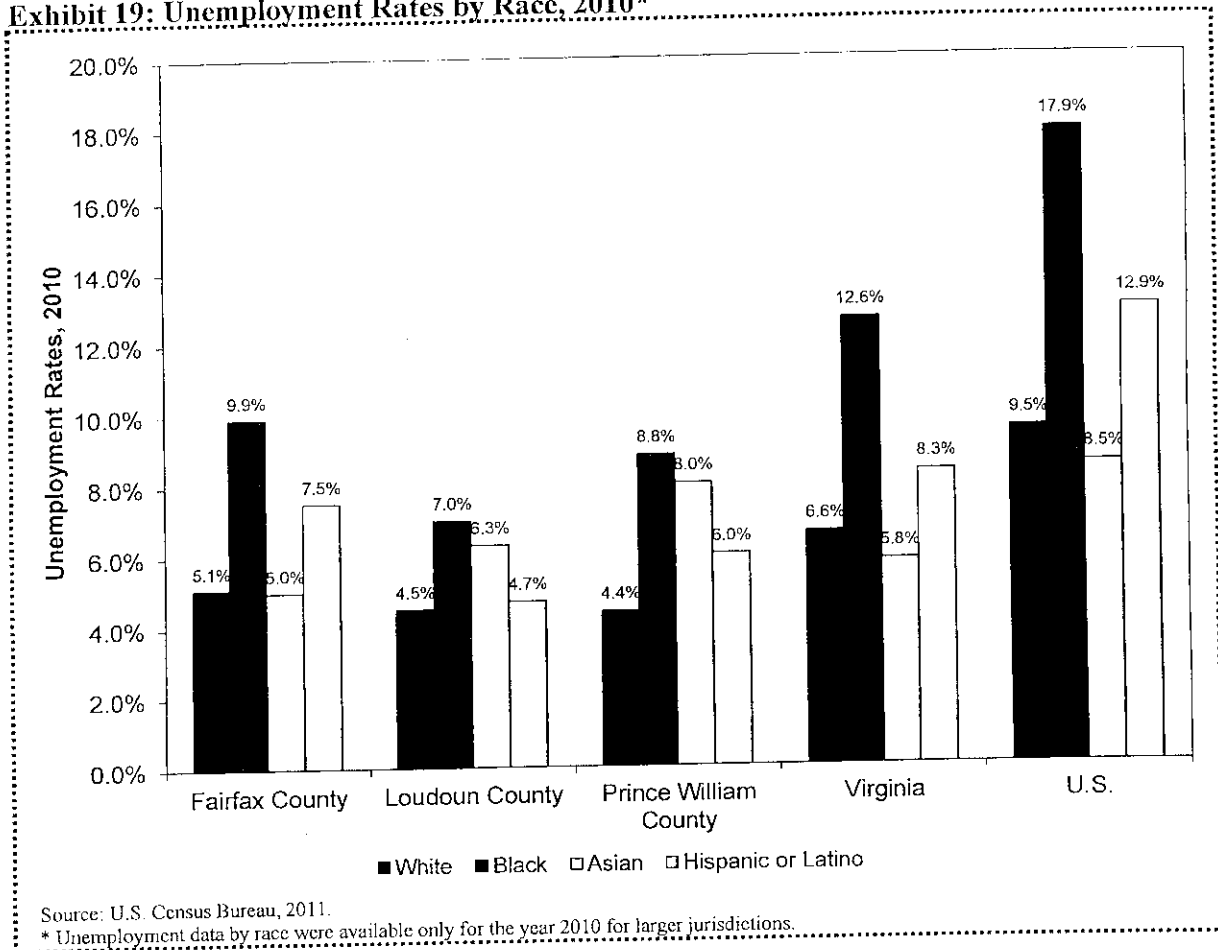
Falls Church City and Manassas City reported higher unemployment rates in 2012 than the Virginia average (**Exhibit 18**). High unemployment rates are associated with high numbers of uninsured people due to the lack of employer-based insurance.

**Exhibit 18: Unemployment Rates, 2011 and 2012**



The unemployment rate was highest for the Black populations in all areas for which data are available (**Exhibit 19**).

**Exhibit 19: Unemployment Rates by Race, 2010\***



### 3. Homelessness

Since 2001, the Metropolitan Washington Council of Governments has conducted an annual count of the homeless population in the metropolitan region. Of the three counties served by the hospital, Fairfax County reported the highest rates of homelessness between 2008 and 2011 (**Exhibit 20**). Rates of homelessness appear to have decreased between 2008 and 2011.

## Exhibit 20: Homelessness Rates by Jurisdiction, 2008-2011

Jurisdiction	Homelessness Rate				Percent Change in Rates 2008- 2011
	2008	2009	2010	2011	
Fairfax County	17.4	16.1	14.3	13.6	-21.6%
Loudoun County	5.9	5.0	5.4	4.8	-18.2%
Prince William County	13.3	14.7	11.4	12.0	-10.4%
<b>Total</b>	<b>14.5</b>	<b>13.9</b>	<b>12.1</b>	<b>11.7</b>	<b>-19.3%</b>
<b>Northern Virginia</b>	<b>15.7</b>	<b>15.6</b>	<b>14.4</b>	<b>13.7</b>	<b>-12.6%</b>

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

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. Manassas City reported higher rates of total violent crime, robbery, and aggravated assault than the Virginia average in 2010, while Manassas City and Manassas Park City reported higher rates of forcible rape than Virginia and national averages (Exhibit 21).

## Exhibit 21: Violent Crime Rates, 2010

Jurisdiction	Population 2010	Violent Crime Rates per 100,000 Population				
		Total Violent Crime	Murder and Non-negligent Manslaughter	Forcible Rape	Robbery	Aggravated Assault
Fairfax City	22,058	136.0	0.0	13.6	45.3	77.1
Fairfax County	1,048,554	92.6	2.2	12.1	36.5	41.8
Falls Church City	11,465	113.4	0.0	8.7	52.3	52.3
Loudoun County	291,653	64.8	0.0	9.9	12.0	42.9
Manassas City	36,067	379.8	2.8	41.6	152.5	183.0
Manassas Park City	13,195	136.4	0.0	53.1	45.5	37.9
Prince William County	379,415	163.4	2.4	10.3	60.1	90.7
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);
- **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 non-general 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, service area counties' proposed FY 2013 budgets include the following changes.

- **Fairfax County:**<sup>7</sup>
  - A decrease of about 4 percent since 2011 in the Fairfax County Health Department; and
  - A decrease of about 3 percent since 2011 in the total health and welfare department, including the Department of Family Services, Department of Administration for Human Services, the Health Department, the Office to Prevent and End Homelessness, and the Department of Neighborhood and Community Services.

- **Loudoun County:**<sup>8</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.

- **Prince William County:**<sup>9</sup>

- A projected increase in expenditures of 4 percent in maternal and child health between 2012 and 2013;
- A projected increase in emergency preparedness of 5 percent in emergency preparedness between 2012 and 2013;
- A projected increase in environmental health of 5 percent in environmental health between 2012 and 2013;
- An increase in the free clinic budget from \$70,800 to \$72,925; and
- An increase in the total public health budget from \$287,245 to \$295,863.

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 housing 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).

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. Fairfax County, Loudoun County, Manassas Park City, and Prince William County all reported average months on the waiting list for Section 8 housing certificates and vouchers that were equal to or greater than the Virginia average. Average household and federal contributions for these areas are noticeably higher than the U.S. and Virginia averages (**Exhibit 22**).

**Exhibit 22: Waiting Time for Section 8 Housing Certificates and Vouchers by Jurisdiction, 2009**

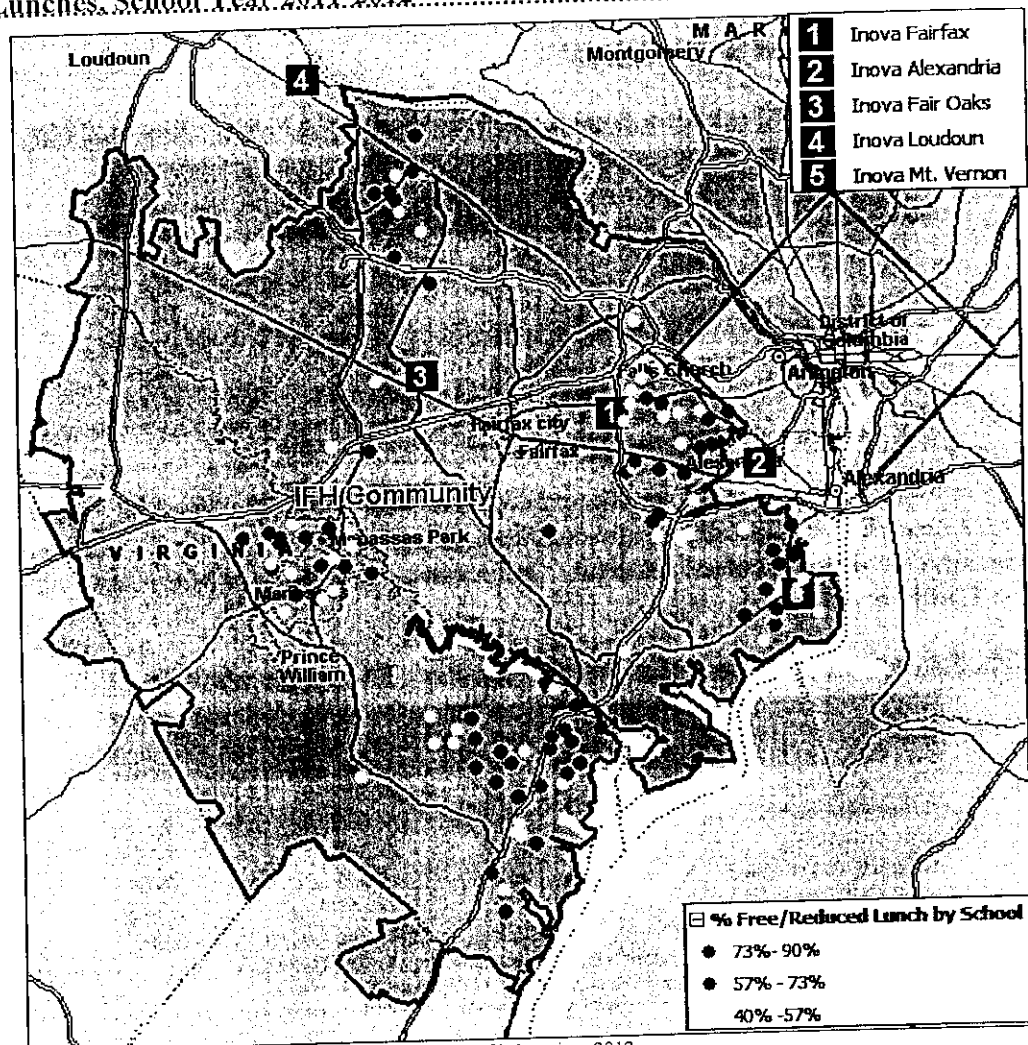
Jurisdiction	Number of Participating Households	Spending per Unit per Month		
		Average Household Contribution	Average Federal Contribution	Average Months on Waiting List
Fairfax County	3,136	\$462	\$1,068	10
Fairfax City	36	\$360	\$1,030	0
Falls Church City	113	\$299	\$949	8
Loudoun County	706	\$464	\$953	20
Manassas City	238	\$356	\$984	8
Manassas Park City	78	\$385	\$1,076	17
Prince William County	1,844	\$462	\$1,031	13
Virginia	42,727	\$359	\$676	10
U.S.	2,071,161	\$335	\$657	14

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, designed to ensure that students meet grade-level proficiency standards. In the Inova Fairfax community, 112 out of 324 schools had greater than 40 percent of the student body eligible for free or reduced-cost lunches (**Exhibit 23**). These schools are located near Sterling/Dulles, Manassas and Manassas Park cities, Lincolnia/Bailey's Crossroads, East Fairfax 29/50 Corridor, and along the Richmond Highway Corridor.



**Exhibit 23: Public Schools with Over 40 Percent of Students Eligible for Free or Reduced Price Lunches, School Year 2011-2012**



Sources: Microsoft MapPoint and Virginia Department of Education, 2012.

**Exhibit 24** 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. Ten percent of residents in Manassas City were enrolled in SNAP in 2010.

**Exhibit 24: Supplemental Nutrition Assistance Program (SNAP) Enrollment, 2010**

Jurisdiction	Average SNAP Enrollment	Total Population	Percent of Total Population
Fairfax County	36,958.8	1,082,077	3.4%
Loudoun County	7,428.0	291,653	2.5%
Manassas City	3,648.1	36,067	10.1%
Manassas Park City	1,164.3	13,195	8.8%
Prince William County	23,915.4	379,415	6.3%
<b>Virginia</b>	<b>806,895.3</b>	<b>7,841,754</b>	<b>10.3%</b>

Source: Enrollment data was 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 25** 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. One percent of residents in Manassas City were enrolled in TANF in 2010.

**Exhibit 25: Temporary Assistance for Needy Families (TANF) Enrollment, 2010**

Jurisdiction	Average TANF Enrollment	Total Population	Percent of Total Population
Fairfax County	3,177.0	1,082,077	0.3%
Loudoun County	599.3	291,653	0.2%
Manassas City	455.8	36,067	1.3%
Manassas Park City	94.4	13,195	0.7%
Prince William County	2,940.8	379,415	0.8%
<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 Fairfax community and in 2008, approximately six percent of all households had incomes below \$25,000, an approximation of the federal poverty level (FPL) for a family of four; 20 percent had incomes less than \$50,000, an approximation of 200 percent of the FPL for a family of four (**Exhibit 26**). FPL is used by many agencies and organizations to assess household needs for low-income assistance programs.

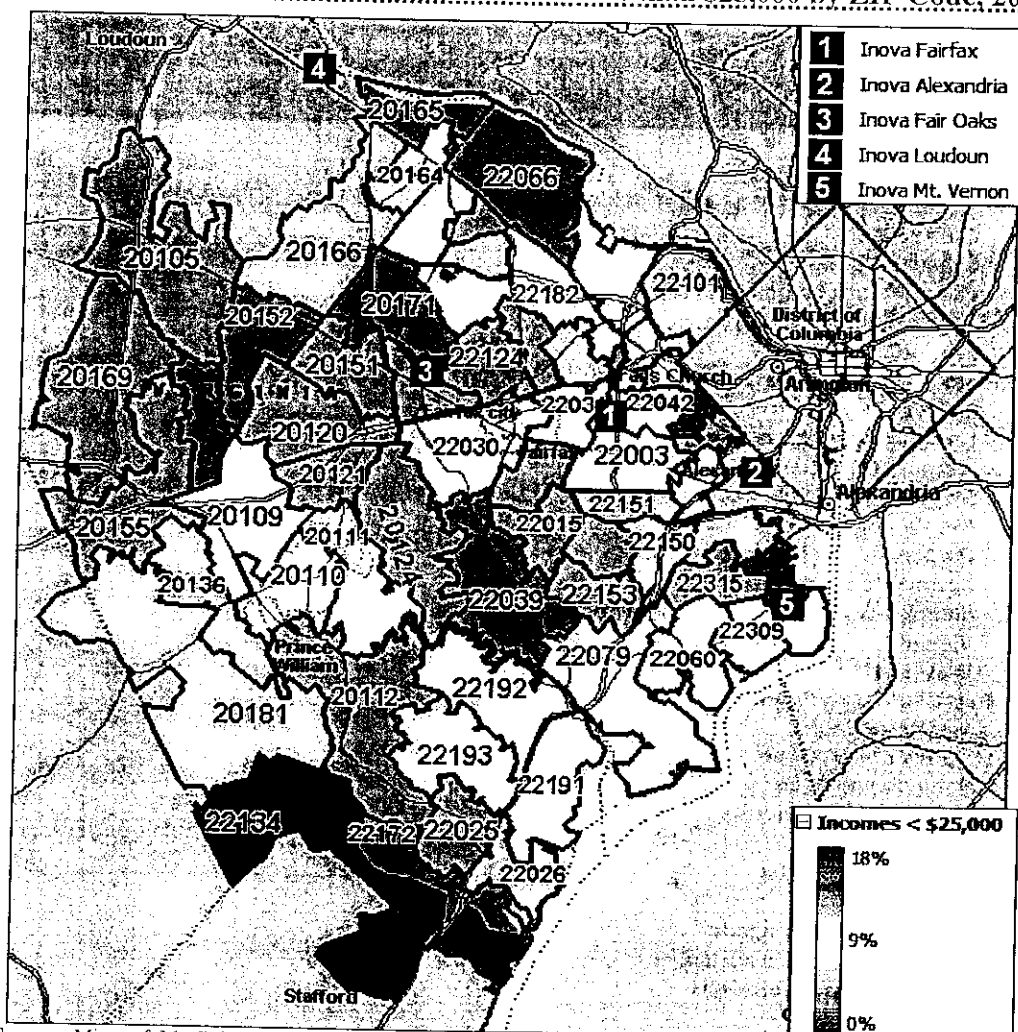
**Exhibit 26: Percent Low-Income Households by Subregion, 2008**

Subregion	Number of Households 2008	Average Household Income	Percent Less Than \$25,000	Percent Less Than \$50,000
<b>Primary Service Area</b>				
Fairfax County Subregions	369,809	126,473	6.2%	18.5%
Annandale/North Springfield	24,067	107,800	7.8%	22.3%
Centreville	23,466	114,407	3.7%	15.6%
Chantilly	6,126	125,436	3.6%	13.2%
Clifton/Fairfax Station	10,955	185,802	2.4%	8.2%
EastFairfax29/50Corridor	26,860	100,977	10.3%	27.0%
Fairfax City	16,104	119,960	5.9%	18.4%
Franconia/Kingstowne	21,725	115,555	3.8%	13.2%
GMU/Burke	23,749	128,678	3.8%	11.3%
Lincolnia/Bailey's Crossroads	19,985	90,395	12.1%	33.4%
Lorton/Newington	9,523	105,334	5.8%	20.6%
McLean/Great Falls	24,798	199,020	5.0%	12.8%
Mt. Vernon South/Ft. Belvoir	28,979	98,789	11.6%	32.4%
Oakton/Fair Lakes/South Herndon	34,746	155,886	3.2%	12.1%
Reston/Herndon	37,447	99,599	7.3%	20.0%
Springfield	29,598	116,592	4.3%	14.6%
Vienna	22,838	155,869	4.7%	13.1%
West Falls Church	8,843	115,353	6.2%	19.0%
Falls Church City Subregions	5,837	117,904	8.2%	21.6%
West Falls Church	5,837	117,904	8.2%	21.6%
Loudoun County Subregions	9,771	129,456	2.9%	11.6%
South Riding/Aldie	9,771	129,456	2.9%	11.6%
Prince William County Subregions	17,810	112,745	5.8%	16.6%
Manassas East	17,810	112,745	5.8%	16.6%
<b>Primary Service Area Total</b>	<b>403,227</b>	<b>125,820</b>	<b>6.2%</b>	<b>17.5%</b>
<b>Secondary Service Area</b>				
Fairfax County Subregions	-	-	-	-
Dulles International Airport	29,885	105,308	3.8%	17.7%
Loudoun County Subregions	29,885	105,308	4.4%	17.7%
Sterling/Dulles	13,821	88,610	8.8%	27.9%
Manassas City Subregions	13,821	88,610	8.8%	27.9%
Manassas West	113,239	97,134	6.7%	23.8%
Prince William County Subregions	13,811	80,393	11.2%	34.8%
Manassas West	36,858	122,028	6.4%	22.3%
Dale City/Dumfries/Quantico	23,810	101,800	3.7%	13.0%
Gainesville/Haymarket/Bull Run	17,141	74,654	9.9%	37.3%
Lake Ridge/Occoquan	21,619	74,186	5.3%	20.9%
Woodbridge	158,924	92,627	6.7%	23.8%
<b>Secondary Service Area Total</b>	<b>562,151</b>	<b>109,223</b>	<b>6.3%</b>	<b>19.9%</b>
<b>Combined Service Areas Total</b>				

Source: Claritas, Inc., 2012.

The highest proportions of households with incomes under \$25,000 in 2010 were located in Dale City/Dumfries/Quantico (ZIP codes 22134 and 22172), East Fairfax 29/50 Corridor (ZIP code 22044), and Mt. Vernon South/Ft. Belvoir (ZIP code 22306). At 1.5 and 1.7 percent, Clifton/Fairfax Station (ZIP code 22039) and Vienna (ZIP code 22027) had the lowest proportions (Exhibit 27).

Exhibit 27: Percent of Households with Incomes Less than \$25,000 by ZIP Code, 2008



Sources: Microsoft MapPoint and Claritas, Inc., 2012.

*Dale City/Dumfries/Quantico (ZIP code 22134) had the highest proportion of lower-income households:*

*17%*

...

*Clifton/Fairfax Station (ZIP code 22039) had the lowest proportion: under 2%*

## 8. Insurance Status

**Exhibit 28** indicates that in 2010, a higher percentage of residents in Fairfax and Prince William counties were uninsured than the Virginia average.

**Exhibit 28: Uninsured Population by Age Cohort and Jurisdiction, 2010**

Jurisdiction	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
Fairfax County	13.5%	8.4%	11.9%	2.1%	3.0%	17.0%
Loudoun County	8.2%	4.2%	6.6%	1.7%	2.1%	10.4%
Prince William County	14.8%	7.4%	12.6%	2.8%	4.2%	19.6%
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 29** portrays the distribution of community-wide discharges by subregion and by payer. This helps identify where the uninsured (self-pay) and Medicaid recipients live across the community.

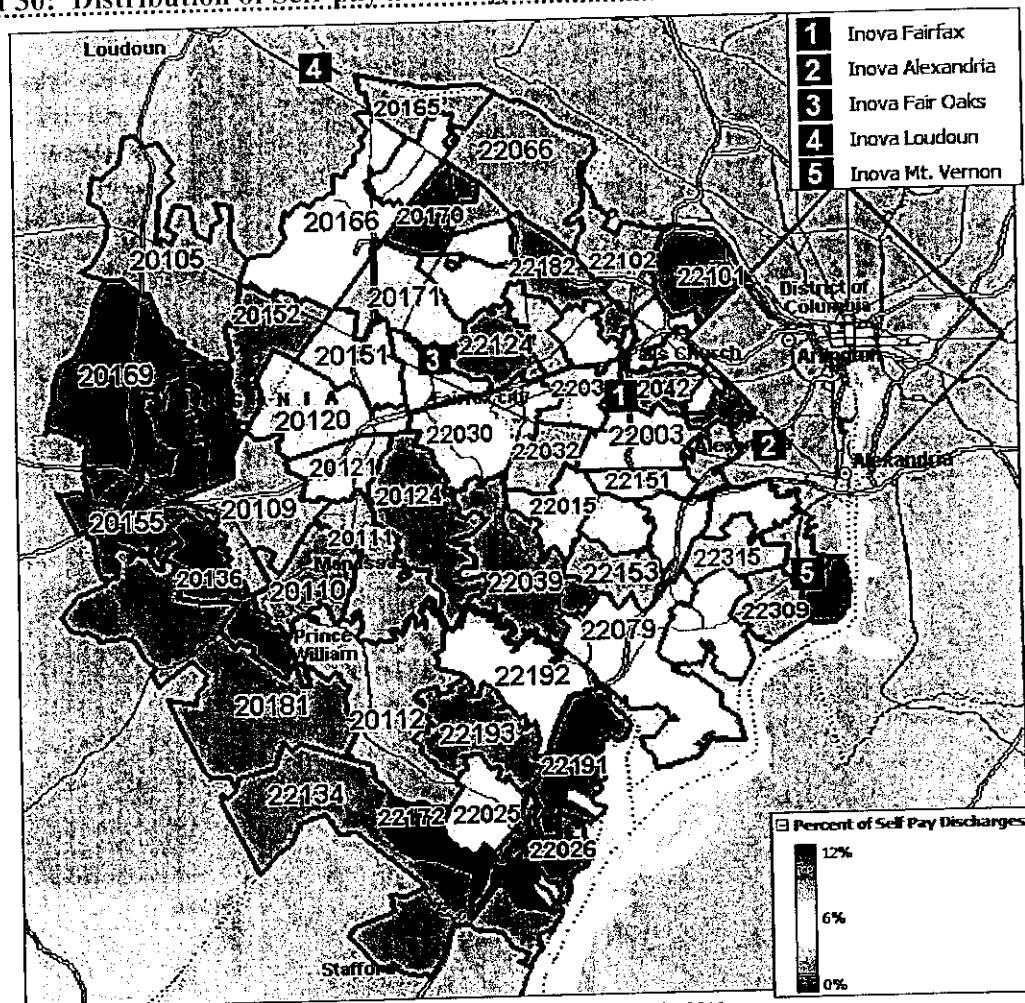
**Exhibit 29: Community-Wide Discharges by Subregion and Payer, 2010**

Subregion	2010						Unknown/ Missing
	Discharges	Medicaid	Medicare	Other	Private	Self-pay	
<b>Primary Service Area</b>							
<b>Fairfax County Subregions</b>	<b>61,431</b>	<b>10.2%</b>	<b>33.0%</b>	<b>0.9%</b>	<b>50.2%</b>	<b>5.4%</b>	<b>0.1%</b>
Annandale/North Springfield	4,581	13.3%	38.3%	1.1%	40.2%	7.2%	0.0%
Centreville	3,297	9.8%	18.6%	1.0%	66.4%	3.7%	0.5%
Chantilly	1,118	13.8%	23.0%	1.0%	57.4%	4.7%	0.1%
Clifton/Fairfax Station	1,550	2.5%	34.1%	0.5%	60.9%	1.8%	0.2%
East Fairfax 29/50 Corridor	4,790	16.0%	31.6%	1.5%	43.4%	7.3%	0.1%
Fairfax City	3,165	6.6%	39.4%	0.8%	48.6%	4.3%	0.2%
Franconia/Kingstowne	3,082	6.8%	33.5%	0.7%	54.3%	4.6%	0.1%
GMU/Burke	3,713	5.1%	34.8%	0.8%	56.0%	3.3%	0.0%
Lincolnia/Bailey's Crossroads	3,846	19.3%	29.7%	0.9%	40.5%	9.2%	0.3%
Lorton/Newington	1,583	12.1%	24.3%	1.5%	55.7%	6.2%	0.2%
McLean/Great Falls	3,173	1.8%	46.7%	1.0%	48.1%	2.4%	0.0%
Mt. Vernon South/Ft. Belvoir	5,936	17.4%	37.0%	1.0%	37.6%	7.0%	0.1%
Oakton/Fair Lakes/South Herndon	5,010	5.5%	26.3%	0.4%	64.2%	3.4%	0.1%
Reston/Herndon	6,467	10.2%	28.9%	0.7%	52.4%	7.7%	0.1%
Springfield	5,334	9.8%	37.2%	1.1%	47.3%	4.5%	0.1%
Vienna	3,499	5.4%	36.6%	0.5%	54.2%	3.3%	0.0%
West Falls Church	1,287	9.2%	31.4%	1.2%	51.9%	6.2%	0.1%
<b>Falls Church City Subregions</b>	<b>810</b>	<b>5.7%</b>	<b>39.9%</b>	<b>1.0%</b>	<b>48.9%</b>	<b>4.6%</b>	<b>0.0%</b>
West Falls Church	810	5.7%	39.9%	1.0%	48.9%	4.6%	0.0%
<b>Loudoun County Subregions</b>	<b>1,579</b>	<b>3.3%</b>	<b>15.0%</b>	<b>0.8%</b>	<b>78.5%</b>	<b>2.4%</b>	<b>0.0%</b>
South Riding/Aldie	1,579	3.3%	15.0%	0.8%	78.5%	2.4%	0.0%
<b>Prince William County Subregions</b>	<b>3,497</b>	<b>10.1%</b>	<b>27.5%</b>	<b>1.9%</b>	<b>53.7%</b>	<b>2.8%</b>	<b>4.0%</b>
Manassas East	3,497	10.1%	27.5%	1.9%	53.7%	2.8%	4.0%
<b>Primary Service Area Total</b>	<b>67,317</b>	<b>10.0%</b>	<b>32.4%</b>	<b>1.0%</b>	<b>51.1%</b>	<b>5.2%</b>	<b>0.3%</b>
<b>Secondary Service Area</b>							
<b>Fairfax County Subregions</b>							
Dulles International Airport	-	-	-	-	-	-	-
<b>Loudoun County Subregions</b>	<b>4,720</b>	<b>12.0%</b>	<b>25.3%</b>	<b>0.8%</b>	<b>56.5%</b>	<b>5.3%</b>	<b>0.1%</b>
Sterling/Dulles	4,720	12.0%	25.3%	0.8%	56.5%	5.3%	0.1%
<b>Manassas City Subregions</b>	<b>3,107</b>	<b>13.6%</b>	<b>28.8%</b>	<b>1.8%</b>	<b>47.4%</b>	<b>2.3%</b>	<b>6.1%</b>
Manassas West	3,107	13.6%	28.8%	1.8%	47.4%	2.3%	6.1%
<b>Prince William County Subregions</b>	<b>22,377</b>	<b>13.2%</b>	<b>25.7%</b>	<b>2.0%</b>	<b>51.4%</b>	<b>6.2%</b>	<b>1.6%</b>
Dale City/Dumfries/Quantico	7,699	15.8%	23.0%	2.1%	49.6%	8.7%	0.9%
Gainesville/Haymarket/Bull Run	4,613	3.7%	30.8%	1.4%	60.9%	1.2%	2.0%
Lake Ridge/Occoquan	3,254	9.2%	28.3%	2.0%	54.5%	5.5%	0.5%
Manassas West	2,594	19.0%	23.1%	2.2%	47.1%	2.6%	6.0%
Woodbridge	4,217	18.2%	24.6%	2.2%	44.5%	9.9%	0.6%
<b>Secondary Service Area Total</b>	<b>30,204</b>	<b>13.0%</b>	<b>26.0%</b>	<b>1.8%</b>	<b>51.8%</b>	<b>5.7%</b>	<b>1.8%</b>
<b>Combined Service Areas Total</b>	<b>97,521</b>	<b>10.9%</b>	<b>30.4%</b>	<b>1.2%</b>	<b>51.3%</b>	<b>5.3%</b>	<b>0.8%</b>

Source: Health Systems Agency of Northern Virginia, 2011.

Medicaid and self-pay discharges were most prevalent in Manassas City and in certain areas of Prince William and Fairfax counties (e.g., Bailey's Crossroads, Mt. Vernon, Manassas) (Exhibits 30, 31, and 32).

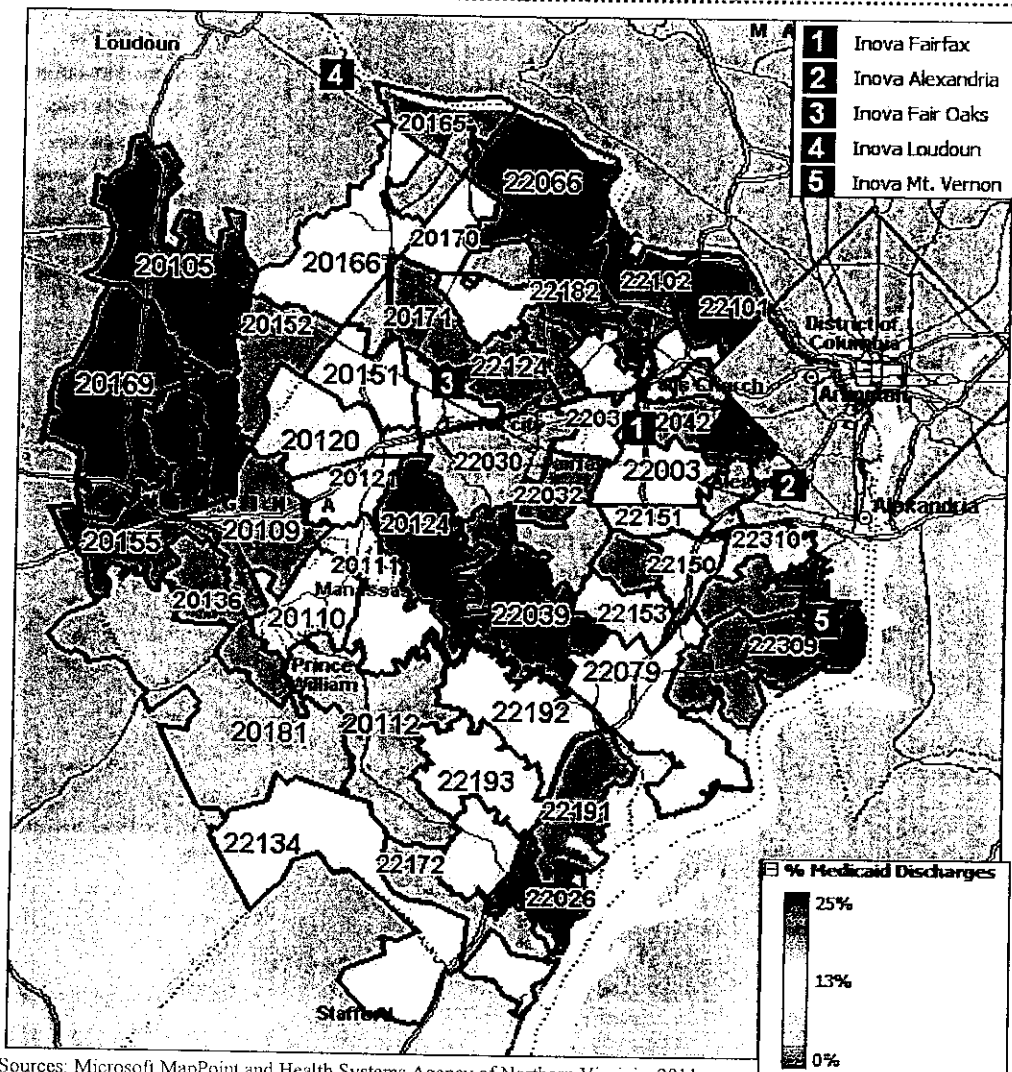
**Exhibit 30: Distribution of Self-pay Discharges by ZIP Code, 2010**



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

*A comparatively high proportion of self-pay discharges were found in Reston/Herndon (ZIP codes 20192 and 20170) and Dale City/Dumfries/Quantico (ZIP codes 22172 and 22026)*

Exhibit 31: Distribution of Medicaid Discharges by ZIP Code, 2010

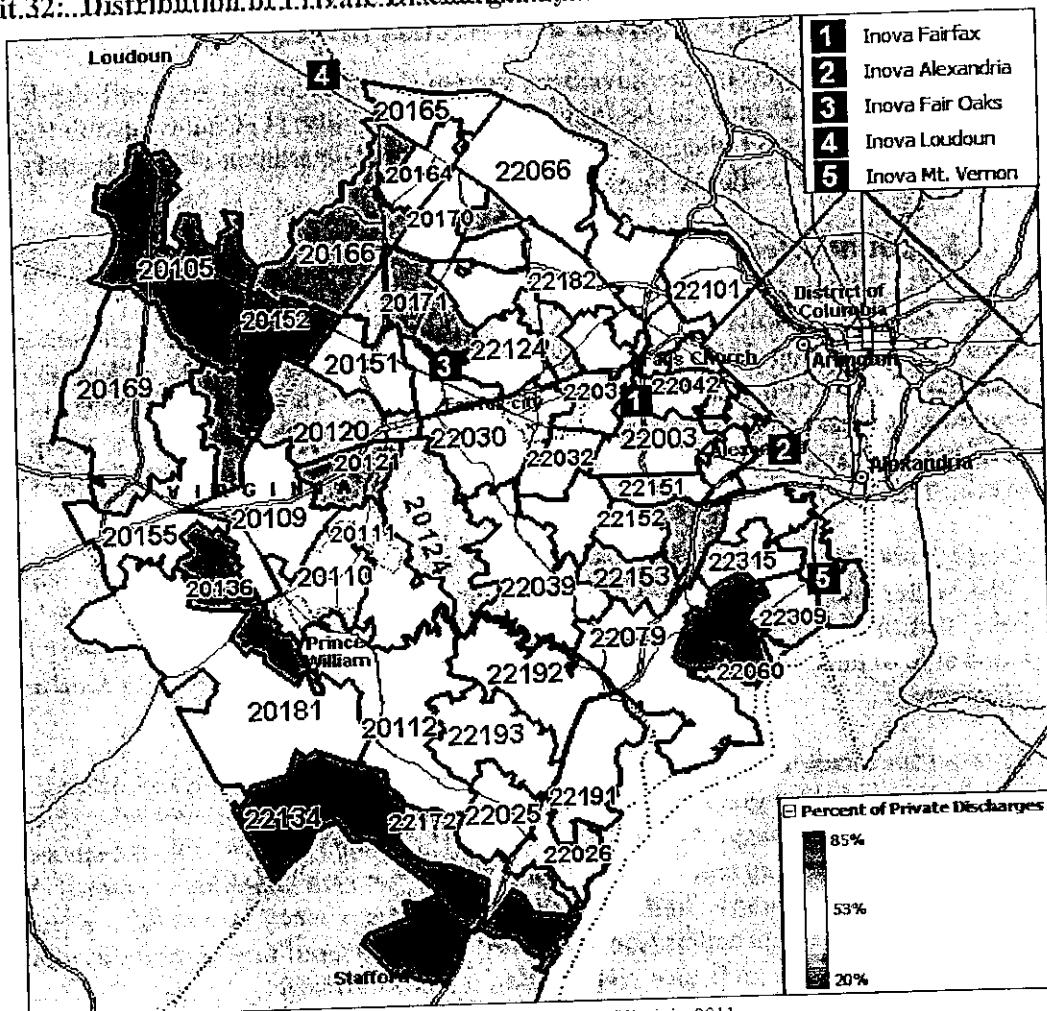


Sources: Microsoft MapPoint and Health Systems Agency of Northern Virginia, 2011.

***Medicaid discharges were prevalent in Lincolnia/Bailey's Crossroads (ZIP code 22041), East Fairfax 29/50 Corridor (ZIP code 22044), Mt. Vernon South/Ft. Belvoir (ZIP codes 22306 and 22309), and Dale City/Dumfries/Quantico (ZIP code 22026)***



Exhibit.32: Distribution of Private Discharges by ZIP Code, 2010



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

*51% of community discharges were for patients with private coverage*

...

*The greatest proportions of private discharges originated from South Riding/Aldie (ZIP Codes 20152 and 20105)*

## County/City-Level Health Status and Access Indicators

The following secondary data sources have been used to examine county-level and city-level health status and access indicators in the Inova Fairfax 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 33** provides a summary analysis of the rankings for counties and cities in Inova Fairfax's community. Rankings for Virginia were divided into quartiles to indicate how each county ranks versus others in the commonwealth. **Exhibit 33** illustrates the quartile into which each area fell by indicator in the 2012 edition, and also illustrates whether an area's ranking worsened or improved from 2011. For example, in the 2012 edition, Fairfax County was in the top half (3<sup>rd</sup> out of 131) of Virginia counties and independent cities for the overall rate of mortality; however, its ranking in 2012 fell for this indicator compared to the 2011 edition.

**Exhibit 33A: County-Level Health Status and Access Indicators**

Indicator	Fairfax City	Rank Change 2011 to 2012	Fairfax County	Rank Change 2011 to 2012	Falls Church City	Rank Change 2011 to 2012
Health Outcomes	↓	8 to 34		1 to 1		64 to 28
Mortality	↓	21 to 63	↓	1 to 3		71 to 54
Morbidity	↓	1 to 8		3 to 3		51 to 6
Health Factors	↓	3 to 8		9 to 7		12 to 6
Health Behaviors	↓	3 to 9	↓	2 to 4		36 to 27
Tobacco Use		1 to 1	↓	7 to 10		48 to 43
Diet and Exercise*	↓	N/A		N/A		N/A
Alcohol Use		43 to 38	↓	61 to 84	↓	60 to 76
Sexual Activity	↓	18 to 83		5 to 5	↓	14 to 45
Clinical Care		117 to 49		28 to 15		3 to 2
Access to Care		126 to 70		38 to 9		3 to 2
Quality of Care		76 to 32	↓	48 to 55		30 to 24
Social & Economic Factors	↓	5 to 10		3 to 3		13 to 2
Education	↓	3 to 12	↓	5 to 7		10 to 1
Employment		11 to 9	↓	3 to 4		48 to 24
Income		8 to 8		7 to 7		1 to 1
Family and Social Support		27 to 25		10 to 7		17 to 17
Community Safety		53 to 49		15 to 13		85 to 85
Physical Environment	↓	1 to 4		132 to 131		96 to 116
Environmental Quality		111 to 110		132 to 131		131 to 130
Built Environment*		N/A		N/A		N/A

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	↓

*Alcohol Use and  
Community Safety  
ranked poorly in 4 of  
7 areas*

*...  
All jurisdictions  
ranked in the bottom  
quartile for  
Environmental  
Quality*

**Exhibit 33B: County-Level Health Status and Access Indicators**

Indicator	Loudoun County	Rank Change 2011 to 2012	Manassas City	Rank Change 2011 to 2012	Manassas Park City	Rank Change 2011 to 2012	Prince William County	Rank Change 2011 to 2012
Health Outcomes		3 to 3	↓	9 to 13		12 to 12		11 to 11
Mortality		3 to 1		16 to 16		12 to 10	↓	7 to 8
Morbidity	↓	9 to 12	↓	4 to 18	↓	24 to 26	↓	30 to 33
Health Factors		1 to 1	↓	60 to 66		69 to 57		32 to 25
Health Behaviors		4 to 2	↓	49 to 51		72 to 54		52 to 24
Tobacco Use		9 to 7		48 to 43		48 to 43		35 to 33
Diet and Exercise*		N/A		N/A		N/A		N/A
Alcohol Use		79 to 72	↓	22 to 24		9 to 9	↓	66 to 78
Sexual Activity		4 to 2		102 to 99		109 to 100		65 to 55
Clinical Care		17 to 11		76 to 54		121 to 100		95 to 61
Access to Care		16 to 7		64 to 39		85 to 111		69 to 37
Quality of Care	↓	45 to 62		93 to 88		121 to 84		104 to 94
Social & Economic Factors		1 to 1	↓	70 to 83		46 to 41		18 to 17
Education	↓	1 to 2		97 to 117		89 to 77		32 to 26
Employment		2 to 2		55 to 54		22 to 19	↓	11 to 12
Income		2 to 2	↓	41 to 55	↓	33 to 35		11 to 10
Family and Social Support		1 to 1		75 to 73	↓	49 to 61	↓	46 to 59
Community Safety		26 to 23		122 to 121		99 to 73		73 to 72
Physical Environment		119 to 117	↓	37 to 76		114 to 103	↓	70 to 90
Environmental Quality		127 to 126		111 to 110		111 to 110		111 to 110
Built Environment*		N/A		N/A		N/A		N/A

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	↓

For the Inova Fairfax community, the indicators that most frequently ranked in the bottom one-half of Virginia jurisdictions include Alcohol Use,<sup>10</sup> Community Safety,<sup>11</sup> and Environmental Quality.<sup>12</sup> All areas ranked in the bottom quartile for Environmental Quality.

Manassas Park City had the highest number of unfavorable indicators, ranking in the bottom one-half of Virginia jurisdictions on the following: Diet and Exercise,<sup>13</sup> Sexual Activity,<sup>14</sup> Access to Care,<sup>15</sup> Quality of Care,<sup>16</sup> Education,<sup>17</sup> Community Safety, Environmental Quality, and Built Environment.<sup>18</sup>

## 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” or cities across the U.S.

Counties or jurisdictions are considered “peers” if they share common characteristics such as population size, poverty rate, average age, and population density. **Exhibit 34** highlights the analysis of CHSI health status indicators. Cells in the table are shaded if, on that indicator, a city or county compared unfavorably both to the U.S. as a whole and to the group of specified peer communities.

Exhibit 34: Unfavorable CHSI Indicators.....

Indicator	Fairfax City	Fairfax County	Falls Church City	Loudoun County	Manassas City	Manassas Park City	Prince William 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							

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, Fairfax, Loudoun, and Prince William counties compared relatively favorably to U.S. and peer county benchmarks. Fairfax and Falls Church cities compared unfavorably on the highest number of indicators, with six each.

Births to women age 40-54 and breast cancer (female) compared unfavorably in four of the seven areas. No care in the first trimester compared unfavorably in three of the jurisdictions.

### **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 35** compares each area's rates for leading causes of death to Virginia averages. **Exhibits 36 through 39** allow assessing racial and ethnic disparities associated with cancer, cardiovascular disease, injury, and other causes of death. **Exhibits 40 through 43** provide information on cancer incidence rates, sexually transmitted infection diagnosis rates, the number of residents living with HIV, and reported cases of tuberculosis. **Exhibits 44 and 45** provide information on maternal and child health indicators by race.

Exhibit 35: Leading Causes of Death, 2010

Death Rates*	Fairfax City	Fairfax County	Falls Church City	Loudoun County	Manassas City	Manassas Park City	Prince William County	Virginia
Deaths From All Causes	712.6	510.1	463	522.3	765.3	677.8	650.5	739.2
Malignant Neoplasms	171.5	128.5	76.4	138.6	159.9	130.1	154.7	170.9
Diseases Of The Heart	134.7	108.6	92.4	116.1	139.8	153.0	144.3	167.6
Cerebrovascular Diseases	36.9	27.1	33.6	25.2	36.2	44.4	37.8	41.7
Chronic Lower Respiratory Disease	25.5	22.9	-	16.9	-	-	26.4	37.9
Unintentional Injury	42.5	18.3	37.1	14.9	21.0	38.1	27.4	32.2
Alzheimer's Disease	3.4	11.6	14.2	18.2	37.9	18.8	17.2	24.4
Nephritis And Nephrosis	34.2	12.2	-	10.0	-	23.1	17.1	20.1
Diabetes	23.9	11.5	15.9	12.1	21.1	-	12.2	18.7
Septicemia	24.7	15.2	7.1	7.8	11.4	27.0	16.1	17.2
Influenza And Pneumonia	7.5	10.5	26.6	11.9	-	23.1	16.2	15.3
Suicide	-	7.4	-	9.2	14.7	6.7	10.7	11.9
Chronic Liver Disease	3.9	4.0	-	5.4	4.3	-	7.1	7.8
Primary Hypertension And Renal Disease	11.9	6.8	-	5.6	3.0	-	12.1	7.5
Parkinson's Disease	7.8	8.3	7.1	7.2	10.8	-	8.5	6.9

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, Fairfax City compared unfavorably to Virginia on ten indicators. Three indicators were more than 75 percent worse than Virginia (**Exhibit 36**).

**Exhibit 36** portrays 2010 cancer mortality rates by race. Cells are shaded if the rate for a cohort within one of the counties presented exceed the Virginia average for that cohort.

**Exhibit 36: Cancer Mortality Rates by Race, 2010**

Jurisdiction and Race	Colorectal	Pancreas	Lung and Bronchus	Breast (Male and Female)	Cervical and Uterine	Prostate	Non-Hodgkin's Lymphoma	Leukemia
<b>Fairfax County</b>								
White	10.5	7.5	27.9	10.0	8.5	8.4	6.1	5.5
Black	9.1	7.3	16.3	12.7	7.3	1.8	4.5	5.4
Other*	6.9	3.7	9.6	4.6	1.4	0.0	3.7	3.7
<b>Total</b>	<b>9.7</b>	<b>6.7</b>	<b>23.2</b>	<b>9.2</b>	<b>7.0</b>	<b>6.1</b>	<b>5.5</b>	<b>5.1</b>
<b>Loudoun County</b>								
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>
<b>Prince William County</b>								
White	9.3	6.1	33.0	8.6	4.8	3.5	2.6	3.5
Black	8.2	1.0	18.5	4.1	6.2	3.1	3.1	3.1
Other*	11.2	4.5	18.0	2.2	2.2	0.0	2.2	2.2
<b>Total</b>	<b>9.2</b>	<b>4.8</b>	<b>28.4</b>	<b>7.0</b>	<b>4.8</b>	<b>3.1</b>	<b>2.6</b>	<b>3.3</b>
<b>Virginia</b>								
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.

In the community, the non-White population compared unfavorably to Virginia averages for various cancer mortality rates. The White population in Fairfax County had higher rates of prostate cancer than the Virginia average.

Within the community, Fairfax County had the highest mortality rates for pancreatic, breast, cervical and uterine, and prostate cancers, and for non-Hodgkin's lymphoma and leukemia. Black residents had higher mortality rates for breast cancer in Fairfax County, all cancers in Loudoun County, and cervical and uterine cancer and non-Hodgkin's lymphoma in Prince William County.

**Exhibit 37: Cardiovascular Disease Mortality Rates by Race, 2010**

Jurisdiction and Race	All Major Cardio-vascular Diseases	All Diseases of the Heart	Hypertensive Heart And Renal Diseases	Ischemic Heart Diseases	All Other Diseases of the Heart
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**Fairfax County**

White	136.9	102.7	4.9	50.2	47.6
Black	90.8	69.9	5.4	34.5	30.0
Other*	58.7	37.6	2.3	22.0	13.8
<b>Total</b>	<b>117.0</b>	<b>86.8</b>	<b>4.5</b>	<b>43.2</b>	<b>39.1</b>

**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>

**Prince William County**

White	116.9	89.7	2.2	50.6	36.8
Black	82.3	57.6	3.1	28.8	25.7
Other*	53.9	33.7	0.0	26.9	6.7
<b>Total</b>	<b>103.3</b>	<b>77.3</b>	<b>2.2</b>	<b>43.6</b>	<b>31.5</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.

The "Other" (non-White, non-Black) population compared unfavorably to Virginia for mortality associated with hypertensive heart and renal diseases and "all other diseases of the heart" in Fairfax County and ischemic heart diseases in Prince William County.

Within the community, Fairfax County had the highest mortality rate of cardiovascular disease with the exception of ischemic heart disease. Black residents had higher mortality rates for hypertensive heart and renal diseases in Fairfax and Prince William counties and all but one cardiovascular disease type in Loudoun County (**Exhibit 37**).

**Exhibit 38: Injury Mortality Rates by Race, 2010**

Jurisdiction and Race	Unintentional Injuries, Total	Motor Vehicle Accidents	Accidental Falls, Firearms, And Drowning	Accidental Poisoning and Noxious Substances	All Other Unintentional Injuries	Suicide	Homicide
<b>Fairfax County</b>							
White	20.3	4.6	7.6	3.4	4.7	9.6	1.0
Black	13.6	1.8	3.6	2.7	5.4	3.6	0.9
Other*	7.8	1.8	5.0	0.0	0.9	4.6	4.1
<b>Total</b>	<b>17.2</b>	<b>3.8</b>	<b>6.7</b>	<b>2.7</b>	<b>4.0</b>	<b>8.1</b>	<b>1.6</b>
<b>Loudoun County</b>							
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>
<b>Prince William County</b>							
White	23.7	5.4	8.6	5.8	3.8	11.8	2.2
Black	16.5	7.2	5.1	4.1	0.0	7.2	5.1
Other*	4.5	2.2	2.2	0.0	0.0	6.7	0.0
<b>Total</b>	<b>20.3</b>	<b>5.5</b>	<b>7.3</b>	<b>4.8</b>	<b>2.6</b>	<b>10.4</b>	<b>2.6</b>
<b>Virginia</b>							
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.

Overall (and compared to rates in the commonwealth), mortality due to unintentional injuries is comparatively low in Fairfax, Loudoun, and Prince William counties (**Exhibit 38**).

**Exhibit 39: Other Mortality Rates by Race, 2010**

Jurisdiction and Race	Diabetes Mellitus	Parkinson's Disease	Alzheimer's Disease	Cerebro-vascular Diseases	Influenza And Pneumonia	CLRD	Chronic Liver Disease and Cirrhosis
<b>Fairfax County</b>							
White	10.7	7.9	10.9	23.5	10.4	22.5	5.1
Black	12.7	2.7	2.7	18.2	0.9	6.4	3.6
Other*	7.3	0.9	2.8	17.0	4.1	4.1	0.5
<b>Total</b>	<b>10.2</b>	<b>6.0</b>	<b>8.5</b>	<b>21.7</b>	<b>8.2</b>	<b>17.3</b>	<b>4.0</b>
<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>Prince William County</b>							
White	8.3	5.1	9.9	20.2	10.6	18.6	5.4
Black	13.4	3.1	4.1	17.5	6.2	4.1	0.0
Other*	4.5	2.2	2.2	15.7	2.2	4.5	9.0
<b>Total</b>	<b>9.0</b>	<b>4.4</b>	<b>7.9</b>	<b>19.2</b>	<b>8.8</b>	<b>14.1</b>	<b>4.6</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>

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.

Suicide rates are highest within White populations across the community; however, these rates generally are lower than Virginia averages. Black mortality rates associated with diabetes are comparatively high across all areas; mortality due to chronic liver disease and cirrhosis is particularly high for this group in Loudoun County (**Exhibit 39**).

**Exhibit 40: Cancer Incidence by Jurisdiction, 2004-2008**

Cancer Incidence	Fairfax County	Loudoun County	Prince William County	Virginia
<b>Breast</b>				
Count	3,597	642	972	26,319
Rate/100,000	131.9	119.5	115.0	124.2
Health District Rank	6	26	29	-
<b>Cervical</b>				
Count	175	34	64	1,356
Rate/100,000	6.4	5.4	6.9	6.7
Health District Rank	23	29	18	-
<b>Colorectal</b>				
Count	1,669	288	256	17,092
Rate/100,000	36.9	36.1	41.7	45.1
Health District Rank	32	34	30	-
<b>Lung and Bronchus</b>				
Count	2,045	326	748	25,741
Rate/100,000	47.6	44.7	64.5	68.4
Health District Rank	32	33	29	-
<b>Melanoma</b>				
Count	1,012	205	253	7,848
Rate/100,000	20.4	19.9	16.3	20.3
Health District Rank	18	20	25	-
<b>Oral</b>				
Count	448	78	141	4,095
Rate/100,000	8.9	7.7	9.3	10.4
Health District Rank	31	34	29	-
<b>Ovarian</b>				
Count	332	49	95	2,532
Rate/100,000	12.5	10.8	12.3	12.0
Health District Rank	16	25	18	-
<b>Prostate</b>				
Count	3312	541	953	27,726
Rate/100,000	144.5	140.8	157.7	159.4
Health District Rank	25	26	17	-

Key	
Bottom 50% of VA Health Districts	

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

*Cancer rates in the bottom 50% of Virginia's 35 health districts: breast and ovarian cancer in Fairfax County and prostate cancer in Prince William County*

Certain cancer rates in the community are above Virginia averages, for example: breast and ovarian cancer in Fairfax County, and prostate cancer in Prince William (Exhibit 40).

**Exhibit 41: Sexually Transmitted Infection Diagnoses Rates by Jurisdiction, 2007-2010**

Jurisdiction	Chlamydia Diagnosis Rate*				Gonorrhea Diagnosis Rate*				Syphilis Diagnosis Rate*			
	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010
Fairfax City	197.0	281.0	709.5	345.7	12.8	41.9	97.3	26.6	4.3	0.0	4.1	0.0
Fairfax County	124.2	137.7	124.1	134.2	10.7	19.4	16.6	17.5	3.0	3.1	4.0	3.5
Falls Church City	219.2	393.9	560.3	486.5	9.1	62.7	58.5	89.2	0.0	9.0	0.0	8.1
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
Manassas City	242.9	394.8	427.2	380.7	31.1	76.7	54.8	50.2	2.8	5.7	5.5	0.0
Manassas Park City	201.3	229.7	174.4	133.1	8.8	17.7	33.2	21.0	0.0	0.0	0.0	0.0
Prince William County	231.7	287.9	268.2	252.0	34.4	54.6	43.0	36.6	3.1	5.2	4.2	3.5
Virginia	329.8	391.0	395.9	393.2	88.4	129.3	99.1	89.6	5.3	6.6	7.0	6.5

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 Fairfax community reported comparatively high diagnosis rates of chlamydia in Fairfax City, Falls Church City, and Manassas City. In 2010, Falls Church City reported diagnosis rates of chlamydia and syphilis that were higher than the Virginia rate (Exhibit 41).

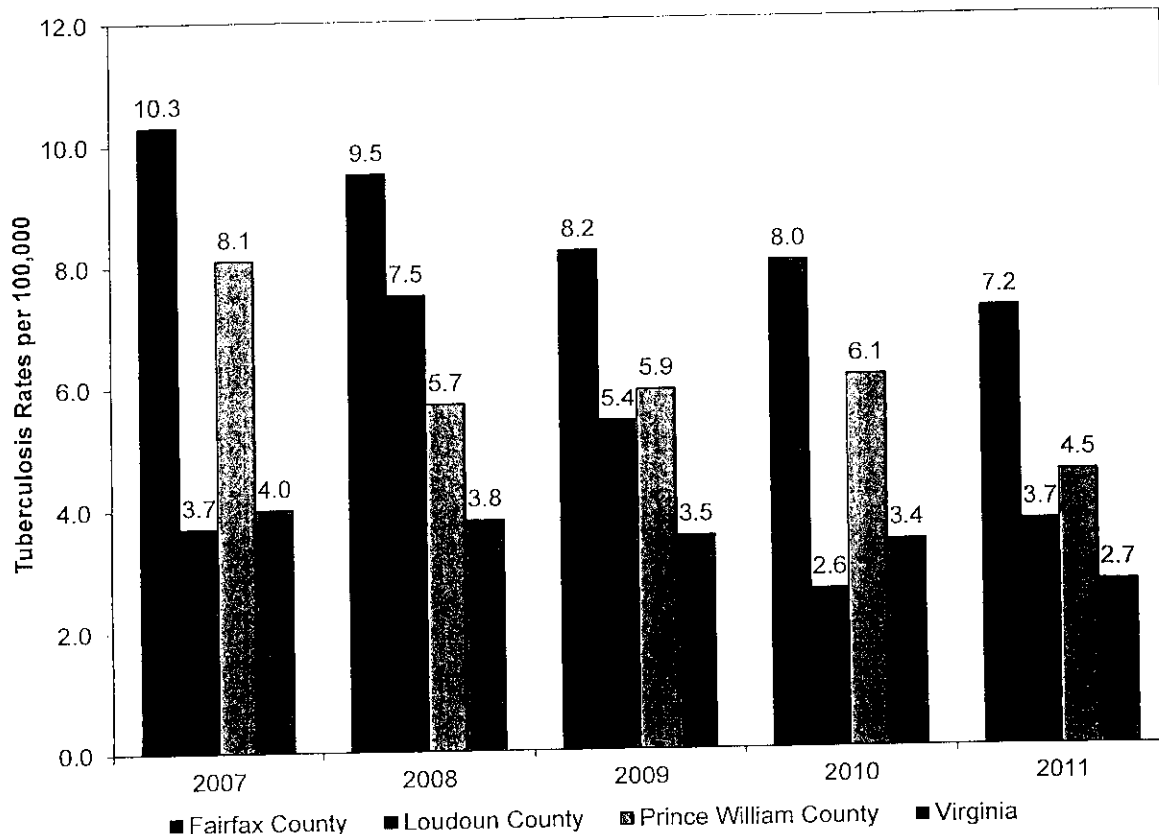
**Exhibit 42: Residents Living with HIV by Jurisdiction, 2011**

Jurisdiction	HIV Only Number	AIDS Number	All Cases of HIV/AIDS Number	Rate*
Falls Church City	81	116	197	1,597.5
Fairfax City	118	119	237	1,050.3
Manassas City	101	125	226	597.6
Prince William County	373	428	801	199.3
Fairfax County	934	981	1,915	177.0
Manassas Park City	10	9	19	133.1
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 per 100,000 population.

In 2011, the cities of Falls Church, Fairfax, and Manassas had higher rates of residents living with HIV/AIDS than the Virginia average (Exhibit 42).

**Exhibit 43: Reported Tuberculosis Rates by Jurisdiction, 2007-2011**



Source: Virginia Department of Health, 2012.

Tuberculosis rates have decreased since 2007. However, incidence rates in Fairfax, Loudoun, and Prince William counties somewhat consistently have exceeded the Virginia average. Fairfax County each year reported the highest tuberculosis rate in the community (Exhibit 43).

**Exhibit 44: Maternal and Child Health Indicators by Jurisdiction, 2010**

Indicator	Fairfax City*	Fairfax County	Falls Church City	Loudoun County	Manassas City*	Manassas Park City*	Prince William County	Virginia
Number of Total Births	328	15,256	118	5,068	670	21	6,647	102,934
Percent Non-Marital Births of Total Births	22.6%	22.3%	8.5%	16.3%	43.6%	33.3%	29.9%	35.5%
Percent Low Weight Births of Total Births	8.5%	7.0%	10.2%	6.9%	9.0%	4.8%	7.6%	8.2%
Percent Very Low Weight Births of Total Births	1.2%	1.1%	3.4%	1.1%	1.0%	0.0%	1.4%	1.6%
Percent Without Prenatal Care Began in First 13 Weeks	11.0%	13.9%	16.9%	9.9%	26.1%	33.3%	20.8%	14.5%
Teen Pregnancy Rate per 1,000 Females Age 10-19	34.7	8.8	22.9	7.0	41.3	N/A	19.1	21.1
Infant Death Rate Per 1,000 Live Births	3.0	4.5	0.0	4.1	3.0	47.6	7.4	6.8

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 may be distorted in Fairfax City, Manassas City, and Manassas Park City due to small sample sizes.

Fairfax and Loudoun counties have reported comparatively favorable maternal and child health indicators. Women in a few communities (Manassas and Manassas Park cities, Prince William County, and Falls Church City) have not been receiving adequate prenatal care in the first 13 weeks of pregnancy (**Exhibit 44**).



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

Jurisdiction and Race	% Non-Marital Births of Total Births	% Low Weight Births of Total Births	% 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>Fairfax City**</b>					
White	26.9%	9.0%	1.3%	36.4	4.3
Black	33.3%	9.5%	4.8%	66.7	0.0
Other*	5.5%	6.8%	0.0%	17.2	0.0
<b>Total</b>	<b>22.6%</b>	<b>8.5%</b>	<b>1.2%</b>	<b>34.7</b>	<b>3.0</b>
<b>Fairfax County</b>					
White	23.8%	6.4%	1.0%	9.3	4.1
Black	43.1%	8.5%	2.3%	13.2	10.4
Other*	8.4%	8.2%	1.0%	4.4	3.2
<b>Total</b>	<b>22.3%</b>	<b>7.0%</b>	<b>1.1%</b>	<b>8.8</b>	<b>4.5</b>
<b>Falls Church City</b>					
White	8.2%	9.2%	4.1%	21.8	0.0
Black	25.0%	0.0%	0.0%	17.5	0.0
Other*	6.3%	18.8%	0.0%	34.1	0.0
<b>Total</b>	<b>8.5%</b>	<b>10.2%</b>	<b>3.4%</b>	<b>22.9</b>	<b>0.0</b>
<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>Manassas City**</b>					
White	41.4%	8.4%	1.0%	39.7	3.8
Black	63.8%	12.8%	1.1%	47.3	0.0
Other*	28.0%	8.0%	2.0%	40.5	0.0
<b>Total</b>	<b>43.6%</b>	<b>9.0%</b>	<b>1.0%</b>	<b>41.3</b>	<b>3.0</b>
<b>Manassas Park City**</b>					
White	29.4%	5.9%	0.0%	N/A	58.8
Black	100.0%	0.0%	0.0%	N/A	0.0
Other*	0.0%	0.0%	0.0%	N/A	0.0
<b>Total</b>	<b>33.3%</b>	<b>4.8%</b>	<b>0.0%</b>	<b>N/A</b>	<b>47.6</b>
<b>Prince William County</b>					
White	27.1%	6.3%	1.1%	18.2	6.6
Black	46.3%	11.0%	2.7%	24.6	11.2
Other*	16.1%	9.1%	0.9%	9.8	4.9
<b>Total</b>	<b>29.9%</b>	<b>7.6%</b>	<b>1.4%</b>	<b>19.1</b>	<b>7.4</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.

\*\*Rates may be distorted in Fairfax City, Manassas City, and Manassas Park City due to small sample sizes.

Black residents throughout the community and throughout the commonwealth have experienced significant maternal and child health disparities (**Exhibit 45**).

#### **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 46** compares various BRFSS indicators for the community served by Inova Fairfax, Virginia, and the U.S. Indicators are shaded if an area's values compare unfavorably to Virginia averages.

Exhibit 46A: BRFSS Indicators and Variation from the Commonwealth of Virginia, 2010

Indicator		Fairfax County	Fairfax City*	Virginia	U.S.
Health Behaviors	Binge Drinkers**	12.7%	4.3%	9.7%	10.1%
	Heavy Drinkers***	8.9%	4.3%	4.4%	4.4%
	Current Smoker	8.9%	8.9%	16.4%	11.5%
	No Physical Activity Past 30 Days	15.8%	21.7%	28.5%	27.4%
Prevention Variables	Women 18+ with No Pap Test in Past 3 Years	14.1%	0.0%	16.0%	20.2%
	Women 40+ with No Mammogram in Past 2 Years	15.8%	4.3%	19.4%	23.6%
Access Variables	Could Not See A Doctor Due to Cost in Past Year	5.1%	5.1%	11.0%	11.8%
Health Conditions	Told Have Asthma	7.6%	17.4%	8.9%	9.2%
	Told Have Diabetes	11.4%	8.7%	13.1%	12.7%
	Told Have Coronary Heart Disease or Angina	6.3%	4.3%	6.3%	6.6%
	Overweight or Obese	55.7%	78.3%	61.9%	61.9%
Mental Health	Rarely or Never Receiving Needed Social and Emotional Support	4.0%	4.5%	8.4%	8.7%
	Poor Mental Health > 21 Days/Month	1.9%	0.0%	6.3%	N/A
Oral Health	No Dental Care Visit in Past Year	14.6%	13.0%	26.2%	30.3%
	Greater than 6 Teeth Extracted	8.2%	17.4%	13.9%	14.6%
	All Teeth Extracted	1.9%	0.0%	7.8%	8.8%
Overall Health	Limited by Physical, Mental, or Emotional Problems	24.1%	17.4%	25.0%	26.8%
	Poor Physical Health > 21 Days/Month	3.8%	13.0%	9.1%	N/A
	Reported Poor or Fair Health	13.3%	26.1%	19.6%	20.1%

Key	
Better than VA	
0%-25% worse than VA	
25% to 75% worse than VA	
>75% worse than VA	
Small Sample Size	*
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.

Poor health status indicators include the percent of heavy drinkers and the percent of residents who are overweight or obese

**Exhibit 46B: BRFSS Indicators and Variation from the Commonwealth of Virginia, 2010**

Indicator		Loudoun County	Manassas City*	Prince William County	Virginia	U.S.
Health Behaviors	Binge Drinkers**	9.3%	0.0%	11.8%	9.7%	10.1%
	Heavy Drinkers***	7.3%	0.0%	4.4%	4.4%	4.4%
	Current Smoker	6.6%	28.6%	13.2%	16.4%	11.5%
	No Physical Activity Past 30 Days	21.2%	0.0%	24.3%	28.5%	27.4%
Prevention Variables	Women 18+ with No Pap Test in Past 3 Years	15.9%	14.3%	11.3%	16.0%	20.2%
	Women 40+ with No Mammogram in Past 2 Years	11.3%	0.0%	14.9%	19.4%	23.6%
Access Variables	Could Not See A Doctor Due to Cost in Past Year	7.3%	0.0%	8.8%	11.0%	11.8%
Health Conditions	Told Have Asthma	6.0%	6.0%	10.3%	8.9%	9.2%
	Told Have Diabetes	6.6%	14.3%	7.4%	13.1%	12.7%
	Told Have Coronary Heart Disease or Angina	4.0%	0.0%	1.5%	6.3%	6.6%
	Overweight or Obese	56.3%	71.4%	64.0%	61.9%	61.9%
Mental Health	Rarely or Never Receiving Needed Social and Emotional Support	7.6%	0.0%	6.1%	8.4%	8.7%
	Poor Mental Health > 21 Days/Month	4.0%	0.0%	5.1%	6.3%	N/A
Oral Health	No Dental Care Visit in Past Year	13.9%	14.3%	14.7%	26.2%	30.3%
	Greater than 6 Teeth Extracted	7.3%	14.3%	8.1%	13.9%	14.6%
	All Teeth Extracted	2.6%	14.3%	2.2%	7.8%	8.8%
Overall Health	Limited by Physical, Mental, or Emotional Problems	17.9%	14.3%	15.4%	25.0%	26.8%
	Poor Physical Health > 21 Days/Month	2.0%	5.1%	5.1%	9.1%	N/A
	Reported Poor or Fair Health	14.6%	14.3%	8.1%	19.6%	20.1%

Key	
Better than VA	
0%-25% worse than VA	
25% to 75% worse than VA	
>75% worse than VA	
Small Sample Size	*
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

Three areas in the community served by Inova Fairfax report an above average prevalence of heavy drinking and obesity/overweight. Fairfax and Manassas cities had the most indicators (five) that compared unfavorably to the Commonwealth of Virginia, followed by Prince William County (four). Loudoun County had the fewest.

Within the community, three indicators were reported as greater than 75 percent worse than Virginia averages:

- The percent of people who were heavy drinkers in Fairfax County;
- The percent of people who have ever been told by a doctor that they have asthma in Fairfax City; and
- Those reporting having all teeth extracted in Manassas City.

Overall, Virginia compared unfavorably to the U.S. on the percent of people who were current smokers, the percent of people with no physical activity in the past 30 days, and the percent of people who have ever been told by a doctor that they have diabetes.

## **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>19</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 Fairfax.

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/City-Level Analysis

Disproportionately large numbers of discharges for ACSC indicate potential problems with the availability or accessibility of ambulatory (primary) care services. **Exhibit 47** indicates for the Inova Fairfax community how many hospital discharges were found to be for ACSC by payer and by area.

**Exhibit 47: Inova Fairfax Community-Wide Discharges for ACSC by Payer, 2010**

Jurisdiction	Medicaid	Medicare	Other	Private	Self-pay	Unknown /Missing	Total
Fairfax County	6.1%	16.9%	3.5%	5.8%	11.4%	11.8%	9.8%
Falls Church City	8.2%	18.3%	0.0%	6.0%	10.8%	0.0%	11.3%
Loudoun County	8.7%	18.9%	4.5%	5.5%	15.3%	11.1%	9.7%
Manassas City	7.3%	18.8%	3.5%	7.1%	12.3%	9.2%	10.7%
Prince William County	8.6%	20.9%	5.3%	6.9%	14.2%	12.5%	11.3%
<b>Total</b>	<b>7.2%</b>	<b>18.0%</b>	<b>4.3%</b>	<b>6.1%</b>	<b>12.7%</b>	<b>11.6%</b>	<b>10.2%</b>

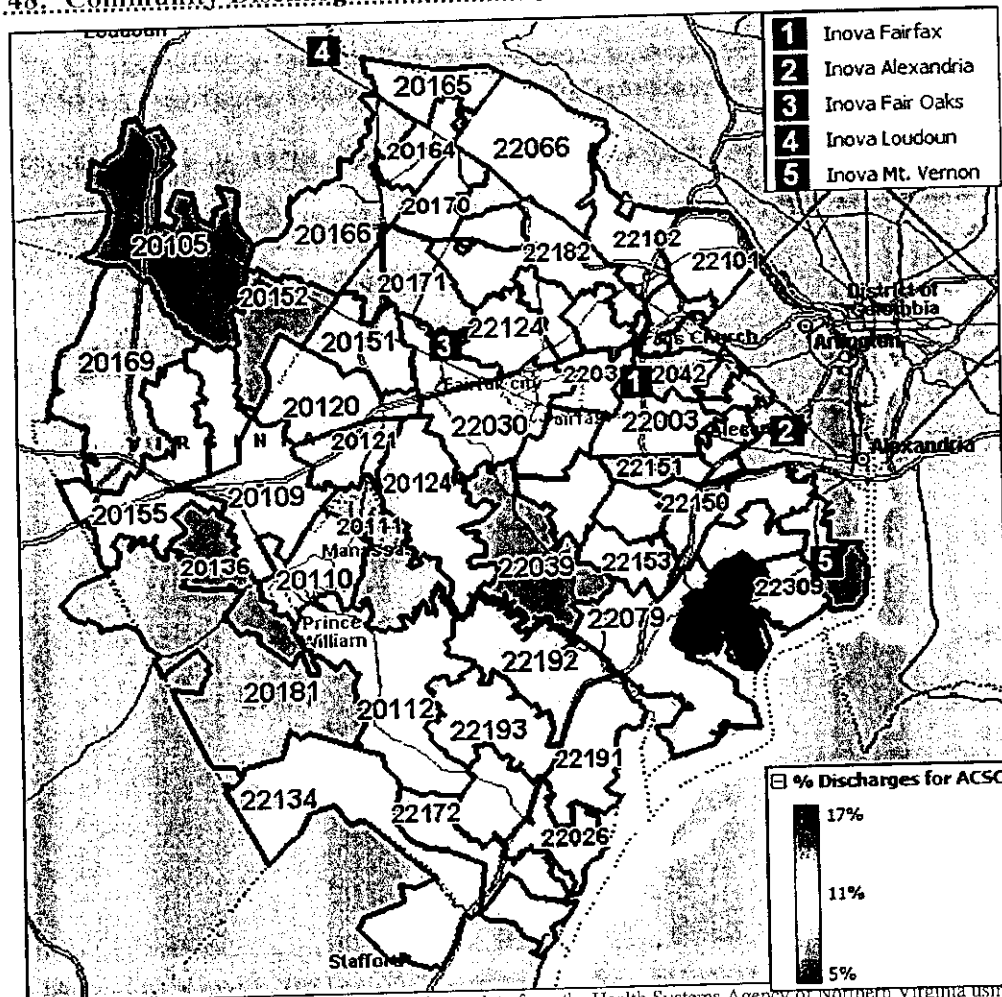
Source: Verité analysis of discharge data from the Health Systems Agency of Northern Virginia using AHRQ software, 2011.

The table indicates that in 2010, 10.2 percent of discharges were for ACSCs. Medicare beneficiaries had the highest proportion of discharges for ACSC, followed by self-pay (uninsured) people.

## 2. ZIP Code-Level Analysis

**Exhibit 48** illustrates the rate of discharges for ACSC by ZIP code. These discharges were most prevalent in Mt. Vernon South/Ft. Belvoir (ZIP codes 22060, and 22308), Vienna (ZIP code 22027), Gainesville/Haymarket/Bull Run (ZIP code 20181), and Manassas East (ZIP code 20111).

Exhibit 48: Community Discharges for ACSC by ZIP Code, 2010



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

*The highest percentage of discharges for ACSC were found in Mt. Vernon South/Ft. Belvoir (ZIP code 22060) – 16.5%*

### 3. Hospital-Level Analysis

Exhibit 49 indicates that 7.9 percent of Inova Fairfax's discharges in 2010 were for ACSC. Across all Inova hospitals, 9.6 percent of discharges (about 8,100 cases) were for ACSC.

**Exhibit 49: Inova Fairfax Medical Campus Discharges for ACSC as a Percent of Total Discharges, 2010**

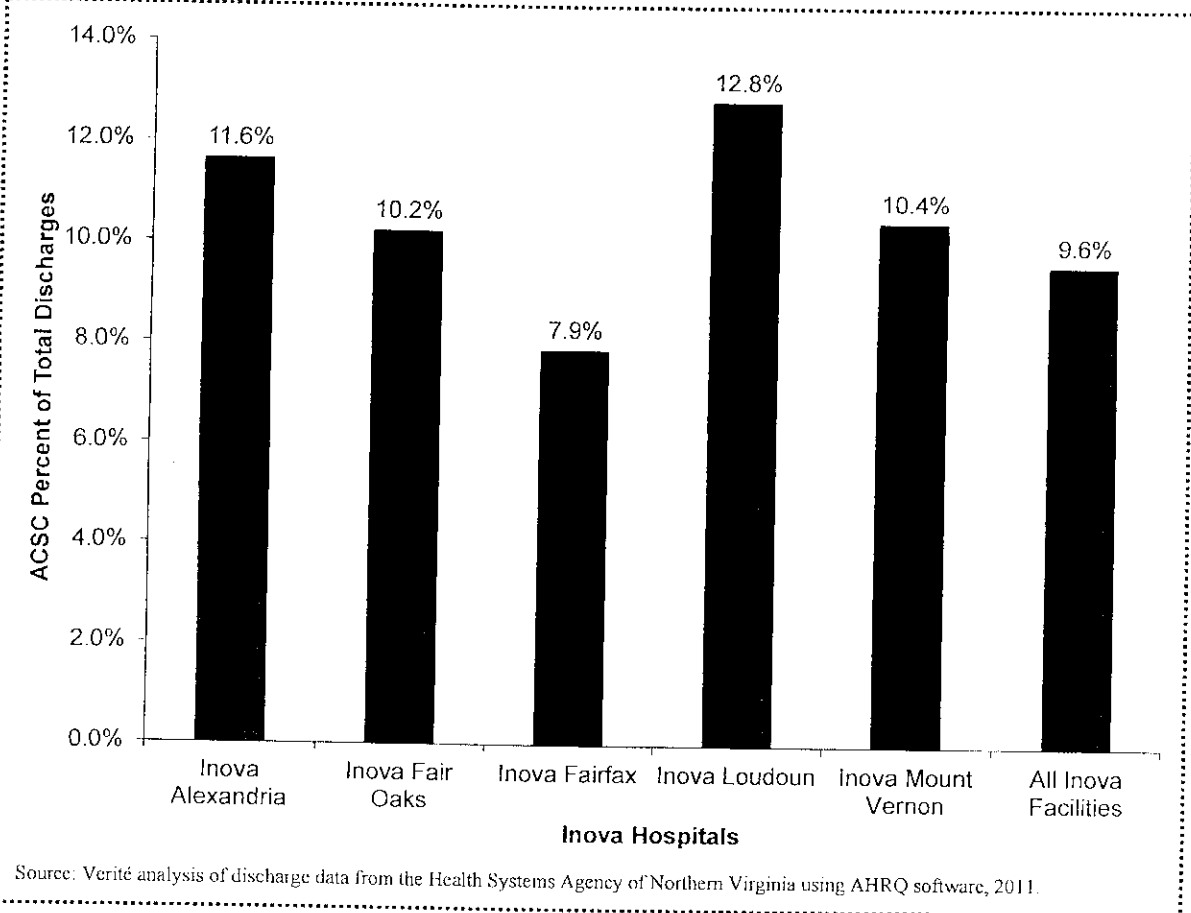


Exhibit 50 indicates that Inova Fairfax's discharges for ACSC were most concentrated in three conditions: congestive heart failure, bacterial pneumonia, and urinary tract infection.



### Exhibit 50: Discharges for ACSC by Condition and Inova Facility, 2010

Condition	Inova Alexandria	Inova Fair Oaks	Inova Fairfax	Inova Loudoun	Inova Mt. Vernon	Total
Congestive Heart Failure	21.4%	14.3%	22.6%	19.5%	22.9%	20.7%
Bacterial Pneumonia	18.1%	18.9%	14.7%	25.0%	17.7%	17.9%
Urinary Tract Infection	14.9%	21.0%	14.2%	16.0%	17.3%	15.9%
Adult Asthma	13.3%	7.6%	5.4%	5.0%	10.1%	7.6%
Chronic Obstructive Pulmonary Disease	5.5%	10.2%	6.8%	8.6%	7.6%	7.4%
Diabetes Long-term Complication	7.3%	5.5%	5.6%	6.6%	8.7%	6.4%
Pediatric Asthma	0.6%	2.4%	6.9%	2.8%	0.1%	3.7%
Dehydration	3.9%	3.2%	2.9%	2.2%	2.7%	3.0%
Perforated Appendix	2.3%	3.4%	3.2%	2.7%	2.8%	3.0%
Diabetes Short-term Complication	3.7%	1.8%	2.4%	2.5%	4.0%	2.7%
Hypertension	3.0%	3.2%	2.2%	3.1%	2.1%	2.6%
Pediatric Urinary Tract Infection	0.4%	1.2%	3.7%	1.9%	0.1%	2.1%
Accidental Puncture Or Laceration	1.6%	2.8%	1.9%	0.3%	1.2%	1.7%
Nosocomial Vascular Catheter Related Infections	1.6%	1.6%	1.2%	1.2%	0.9%	1.3%
Pediatric Perforated Appendix	0.1%	0.4%	2.6%	0.6%	0.4%	1.3%
Pediatric Diabetes Short-term Complication	0.0%	0.0%	2.2%	0.1%	0.0%	0.9%
Uncontrolled Diabetes	1.4%	0.3%	0.4%	0.2%	0.8%	0.6%
Angina Without Procedure	0.4%	1.0%	0.3%	0.7%	0.6%	0.5%
Pediatric Gastroenteritis	0.2%	0.9%	0.4%	0.6%	0.0%	0.4%
Iatrogenic Pneumothorax	0.5%	0.3%	0.5%	0.4%	0.0%	0.4%
Foreign Body Left In During Procedure	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
<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, 48.5 percent of Inova Fairfax's discharges for ACSC were for persons 65 years of age and older (**Exhibit 51**).

### Exhibit 51: Discharges for ACSC by Age Group and Inova Facility, 2010

Age	Inova Alexandria	Inova Fair Oaks	Inova Fairfax	Inova Loudoun	Inova Mt. Vernon	Total
0 to 17	1.2%	4.9%	15.6%	6.0%	0.6%	8.4%
18 to 39	12.8%	12.4%	9.8%	9.1%	9.2%	10.6%
40 to 64	34.1%	29.7%	26.1%	31.9%	29.5%	29.4%
65+	51.9%	53.0%	48.5%	53.1%	60.7%	51.7%
<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 Fairfax, the most prevalent ambulatory care sensitive conditions for persons 65 years of age and older were for: congestive heart failure, chronic obstructive pulmonary disease, urinary tract infection, and bacterial pneumonia (**Exhibit 52**).

**Exhibit 52: Distribution of Inova Fairfax Discharges for ACSC by Age Group and Condition, 2010**

Condition	0 to 17	18 to 39	40 to 64	65+	Total Cases
Congestive Heart Failure		4.0%	24.9%	71.1%	751
Bacterial Pneumonia		10.1%	29.2%	60.8%	487
Urinary Tract Infection		14.4%	19.7%	65.8%	471
Pediatric Asthma	100.0%				228
Chronic Obstructive Pulmonary Disease		8.4%	21.6%	70.0%	227
Diabetes Long-term Complication		4.3%	48.4%	47.3%	186
Adult Asthma		15.1%	45.3%	39.7%	179
Pediatric Urinary Tract Infection	100.0%				122
Perforated Appendix		38.7%	46.2%	15.1%	106
Dehydration		17.5%	30.9%	51.5%	97
Pediatric Perforated Appendix	100.0%				85
Diabetes Short-term Complication		53.1%	38.3%	8.6%	81
Hypertension		8.3%	54.2%	37.5%	72
Pediatric Diabetes Short-term Complication	100.0%				72
Accidental Puncture Or Laceration		17.2%	50.0%	32.8%	64
Nosocomial Vascular Catheter Related Infections		7.5%	67.5%	25.0%	40
Iatrogenic Pneumothorax		5.9%	29.4%	64.7%	17
Pediatric Gastroenteritis	100.0%				13
Uncontrolled Diabetes		8.3%	41.7%	50.0%	12
Angina Without Procedure		9.1%	54.5%	36.4%	11
Foreign Body Left In During Procedure		50.0%	50.0%		2
<b>Total</b>	<b>15.6%</b>	<b>9.8%</b>	<b>26.1%</b>	<b>48.5%</b>	<b>3,323</b>

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

*Inova Fairfax's top discharges for ACSC were for congestive heart failure, urinary tract infection, and bacterial pneumonia*

...

*49% of Inova Fairfax's discharges for ACSC were for persons 65 years of age and older*

Of Inova Fairfax's emergency department visits in fiscal year 2010, 7.8 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 53** indicates that Inova Fairfax's emergency department visits for ACSC were more concentrated in three conditions: urinary tract infection, bacterial pneumonia, and adult asthma.

**Exhibit 53: Emergency Department Visits for ACSC by Condition and Inova Facility, 2010**

Condition	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%	28.1%
Chronic Obstructive Pulmonary Disease	20.2%	17.9%	9.5%	16.1%	19.7%	18.4%
Adult Asthma	15.8%	13.7%	13.8%	16.7%	13.7%	14.5%
Bacterial Pneumonia	12.7%	15.0%	16.5%	16.8%	10.4%	14.2%
Hypertension	9.0%	8.2%	7.7%	7.7%	9.0%	7.7%
Congestive Heart Failure	5.2%	5.9%	8.6%	4.7%	6.1%	5.4%
Dehydration	4.8%	6.3%	4.8%	8.1%	2.4%	5.0%
Diabetes Long-term Complications	3.8%	2.8%	4.2%	3.4%	3.7%	3.1%
Diabetes Short-term Complications	1.6%	0.8%	1.6%	1.2%	1.6%	1.2%
Lower-extremity Amputation among Diabetics	0.3%	1.5%	0.5%	1.4%	1.0%	1.0%
Perforated Appendix	0.8%	0.7%	2.0%	1.0%	0.5%	1.0%
Angina without Procedure	0.2%	0.6%	0.4%	0.4%	0.3%	0.4%
<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.

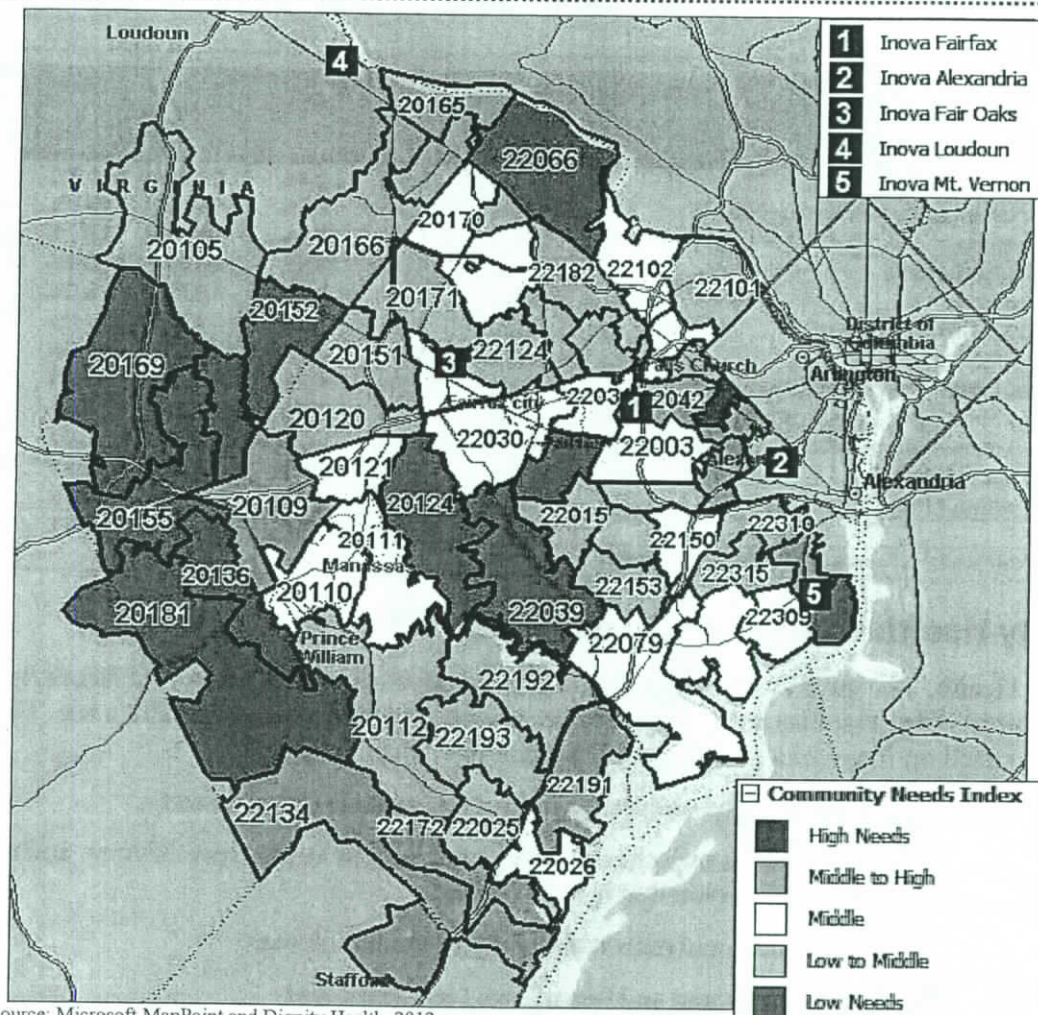
## Dignity Health Community Needs Index

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 54** presents the *Community Needs Index* (CNI) score of each ZIP code in the Inova Fairfax community. East Fairfax 29/50 Corridor (ZIP code 22044 which is proximate to 22042) exhibits the highest need with a score of 4.4.

Exhibit 54: Community Needs Index Score by ZIP Code\*



Source: Microsoft MapPoint and Dignity Health, 2012.

\*Not all ZIP codes are assigned a CNI score; these ZIP codes are gray on the map.

*Areas of higher access needs are concentrated in Fairfax and Prince William counties*

...

*East Fairfax 29/50 Corridor (ZIP code 22044) had the highest CNI score of 4.4*

## Food Deserts

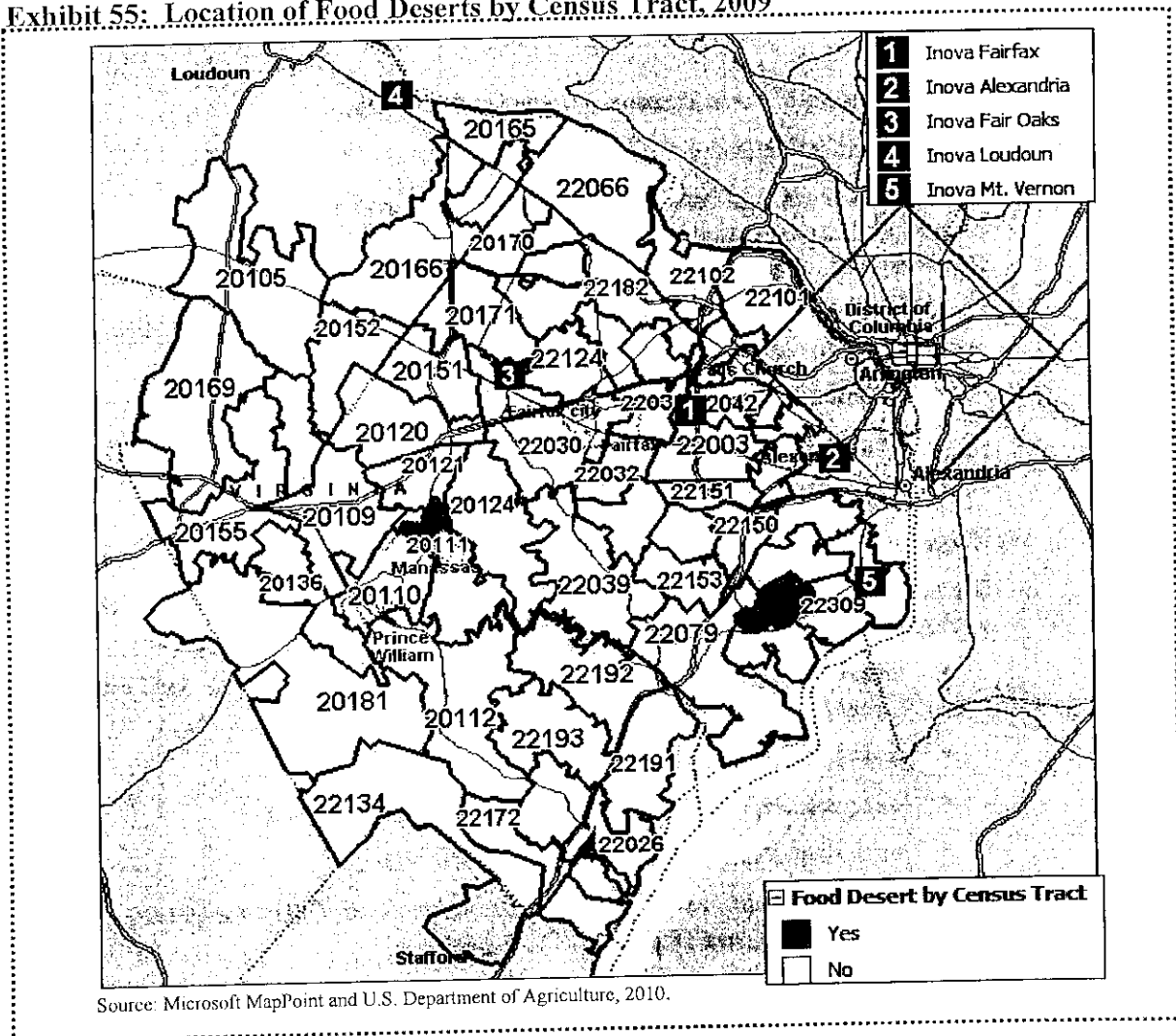
The U.S. Department of Agriculture's Economic Research Service estimates the number of people in each census tract that live "more than 1 mile from a supermarket or large grocery store in urban areas and more than 10 miles from a supermarket or large grocery store in rural areas."<sup>20</sup> Several government-led initiatives aim to increase the availability of nutritious and affordable



foods to people living in these “food deserts.” **Exhibit 55** indicates the location of identified food deserts in the Inova Fairfax community.

Five census tracts in the community were determined to be food deserts. These are located in Mt. Vernon South/Ft. Belvoir (ZIP code 22060), Manassas East (ZIP code 20111), and Dale City/Dumfries/Quantico (ZIP codes 22026 and 22172).

**Exhibit 55: Location of Food Deserts by Census Tract, 2009**



## 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 “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>21</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 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.

- Chronic Disease Incidence Rates
  - The incidence rates of breast and ovarian cancers and melanomas in Fairfax County and cervical and ovarian cancers in Prince William County were higher than Virginia rates according to the Virginia Department of Health.
  - The following chronic diseases compared unfavorably to Virginia averages according to the Behavioral Risk Factor Surveillance System:
    - Asthma in Fairfax City and Prince William County;
    - Diabetes in Manassas City; and
    - Coronary heart disease or angina in Fairfax County.
- Chronic Disease Mortality Rates
  - The following mortality rates compared unfavorably to national and peer county averages according to the Community Health Status Indicators Project:
    - Breast cancer in Fairfax, Falls Church, and Manassas cities and Loudoun County;
    - Colon cancer in Fairfax and Manassas Park cities;
    - Lung cancer in Fairfax and Manassas Park cities; and
    - Strokes in Manassas and Manassas Park cities.
  - The following mortality rates compared unfavorably to Virginia averages according to the Virginia Department of Health:
    - Cancer, cerebrovascular diseases, and primary hypertension and renal diseases in Fairfax City;
    - Chronic lower respiratory disease in Manassas City; and
    - Diabetes in Fairfax and Manassas Park cities.
  - Health disparities exist among racial cohorts for various cancers, cardiovascular diseases, cerebrovascular diseases, and diabetes mellitus mortality rates according to the Virginia Department of Health.
  - Racial cohorts compared unfavorably to Virginia averages for the following mortality rates according to the Virginia Department of Health:

- Various cancers in the non-White population of Fairfax, Loudoun, and Prince William counties;
  - Chronic liver disease and cirrhosis in the Black population in Loudoun County;
  - Prostate cancer in the White population of Fairfax County; and
  - The Other<sup>22</sup> population: hypertensive heart and renal diseases and “all other diseases of the heart” in Fairfax County, ischemic heart diseases in Prince William County, chronic liver disease and cirrhosis in Loudoun and Prince William counties, diabetes mellitus in Fairfax and Loudoun counties, and cerebrovascular diseases in Fairfax County.
- Discharges for ACSC Associated with Chronic Disease
    - Congestive heart failure, chronic obstructive pulmonary disease, adult and pediatric asthma, and diabetes long-term complications all accounted for at least five percent of Inova Fairfax’s discharges for ACSC.

Analysis of diagnosis codes in inpatient discharge data from the Inova Health System indicate that 44 percent of Inova Fairfax’s discharges were for conditions identified by CMS as associated with chronic disease. Discharges for chronic disease were concentrated in chronic kidney disease, heart failure, anemia, stroke, diabetes, myocardial infarction, depression, hypertension, asthma, ischemic heart disease, arterial fibrillation, and rheumatoid arthritis/osteoarthritis (**Exhibit 56**).

**Exhibit 56: Percent of Chronic Condition Discharges from Inova Fairfax, 2010**

Chronic Condition	Percent of Discharges
Chronic Kidney Disease	14.7%
Heart Failure	9.3%
Anemia	7.8%
Stroke	7.5%
Diabetes	7.4%
Acute Myocardial Infarction	6.8%
Depression	5.5%
Hypertension	5.1%
Asthma	4.9%
Ischemic Heart Disease	4.8%
Atrial Fibrillation	4.7%
Rheumatoid Arthritis / Osteoarthritis	3.7%
Hip/Pelvic Fracture	3.0%
Chronic Obstructive Pulmonary Disease And Bronchiectasis	2.9%
Hyperlipidemia	2.7%
Acquired Hypothyroidism	2.5%
Colorectal Cancer	1.6%
Alzheimer's Disease And Related Disorders Or Senile Dementia	1.5%
Lung Cancer	1.4%
Prostate Cancer	0.8%
Female / Male Breast Cancer	0.7%
Endometrial Cancer	0.3%
Benign Prostatic Hyperplasia	0.2%
Glaucoma	0.1%
Osteoporosis	0.0%
Cataract	0.0%
<b>Total Discharges Associated with Chronic Conditions</b>	<b>18,850</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>23</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 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>24</sup>



**Exhibit 57** shows areas designated by HRSA as medically underserved. Loudoun County, Manassas and Manassas Park Cities, and Prince William County contain MUAs and MUPs. Fairfax County recently submitted an application for MUP status that was approved by HRSA.

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- The Inova Fairfax  
community contains  
MUAs, MUPs, and  
HPSAs*

## 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>25</sup>

In the Inova Fairfax community, the Greater Prince William Community Health Center is designated as primary care, mental, and dental health HPSA. The Loudoun Community Health Center also is designated as primary care, mental, and dental health HPSA and has a location in Sterling, VA (ZIP code 20146) (**Exhibit 57**). Alexandria Neighborhood Health Services, Inc. (ANHSI), a primary care, mental, and dental health HPSA, plans to open a location in the Inova Fairfax community.

## Description of Other Facilities and Resources within the Community

The Inova Fairfax 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.

In the Inova Fairfax community, three Federally Qualified Health Centers are designated as primary medical care, mental health, and dental HPSAs. The Greater Prince William Community Health Center, located in Woodbridge (ZIP code 22192), provides family medicine services including primary, prenatal, dental, and behavioral health care. The health center is open five days per week with evening hours on Wednesday.<sup>26</sup>

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>27</sup>

ANHSI currently has eight locations and provides family medicine services including primary, prenatal, dental, and behavioral health care. The health center is open five days per week with evening hours on Tuesday, Wednesday, and Thursday.<sup>28</sup> ANHSI recently acquired a physician practice located in Fairfax County and will soon provide services in the community served by Inova Fairfax Medical Campus.

Every jurisdiction, except Manassas Park City, contains at least one hospital facility (**Exhibit 58**).



### Exhibit 58: Hospital Facilities in the Inova Fairfax Community, 2011

Location	Facility Name	ZIP Code
Fairfax City	Fairfax Surgical Center	22030
Fairfax County	Franconia-Springfield Surgery Center	22310
	Inova Fairfax Medical Campus	22042
	Inova Mt. Vernon Hospital	22306
	Northern Virginia Eye Surgery Center	22031
	Northern Virginia Surgery Center	22033
	Potomac Ambulatory Surgery Center, LLC	22031
	Reston Hospital Center	20190
	Reston Surgery Center	20190
	Skin Cancer Outpatient Surgical Hospital	22182
	Kaiser Permanente Falls Church Medical Center	22046
Falls Church City	Healthsouth Rehabilitation Hospital Of Northern Virginia	20105
Loudoun County	Inova Loudoun Ambulatory Surgery Center	20176
	Inova Loudoun Hospital	20176
	Inova Surgery Center - Countryside	20165
	Prince William Ambulatory Surgery Center	20110
Manassas City	Prince William Hospital	20110
	None	-
Manassas Park City	Potomac Hospital	22191
Prince William County	Sentara Potomac Hospital	22191

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.

Ambulatory surgery centers appear in **Exhibit 58** 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 are three FQHCs located in the Inova Fairfax community.

1. 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.
2. The Greater Prince William Community Health Center, located in Woodbridge (ZIP code 22192), provides family medicine services including primary, prenatal, dental, and behavioral health care. The health center is open five days per week with extended hours on Wednesday.<sup>29</sup>
3. ANHSI currently is located in Alexandria (ZIP code 22305) but recently acquired a physician practice located in Fairfax County; it will soon provide services in the community served by Inova Fairfax Medical Campus. The health center is open five days per week with evening hours on Tuesday, Wednesday, and Thursday.<sup>30</sup>

**Exhibit 59** presents the number of primary care physicians, mental health providers, and dentists per 100,000 population. The number of professionals available on a per-capita basis is well below Virginia averages in several areas served by Inova Fairfax Medical Campus.

**Exhibit 59: Health Professionals per 100,000 Population by Jurisdiction**

Jurisdiction	Primary Care Physicians*		Mental Health Providers*		Dentists*	
	Number	Rate per 100,000	Number	Rate per 100,000	Number	Rate per 100,000
Fairfax County	1,621	159.0	663	65.0	912	88.7
Fairfax City	8	33.2	31	128.8	49	226.0
Falls Church City	46	405.0	30	264.1	29	264.9
Loudoun County	296	102.0	101	34.8	171	61.1
Manassas City	74	213.5	12	34.6	30	85.8
Manassas Park City	N/A	N/A	2	17.5	2	15.8
Prince William County	242	66.1	72	19.7	118	32.1
<b>Virginia</b>	<b>9,676</b>	<b>124.1</b>	<b>3,788</b>	<b>48.6</b>	<b>2,896**</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 jurisdiction to assist in meeting health needs, including county health departments and human services departments.

Some of these include:

- Three Federally Qualified Health Centers, Alexandria Neighborhood Health Services, Inc., Loudoun Community Health Center, and the Greater Prince William Community Health Center;
- The Fairfax County, Loudoun County, and Prince William County health departments and their associated clinics;
- Free clinics and other clinics that serve underserved populations, including the Jeannie Schmidt Free Clinic (which merged with Loudoun Community Health Center in Fall 2012), Loudoun Free Clinic, Prince William Area Free Clinic, Mission Life Center Hope Clinic, Lions Eye Clinic, and the Northern Virginia Dental Clinic;
- InovaCares initiatives including Inova CaresClinic for Children, Inova CaresClinic for Women, and the Inova Juniper Program (which serves clients with HIV/AIDs);
- Low cost prescription services such as the Fairfax County Prescription Discount Card and NovaScripts Central;
- The Fairfax-Falls Church, Loudoun County, and Prince William County Community Services Boards (which serve clients who are mentally ill);
- Two Fairfax County Community Health Center Network (CHCN) locations (which serve low-income, uninsured patients); and
- The Reston Hospital Center and Prince William Health Systems.

The Inova Juniper Program soon will be opening a clinic in Leesburg. 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:

- Alexandria City Department of Community and Human Services:  
<http://alexandriava.gov/DCHS>
- Alexandria City Health Department Healthy Links:  
<http://alexandriava.gov/health/info/default.aspx?id=11464>
- Alexandria City Health Department Medical Services:  
<http://alexandriava.gov/health/info/default.aspx?id=11444>
- Fairfax County Health Department Safety Net Contact List:  
<http://www.fairfaxcounty.gov/hd/pcs/pcspdf/chcn-safety-net-contact-list.pdf>
- Fairfax County Health Department A-Z:  
<http://www.fairfaxcounty.gov/hd/a-z-hd.htm>
- Fairfax County Human Services Resource Guide:  
<http://www.fairfaxcounty.gov/hsrg/>
- Fairfax County Public Schools Low Cost Health Care Resources in Northern Virginia:  
<http://www.fcps.edu/HyblaValleyES/resources/Clinics.pdf>
- 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>
- Prince William County Health Department:  
<http://www.pwcgov.org/government/dept/health/Pages/default.aspx>
- 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 2005. Thirteen such assessments have been conducted in the Inova Fairfax area and are publicly available. Summary findings from these assessments are provided below, with the most recent presented first.

### 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>31</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.
- 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. The George Mason University College of Health and Human Services

In 2012, George Mason University published a report entitled *Recommendations to the Fairfax County Health Care Reform Implementation Task Force*.<sup>32</sup> This report summarized Fairfax County's health status and healthcare resources as context for the consideration of options for responding to the recent federal health reform law.

Health status and healthcare access findings in the report are as follows:

- Although Fairfax County as a whole is comparatively wealthy and asset-rich, inequalities exist in health status and healthcare access, particularly for low-income populations and racial and ethnic minorities in the Richmond Highway Corridor, Bailey's Crossroads-Culmore area, and the Reston-Herndon area.
  - The number of families living at or below 200 percent of poverty increased 33 percent from 2000-2009.

- The high cost of living in the county particularly has affected those living on low or fixed incomes.
- Mortality rates, teen pregnancy, low birth weights and infant mortality rates, cancer, high blood pressure, and communicable disease rates were highest for Black residents.
- Thirteen percent of Fairfax County residents lacked health insurance in 2010. Eight percent of children five years of age and younger lived in poverty.
  - Hispanic residents are most likely to be uninsured. This group accounts for 30 percent of the total uninsured population in the county.
- An estimated 23 percent of the uninsured population was served by Fairfax County's safety net providers, specifically the Community Service Boards (CSBs) and Community Health Care Network (CHCN) clinics. Roughly 40 percent of the uninsured population seeks care each year.
- Approximately half of the county's uninsured population may gain insurance coverage as a result of healthcare reform; at least half of those individuals will obtain private coverage rather than Medicaid. The county's safety net services can be instrumental in maintaining access to care during this transition.
- The area is expecting a shortage of primary care physicians in coming years. Thirty-nine percent of the county's primary care physicians were 60 years of age or older in 2010 and are anticipated to retire within the next few years. Few new physicians are electing primary care.
  - The area lacked sufficient physicians and specialists to treat low-income, Medicare, and Medicaid patients. Dental health professionals, as well as physicians who serve children, the chronically ill, the elderly, and those with disabilities, will be in greatest demand in upcoming years. The area especially lacked mental and behavioral health providers, regardless of insurance status. These problems will be compounded when the health reform law takes effect.
- Fairfax County care providers need to collaborate to improve access to services. The development and implementation of information technology is recommended to support integrated service delivery, administrative functions, and coordination among providers.
- The community would benefit from an outreach campaign to educate residents about new coverage options and services.

### **3. The 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>33</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.



#### **4. Fairfax County Department of Neighborhood and Community Services and Fairfax County Public Schools**

The *School Year 2011-2012 Fairfax County Youth Survey*<sup>34</sup> was developed collaboratively by the Fairfax County Public Schools and Department of Neighborhood & Community Services. This survey, administered on a confidential basis to students in grades six, eight, ten, and twelve, offers insight into youth behaviors and trends in substance abuse, mental health, violence and delinquency, overall health status, and health risk behaviors.

Summary findings from the most recent survey are listed below:

- Alcohol was the most commonly used substance among Fairfax County youth, but the prevalence of students who used alcohol in the last month (22 percent) was lower than the national average. Twelfth graders reported the highest percentage of alcohol use at 37 percent.
- Approximately four percent of eighth graders reported using inhalants in the past month compared to one percent in twelfth grade. Twenty percent of twelfth graders reported using marijuana. This is more than five times the rate reported by eighth graders.
- Thirty-two percent of students reported experiencing depression in the past year. Females and Hispanics were more likely to experience depression.
- Twenty-six percent of Fairfax County youth reported eating five servings of fruits and vegetables per day, almost twice the national average.
- Thirteen percent of females reported engaging in one hour or more of physical activity for at least seven days per week compared to 28 percent of males. Physical activity levels decrease with students' age.
- Fifty-one percent of students reported being bullied in the past year. Bullying was most prevalent in eighth and tenth grades.
- Two-thirds of youth who report being sexually active also report using a condom. Twenty percent of students report having ever had sex. Black and Hispanic students are more likely to have had sex than other groups, at 30 and 32 percent, respectively.
- Female students had a higher likelihood of considering committing suicide, at 20 percent, compared to males at 12 percent.

#### **5. Northern Virginia Health Foundation**

In September of 2011, the Northern Virginia Health Foundation commissioned a report entitled *Oral Health in Northern Virginia*.<sup>35</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 Medicaid's "Smiles for Children" program received no dental services at all in 2009. Benefits for adults enrolled in Medicaid are 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, and more than 300 patients typically are waiting for care.
- The report identifies barriers to accessing dental care including: low income levels, high costs of care, lack of transportation, a lack of access to dental insurance, 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 seek 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 report waiting to get a tooth pulled, compared to higher-income adults.
- Only about 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 pregnancy compared to three percent of higher-income women.

## 6. Partnership for a Healthier Fairfax MAPP Report

The *Community Health Status Assessment Report*,<sup>36</sup> published by the Partnership for a Healthier Fairfax in September 2011, provided an overview of the health and wellbeing of Fairfax County. Partnership for a Healthier Fairfax utilized the Mobilization for Action through Planning and Partnerships (MAPP) process to identify public health issues. The regions that were included in this study are Fairfax County, the City of Fairfax, the City of Falls Church, and the subregions of Herndon, Clifton, and Vienna.

Key problem area categories included:

## 1. Income Disparities

- While Fairfax County was one of the most affluent areas in the US, the number of residents living in poverty increased 33 percent from 2000-2009.
- In 2009, six percent of individuals were living in poverty.
- Reston, Herndon, Bailey's Crossroads-Culmore, Central Fairfax, and the Richmond Highway corridor had a high percentage of people living in poverty.

## 2. Access

- More than one out of every 10 residents of the county lacked health insurance in 2009, though more residents were likely to have health insurance than the US average.
- Virginia's eligibility criteria for Medicaid were between 80 percent and 133 percent of FPL, depending on the program; eligibility criteria for SCHIP were less than 185 percent of FPL. Additionally, many primary care physicians were unwilling to accept new Medicaid patients due to reimbursement and other concerns.
- Fairfax County is anticipating a shortage of primary care physicians, nurses, and specialists due to the number of physicians reaching retirement age. New physicians entering the medical profession are less likely to elect primary care, and those who do choose a primary care practice are not entering at a rate fast enough to replace those who are leaving. Providers willing and able to serve children, the chronically ill, the elderly, and those with disabilities and/or mental disorders will be in greatest demand.

## 3. Health Behaviors

- Fifty-four percent of Fairfax County's adult population was physically inactive. The county benchmarks poorly on this indicator compared to other areas of Virginia.
- Seventy-two percent of residents ate fewer than five servings of fruits and vegetables daily.
- Fifty-two percent of county residents were overweight or obese.
- Alcohol was the most commonly abused substance for individuals under the age of 18.
- Twenty percent of the Fairfax County population suffered from high blood pressure.

## 4. Housing

- The cost of living in Fairfax County was high. The county is among the most expensive areas in the nation for housing. The elderly and low-income populations were burdened by housing costs.

## 5. Mental Health

- Fairfax Public Schools reported a rate of depression that was higher than the national average. Suicide was one of the leading causes of death among youth and young adults in Fairfax County.

#### 6. Infectious Disease

- Tuberculosis rates were more than two times higher than Virginia and national averages.

#### 7. Environment

- Air quality was ranked as the poorest in Virginia.
- Initiatives to improve public transportation lagged behind need.
- Most marine and freshwater recreational waters in Fairfax County failed to meet water quality regulations and guidelines.
- Fairfax County saw significant increases in the number of reported cases of Lyme disease since 2000. Fairfax County's rate of 25 cases per 100,000 persons was more than double the Virginia rate.
- Incidence of animal rabies in Fairfax County consistently was one of the highest out of all Virginia counties between 2000 and 2009.
- In 2009, 13 times as many Lyme disease cases were reported than were reported in 2000.

### **7. Prince William Area Coalition for Human Services and Prince William United Way, 2011**

In 2011, the Prince William Area Coalition for Human Services and Prince William United Way published the *Greater Prince William County Community Needs Assessment*<sup>37</sup> with the goal of improving the quality of life in Prince William County and the cities of Manassas and Manassas Park.

Key areas of need were:

- An increase in financial hardship has forced residents to choose between meeting basic needs such as food, shelter, and utilities, and obtaining healthcare. In 2009, six percent of Prince William County residents lived in poverty.
- The community had a higher rate of uninsurance compared to peer counties and a lower rate of primary care physicians. The community would benefit from an increase in safety net services, but funding for such services has been limited.
- The community was in need of supportive housing and transportation, especially for the disabled, elderly, and low-income populations.
- Seniors required increased access to affordable in-home care, chronic disease management, and mental health services.

- Teen pregnancy rates and preventable hospital stays benchmarked unfavorably in the Greater Prince William County area compared to peer counties.
- The number of suicides in the area had been increasing since 2006.
- Investments in public libraries, health services programs and other initiatives have been made to serve youth in the county. The physical infrastructure and funding for sports fields and parks, transportation services, and youth programs were lacking in the county.

## 8. 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>38</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 rates.
- 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.

## 9. 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>39</sup>

Important findings 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," is lacking in the region.

## 10. Loudoun County Health Department

In 2009, the Loudoun County Health Department published a report entitled *Loudoun County, Virginia Community Health Status Assessment*.<sup>40</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.
- 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.

## 11. Metropolitan Washington Council of Governments and Washington Regional Association of Grantmakers

The *Community Health Status Indicators for Metropolitan Washington*,<sup>41</sup> 2009, 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. Arlington County had the highest at 73 percent.

- In the city of Fairfax and the counties of Fairfax and Prince William, 12 to 15 percent of the population over five years of age did not speak English well.
- Fairfax, and Prince William counties and the cities of Fairfax, Falls Church, Manassas, and Manassas Park reported higher percentages of women not receiving prenatal care than the goal established by the federal government in Healthy People 2010.
- All jurisdictions reported breast cancer mortality rates higher than the Healthy People 2010 goal. The counties of Loudoun and Prince William, and the cities of Fairfax and Falls Church reported rates over the national average.
- Prince William County reported the highest number of mental or physical unhealthy days of the regions.
- Black infant mortality rates were higher than the national average in Prince William County and Manassas City.
- Stroke death rates in Manassas and Manassas Park cities were 87 and 95 per 100,000 population, respectively, compared to a national average of 53 per 100,000 population.
- Fairfax and Falls Church cities had motor vehicle injury death rates that were significantly higher than the national average of 15 per 100,000 population.
- Fairfax City had the highest suicide rate of all jurisdictions at 13 per 100,000 population compared to a national average of 11.
- The tuberculosis rate in Fairfax County was more than twice the national average.
- Over 15 percent of the population reported being obese in Fairfax, Loudoun, and Prince William counties and the city of Manassas. In the jurisdictions with available data, 67 percent or more adults do not eat five or more fruits and vegetables per day.
- Higher percentages of residents reported being current smokers in Prince William County and the city of Manassas compared to peer jurisdictions.

## 12. Voices for Virginia's Children

In 2009, Voices for Virginia's Children<sup>42</sup> compiled data from the surveys conducted in secondary schools in Northern Virginia, including data from the *Fairfax County Youth Survey* conducted by the Fairfax County Department of Neighborhood and Community Services and Fairfax County Public Schools. Surveys were conducted in Arlington, Fairfax, and Loudoun counties, and in the City of Alexandria.

Findings about youth health risk behaviors include the following:

- Although lower than the national averages, alcohol was the most commonly abused substance. In Fairfax County, 27 percent of 10<sup>th</sup> and 43 percent of 12<sup>th</sup> grader consumed alcohol in the last month. In Loudoun County, 31 percent of 10<sup>th</sup> and 43 percent of 12<sup>th</sup> graders consumed alcohol in the last month.
- Although lower than the national averages, marijuana was the most abused illicit drug in this region. In Fairfax County, nine percent of 10<sup>th</sup> graders and 17 percent of 12<sup>th</sup> graders used marijuana in the last month. In Loudoun County, 13 percent of 10<sup>th</sup> graders and 17 percent of 12<sup>th</sup> graders used marijuana in the last 30 days.

## 13. Prince William Area Coalition for Human Services and Prince William United Way, 2005

*The 2005 Hispanic Needs Assessment Report*,<sup>43</sup> published by the Prince William Area Coalition for Human Services and Prince William United Way, assessed data from a community survey and two focus groups to identify the unique needs of the Hispanic population in the Greater Prince William area. That area includes Prince William County and the cities of Manassas and Manassas Park.

Key findings included:

- Access to, as well as utilization and awareness of, available services were major concerns for the Hispanic (or Latino) population.
  - The assessment identified a need for an integrated, culturally competent community system that supports, values, and respects Hispanic (or Latino) families.
  - More information should be disseminated in Spanish through multiple communication outlets.
  - The community also lacked access to a sufficient number of culturally competent and linguistically capable health professionals.
- In 2004, over 14 percent of the community's population was Hispanic (or Latino). A high percentage of this population is low income and required assistance meeting basic needs such as food and housing.
  - Eight percent of households received food stamps, 10 percent were without food, and 16 percent of households received reduced price lunches.



- Thirty-eight percent of households occasionally ran out of money for basic needs in the past 12 months.
- Nationally, 34 percent of the Hispanic (or Latino) population was uninsured in 2004.
  - Twenty-five percent of respondent households had been without medical care and 54 percent had problems getting healthcare, mostly, 73 percent, due to financial constraints.
  - In 2004, 30 percent of households had gone without needed dental care or knew someone who did.
  - In 2005, 22 percent of respondents received Medicaid.
- The Hispanic (or Latino) community needed life skills education such as English as a second language instruction, banking and credit education, and parenting classes. Local ESL classes were at capacity, some maintaining waiting lists.
- Limited public transportation routes and hours have impeded this population's access to healthcare services.
- The community lacked affordable childcare. Residents reported difficulty finding childcare providers who spoke their language.
- Local health providers offering free or discounted care were operating at capacity and had long waiting lists.
- There had been a growing need for culturally appropriate domestic violence and substance abuse services in the community.

## Secondary Data Indicators of Concern

This assessment analyzed secondary data regarding demographics, social and economic factors, health behaviors, morbidity, mortality, and physical environment. **Exhibit 60** presents the indicators that appeared most unfavorable in the Inova Fairfax community when compared to national, state, or local benchmarks. Further details and discussion regarding these indicators can be found in previous sections.

**Exhibit 60A: Secondary Data Indicators of Concern**

Category	Indicator	Location	Community Value	Benchmark	Data Format	Benchmark Definition
Demographics	Growth in "Other" (not Black, White, or Asian) population 2013-2018	Community	5.0%	0.3%	Percent	White population
	Growth in Asian population 2013-2018	Community	4.6%	0.3%	Percent	White population
	Growth in Hispanic population 2013-2018	Community	5.8%	1.0%	Percent	Non-Hispanic population
	Growth in 65+ population 2013-2018	Community	6.7%	1.8%	Percent	Community Average
	Residents 5+ who are linguistically isolated	Community	9.4%-15.0%	5.7%	Percent	VA average
Social and Economic Factors	Poverty rate: Total	Manassas	11.7%	11.1%	Percent	VA average
	Poverty rate: Asian	Prince William	11.6%	8.9%	Percent	VA Asian average
	Unemployment rate	Falls Church	6.7%	6.0%	Percent	VA average
		Manassas	6.1%	6.0%	Percent	VA average
	Unemployment rate: Asian	Loudoun	6.3%	5.8%	Percent	VA average
		Prince William	8.0%	5.8%	Percent	VA average
	Section 8 housing assistance wait time	Loudoun	20	10	Months	VA average
		Manassas Park	17	10	Months	VA average
		Prince William	13	10	Months	VA average
	Low-income households 2008	Mt. Vernon				
		South/Et. Belvoir	11.6%	6.3%	Percent	IFH service area total
		Lincolnia/Bailey's				
		Crossroads	12.1%	6.3%	Percent	IFH service area total
	Uninsured population	Manassas West	11.2%	6.3%	Percent	IFH service area total
		Prince William	14.8%	13.1%	Percent	VA average
		Fairfax	13.5%	13.1%	Percent	VA average
	Medicaid discharges	Lincolnia/Bailey's				
	Uninsured discharges	Crossroads	19.3%	10.9%	Percent	IFH service area total
		Woodbridge	9.9%	5.3%	Percent	IFH service area total
	Educational achievement	Manassas	117	131	County rank	Number of counties
		Manassas Park	77	131	County rank	Number of counties
	Family and social support	Manassas	73	131	County rank	Number of counties
	Births to women age 40-54	Fairfax City	4.5%	2.7%	Percent	U.S. average
		Fairfax	5.5%	2.7%	Percent	U.S. average
		Falls Church	6.1%	2.7%	Percent	U.S. average
		Loudoun	4.1%	2.7%	Percent	U.S. average
	No prenatal care in first trimester	Manassas	26.1%	14.5%	Percent	VA average
		Manassas Park	33.3%	14.5%	Percent	VA average
		Prince William	20.8%	14.5%	Percent	VA average
	Births to women under 18	Manassas Park	3.5%	3.4%	Percent	U.S. average

Source: Verité analysis of secondary data

**Exhibit 60B: Secondary Data Indicators of Concern**

Category	Indicator	Location	Community Value	Benchmark	Data Format	Benchmark Definition
Health Behaviors	Diet and Exercise	Manassas Park	69	131	County rank	Number of counties
	Alcohol use	Falls Church	76	131	County rank	Number of counties
		Fairfax	84	131	County rank	Number of counties
		Loudoun	72	131	County rank	Number of counties
		Prince William	78	131	County rank	Number of counties
	Unsafe sex	Fairfax City	83	131	County rank	Number of counties
		Manassas	99	131	County rank	Number of counties
		Manassas Park	100	131	County rank	Number of counties
	Current smoker	Manassas	28.6%	16.4%	Percent	VA average
	Heavy drinkers	Fairfax	8.9%	4.4%	Percent	VA average
		Loudoun	7.3%	4.4%	Percent	VA average
	Binge drinkers	Fairfax	12.7%	9.7%	Percent	VA average
		Prince William	11.8%	9.7%	Percent	VA average
Health Outcomes: Morbidity	Asthma	Fairfax City	17.4%	8.9%	Percent	VA average
		Prince William	10.3%	8.9%	Percent	VA average
	Diabetes	Manassas	14.3%	13.1%	Percent	VA average
		Fairfax City	78.3%	61.9%	Percent	VA average
	Obesity/Overweight	Manassas	71.4%	61.9%	Percent	VA average
		Prince William	64.0%	61.9%	Percent	VA average
		Fairfax City	17.4%	13.9%	Percent	VA average
	Poor dental health	Manassas	14.3%	13.9%	Percent	VA average
		Fairfax City	13.0%	9.1%	Percent	VA average
	Reported poor physical health	Fairfax City	1.7%	1.5%	Percent	U.S. average
	Very low birth weight infants	Falls Church	3.4%	1.6%	Percent	VA average
		Falls Church	3.4%	1.6%	Percent	VA average
	Breast cancer incidence	Fairfax	6	35	Health district rank	Bottom 50% health districts
	Prostate cancer incidence	Prince William	17	35	Health district rank	Bottom 50% health districts
	Ovarian cancer incidence	Fairfax	16	35	Health district rank	Bottom 50% health districts
	Syphilis diagnoses	Falls Church	8.1	6.5	Rate per 100,000	VA average
	Chlamydia diagnosis	Falls Church	486.5	393.2	Rate per 100,000	VA average
	Residents living with HIV/AIDS	Falls Church	1,597.5	297.6	Rate per 100,000	VA average
		Fairfax City	1,050.3	297.6	Rate per 100,000	VA average
		Manassas	597.6	297.6	Rate per 100,000	VA average
	Tuberculosis	Community	3.7-7.2	2.7	Rate per 100,000	VA average

Source: Verité analysis of secondary data.

Exhibit 60C: Secondary Data Indicators of Concern

Category	Indicator	Location	Community Value	Benchmark	Data Format	Benchmark Definition
Health Outcomes: Mortality	Hispanic infant mortality	Fairfax City	8.9	5.6	Rate per 1,000 live births	U.S. average
		Loudoun	8.3	5.6	Rate per 1,000 live births	U.S. average
	Black non-Hispanic infant mortality	Loudoun	18.7	13.6	Rate per 1,000 live births	U.S. average
		Manassas	20.9	13.6	Rate per 1,000 live births	U.S. average
	Neonatal infant mortality	Prince William	4.7	4.5	Rate per 1,000 live births	U.S. average
	Post-neonatal infant mortality	Falls Church	3.3	2.3	Rate per 1,000 live births	U.S. average
	Infant mortality	Manassas Park	47.6	6.8	Rate per 1,000 live births	VA average
	Homicide	Fairfax City	9.5	6.1	Rate per 100,000	U.S. average
		Manassas	7.3	6.1	Rate per 100,000	U.S. average
	Breast cancer	Fairfax City	49.8	24.1	Rate per 100,000	U.S. average
		Falls Church	59.1	24.1	Rate per 100,000	U.S. average
		Loudoun	32.0	24.1	Rate per 100,000	U.S. average
		Manassas	32.6	24.1	Rate per 100,000	U.S. average
	Colon cancer	Fairfax City	42.1	17.5	Rate per 100,000	U.S. average
		Manassas Park	50.4	17.5	Rate per 100,000	U.S. average
	Lung cancer	Fairfax City	87.5	52.6	Rate per 100,000	U.S. average
		Manassas Park	115.8	52.6	Rate per 100,000	U.S. average
	Stroke	Manassas	79.9	47.0	Rate per 100,000	U.S. average
		Manassas Park	106.6	47.0	Rate per 100,000	U.S. average
	Parkinson's disease	Fairfax City	8.9	6.5	Rate per 100,000	VA average
	Hypertension and renal disease	Fairfax City	13.3	7.4	Rate per 100,000	VA average
	Unintentional injury	Falls Church	43.1	39.1	Rate per 100,000	U.S. average
		Fairfax City	44.3	32.1	Rate per 100,000	VA average
	Diabetes	Fairfax City	26.6	19.1	Rate per 100,000	VA average
	Influenza and pneumonia	Falls Church	24.3	14.8	Rate per 100,000	VA average
		Manassas	29.1	14.8	Rate per 100,000	VA average
	Suicide	Fairfax City	26.6	12.3	Rate per 100,000	VA average
Physical Environment	Environmental quality	Community	110-131	131	County rank	Number of counties
	Built environment	Manassas Park	94	131	County rank	Number of counties
		Prince William	67	131	County rank	Number of counties
	Community safety	Falls Church	85	131	County rank	Number of counties
		Manassas	121	131	County rank	Number of counties
		Manassas Park	73	131	County rank	Number of counties
		Prince William	72	131	County rank	Number of counties
	Violent crime	Manassas	379.8	217.9	Rate per 100,000	VA average
	Food desert	Community	Present	N/A	N/A	No benchmark

Source: Verité analysis of secondary data.

## 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 Fairfax were conducted with 45 key informants, including external stakeholders (those not affiliated with Inova Fairfax 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 for primary care, specialty care, and medication— in particular for community residents who are low-income, uninsured or underinsured, immigrants, or undocumented. This is also an issue for insured, low-wage earners due to high co-pays and deductibles. The current safety net increasingly is resource constrained and unable to meet growing demand. Interviewees report high emergency room utilization by low-income and uninsured populations.
  - **Lack of Access to and Affordability of Insurance.** Health insurance is unaffordable for many lower-income residents. Minority populations, recent immigrants, and undocumented people are most vulnerable to these concerns. A number of interviewees mentioned that Medicare beneficiaries have difficulty affording supplemental insurance. Interviewees mentioned residents in parts of Loudoun County and the Mt. Vernon area as being most vulnerable to these concerns.
  - **Lack of Access to and Low Usage of Preventive Care Services.** A number of interviewees raised concerns about access to prevention services, in particular for low-income and undocumented community members. Interviewees mentioned that reimbursement issues affect the amount of preventive care that is provided. These issues are most prevalent in parts of Loudoun County and Prince William County. Additionally, many immigrants and young adults are choosing not to access preventive care services or get recommended immunizations.
  - **Lack of Collaboration Among Providers.** Interviewees encouraged greater collaboration among providers in the Inova Fairfax community. Interviewees

noted that community organizations work in “silos” that negatively impact the care provided to residents. Several interviewees mentioned the need for more integration between safety net providers and other hospital, primary care, specialty care, and mental health care providers.

- **Lack of Mental Health Services.** Virtually all interviewees cited a lack of mental health services as a major concern. Community members who have limited English proficiency experience language barriers when seeking counseling. Veterans returning to the area from war, those who are severely mentally ill, persons requiring inpatient treatment, and children are experiencing significant challenges accessing mental health care. Although this was identified as a problem for all age groups and income levels, interviewees mentioned low-income residents as most vulnerable to these concerns. Interviewees reported long waiting lists at safety-net clinics.
- **Lack of Affordable and Accessible Dental Care.** Access to dental care was frequently mentioned and dental insurance is unaffordable for many residents. Such access is particularly problematic for low-income, uninsured, or undocumented adults and for Hispanics or Latinos. Interviewees noted a gap in services for adult Medicaid beneficiaries and those slightly above the poverty line. Existing dental clinics are unable to meet current and growing demand due to long waiting lists and the cost of providing services. Residents in the eastern part of Loudoun County and Prince William County are most vulnerable to these concerns.
- **Lack of Providers and Physicians (Including Specialists).** The Inova Fairfax area is experiencing an undersupply of physicians despite population growth. Interviewees mention the following types of gaps: primary care physicians, mental health providers, and dentists who accept Medicaid, Medicare, and new patients; specialists and psychiatrists willing to provide on-call coverage; endocrinologists; obstetricians for complex cases; and specialists who accept Medicaid (leading to the need to refer specialty care for Medicaid and uninsured people to the University of Virginia). Additionally, there is a need for obstetrics and pediatrics in Prince William County. Interviewees mentioned the low-income and homeless populations as most vulnerable to these concerns.
- **Lack of Case Management and Services for Seniors.** The aging of the population is leading to a need for increased community-based care for seniors. Additionally, seniors are in need of chronic disease management, education about self-management of disease, and care that is sensitive to comorbidities, as well as mental health and psychosocial issues.
- **Transportation Barriers.** Certain residents of the community also experience access barriers due to transportation problems. These problems have the largest impact on seniors, the low-income, those who need to travel long distances for care, and persons living in the western parts of Fairfax County and Sterling. Residents who rely on public transportation frequently must utilize multiple forms of public transportation to access care, while residents traveling by car are

impacted by traffic congestion, particularly during rush hour. Transportation barriers contribute to high no-show rates as safety net clinics.

- **Morbidity/Health Status Issues**

- **Mental and Behavioral Health.** Poor mental health increasingly is prevalent in the community for children and those suffering from stress, depression, and anxiety. Many people have co-morbid physical and mental health conditions. Stigmas prevent certain cultural groups from seeking mental health services.
- **Rates of Obesity/Overweight.** Virtually all informants mention obesity/weight as a major problem area. The prevalence of obesity is highest in low-income, minority populations; stress and sedentary lifestyles also contribute. Many interviewees recommended a major focus on children and adolescents.
- **Rates of Diabetes.** Several interviewees expressed concern over the rates of diabetes in children, and the difficulty treating complex patients with co-morbid conditions. Uninsured and underinsured residents who are not eligible for prescription assistance are unable to manage this chronic disease.
- **Rates of Cardiovascular Disease.** Residents expressed concern over growing rates of cardiovascular disease, especially in low-income and minority populations. Poor diet and exercise, as well as stress, are contributing factors.
- **Rates of High Blood Pressure.** Interviewees expressed concern over the impact of stress on the rates of high blood pressure.
- **Alcohol Use.** Several interviewees mentioned the prevalence of alcohol abuse as problematic, including among higher-income community residents, adolescents, the homeless, and immigrants. Some expressed concern about public drunkenness, while others express concern over residents who self-medicate.
- **Poor Dental Health.** Lack of access to dental services is contributing to poor dental health. The homeless, low-income, and recent immigrants are particularly vulnerable. A lack of dental care for vulnerable populations is “one of the biggest” problems in the community. Many residents delay seeking care.
- **Smoking.** Residents note high rates of smoking in the Inova Fairfax community, especially among teenagers, young adults, and blue collar workers.
- **Poor Diet and Exercise.** Several interviewees mentioned poor diet and exercise as problematic, especially among youth. Access to healthy food is difficult for low-income populations and residents in Bailey’s Crossroads.

- **Social and Economic Issues**

- **Basic Needs Insecurity: Food, Housing, Utilities.** Many interviewees indicated that certain lower-income groups of community residents and immigrants are experiencing problems with access to healthy food and a lack of affordable housing. Residents also noted that there are areas of over-occupied houses and apartments, particularly in Reston/Herndon and along the Route 1 corridor. Housing costs frequently are a high percentage of a resident’s income.

- **Cultural/Language Barriers.** The area's immigrant and minority population face barriers to accessing health and social services. Linguistic isolation and a lack of health system knowledge contribute to these barriers. Many recent immigrants attach a stigma to seeking certain healthcare services, while undocumented residents fear potential repercussions of seeking services. This is particularly prevalent in Prince William County.
- **Financial Hardship and Unemployment.** Although the area as a whole is wealthy, pockets of poverty are present. Several interviewees mentioned that low-income residents, as well as ex-offenders, are particularly vulnerable.
- **Lack of Community Health Education.** Interviewees mentioned that many residents are not informed about breastfeeding, chronic disease management, correct usage of medication, and the importance of dental health. Residents suggested that health education programs be aimed toward children, immigrants, and young adults. Additionally, many residents, especially recent immigrants, lack health literacy and knowledge about how to navigate the health care system. The area lacks culturally sensitive health education.

## Community Survey Findings

Inova Fairfax 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 707 residents from the Inova Fairfax community 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-six percent of respondents were female and 14 percent were male.

Additional characteristics of the survey participants are as follows:

- The majority (89 percent) of respondents speak English in the home and speak English very well (86 percent). Spanish was the top non-English language reported. Of those respondents who speak a language other than English in the home, 77 percent reported speaking English less than "very well."
- Forty-one percent of respondents know someone with a disability.
- Approximately four percent of respondents reported being unemployed.

**Exhibit 61** presents the percentage of respondents from each subregion. The subregions with the highest percentage of respondents were Annandale/North Springfield, East Fairfax 29/50 Corridor, and GMU/Burke.



## Exhibit 61: Survey Responses, 2012 – Respondents by Subregion

Subregion	Percent of Respondents
Annandale/North Springfield	10.0%
Centreville	4.2%
Chantilly	0.7%
Clifton/Fairfax Station	2.7%
Dale City/Dumfries/Quantico	2.4%
East Fairfax 29/50 Corridor	9.1%
Fairfax City	4.8%
Franconia/Kingstowne	4.4%
Gainesville/Haymarket/Bull Run	1.0%
GMU/Burke	9.1%
Lake Ridge/Occoquan	1.1%
Lincolnia/Bailey's Crossroads	4.7%
Lorton/Newington	1.4%
Manassas East	0.6%
Manassas West	1.3%
McLean/Great Falls	3.1%
Mt. Vernon South/Ft. Belvoir	5.0%
Oakton/Fair Lakes/South Herndon	5.5%
Reston/Herndon	4.8%
South Riding/Aldie	2.4%
Springfield	7.8%
Sterling/Dulles	5.7%
Vienna	5.0%
West Falls Church	1.8%
Woodbridge	1.6%
<b>Total Responses</b>	<b>707</b>

Source: Inova Community Survey, 2012.

*55 of the community's 64  
ZIP codes were represented  
in the survey*

...

*The subregion of  
Annandale/North Springfield  
had the highest percentage  
of respondents at 10%*

It is important to consider the generalizability of a survey sample. The survey respondents do not adequately represent the diversity of the 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 Fairfax community, respondents most often chose obesity, heart disease, and diabetes. Seven percent of the community respondents chose "Other" as a top health issue. Due to the small sample size of Inova Fairfax 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 62**).

### Exhibit 62: Survey Responses, 2012 -- Top Health Issues

Response	Percent of Respondents*	"Other" Responses	Percent of Responses*
Obesity	75.6%	Lyme disease	17.5%
Heart disease	63.8%	Lifestyle issues	15.0%
Diabetes	63.6%	High blood pressure	12.5%
Cancer	54.9%	Access to care	7.5%
Mental health: depression, bipolar,	41.5%	Aging needs	7.5%
Addiction / Substance abuse	27.8%	Disability	6.3%
Asthma	26.4%	Lack of chronic disease management	5.0%
Alzheimer's or dementia	25.1%	Mental health	5.0%
Tobacco use	24.9%	Communicable diseases	5.0%
Stroke	16.6%	Neurology	3.8%
Osteoporosis	9.7%	Allergies	2.5%
Other	7.0%	Oral Health	1.3%
HIV / Sexually transmitted diseases	5.4%	ADHD	1.3%
Birth defects	1.4%	Pediatrics	1.3%
Hepatitis A	0.4%	Auto-immune disorders	1.3%
*Percentages are based on the number of Inova Fairfax respondents who identified top health issues in the community. N = 698		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 "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. Six percent of respondents reported being uninsured.

**Exhibit 63** 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 urgent care facilities or store-based walk-in clinics. 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 63: Survey Responses, 2012 – Routine Medical Care

Response	Insurance Coverage		
	All Types	Private Coverage	Uninsured/Medicaid
Private medical professional (MD, APN, PA)	87.6%	93.6%	21.7%
Urgent care facility or store-based walk-in clinic	8.7%	8.7%	10.9%
Hospital emergency room	6.6%	3.1%	39.1%
Free or low-cost clinic or health center	5.7%	0.8%	63.0%
Other	4.9%	4.2%	2.2%
Provider of alternative medicine	3.7%	3.7%	2.2%
No routine medical care received	3.0%	1.5%	28.3%

All Types (N=700), Private Coverage (N=519), Uninsured/Medicaid (N=46).  
Source: Inova Community Survey, 2012.

Exhibit 64 presents the accessibility of various types of health care. Few respondents had difficulty accessing basic medical care. Survey data indicate that dental care, medical specialty care, and medicine and supplies are less accessible. Fifteen percent of respondents reported rarely or never being able to get needed mental health care – the least accessible of the five health care types.

### Exhibit 64: Survey Responses, 2012 – Able to Get Needed Care

Response	Percent of Respondents				
	Basic Medical Care	Dental Care	Mental Health Care	Medical Specialty Care	Medicine and Supplies
Always	91.6%	85.5%	72.3%	82.9%	86.4%
Sometimes	6.0%	9.2%	12.7%	10.9%	9.8%
Rarely	1.9%	3.4%	4.7%	2.8%	2.8%
Never	0.6%	1.9%	10.3%	3.4%	1.0%

Basic Medical Care (N=702), Dental Care (N=697), Mental Health Care (N=622), Medical Specialty Care (N=679),  
Medicine and Supplies (N=685)  
Source: Inova Community Survey, 2012.

Exhibit 65 presents the percentage of respondents who reported “always” being able to get needed care by subregion; data indicate that access varies by type of care and locality. A higher percentage of respondents from Manassas West and Lincoln/Bailey’s Crossroads reported difficulty accessing care compared to other subregions. Across all subregions, fewer people were able to get mental health care, medical specialty care, and dental care.

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

Subregion	Percent of Respondents				
	Basic Medical Care	Dental Care	Mental Health Care	Medical Specialty Care	Medicine and Supplies
Annandale/North Springfield	95.7%	92.9%	74.1%	91.0%	90.9%
Centreville	93.3%	90.0%	81.5%	85.7%	89.7%
Chantilly*	80.0%	80.0%	80.0%	80.0%	80.0%
Clifton/Fairfax Station	100.0%	94.7%	88.2%	94.7%	100.0%
Dale City/Dumfries/Quantico	82.4%	76.5%	57.1%	76.5%	82.4%
East Fairfax 29/50 Corridor	81.3%	73.0%	62.5%	76.7%	76.6%
Fairfax City	94.1%	85.3%	64.5%	85.3%	87.9%
Franconia/Kingstowne	93.5%	87.1%	72.0%	89.7%	90.3%
Gainesville/Haymarket/Bull Run*	100.0%	100.0%	100.0%	100.0%	100.0%
GMU/Burke	96.9%	95.3%	74.5%	86.7%	90.0%
Lake Ridge/Occoquan*	87.5%	100.0%	62.5%	71.4%	75.0%
Lincolnia/Bailey's Crossroads	81.3%	74.2%	60.0%	74.2%	74.2%
Lorton/Newington*	100.0%	100.0%	77.8%	88.9%	100.0%
Manassas East*	100.0%	75.0%	75.0%	100.0%	75.0%
Manassas West*	71.4%	71.4%	50.0%	66.7%	71.4%
McLean/Great Falls	95.5%	90.9%	87.5%	90.9%	95.2%
Mt. Vernon South/Ft. Belvoir	79.4%	75.8%	48.3%	72.7%	72.7%
Oakton/Fair Lakes/South Herndon	89.7%	89.7%	76.3%	76.3%	84.2%
Reston/Herndon	85.3%	73.5%	63.3%	70.6%	76.5%
South Riding/Aldie	94.1%	82.4%	82.4%	76.5%	88.2%
Springfield	96.4%	92.7%	83.7%	88.9%	96.3%
Sterling/Dulles.....	97.5%	76.3%	54.3%	71.8%	76.9%
Vienna	100.0%	91.4%	97.1%	94.3%	97.1%
West Falls Church	100.0%	92.3%	92.3%	92.3%	92.3%
Woodbridge	81.8%	63.6%	70.0%	72.7%	100.0%
<b>All Subregions</b>	<b>91.6%</b>	<b>85.5%</b>	<b>72.3%</b>	<b>82.9%</b>	<b>86.4%</b>

**Key**

Least able to get needed care (bottom 25% of responses)

Small sample size (N=10 or less)

\*

Basic Medical Care (N=702), Dental Care (N=697), Mental Health Care (N=622), Medical Specialty Care (N=679), Medicine and Supplies (N=685)

Source: Inova Community Survey, 2012.

Respondents indicating they are not always able to get care were asked to identify barriers to access (Exhibits 67 and 68). Cost and lack of insurance were the two most frequently reported barriers to care.

Data indicate that females had more difficulty with cost of care and getting appointments than males, while males more often cited inconvenient hours and lack of transportation as barriers to access. Females also were more likely than males to lack insurance for all care types with the exception of dental care (Exhibit 67).

**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	28.6%	0.0%	28.6%	14.3%	0.0%	0.0%	57.1%	14.3%	(7)
Dental Care	55.6%	0.0%	11.1%	11.1%	0.0%	0.0%	55.6%	22.2%	(9)
Mental Health Care	21.4%	7.1%	7.1%	7.1%	0.0%	0.0%	14.3%	64.3%	(14)
Medical Specialty Care	44.4%	11.1%	11.1%	11.1%	0.0%	0.0%	22.2%	44.4%	(9)
Medicine and Medicinal Supplies	50.0%	0.0%	16.7%	16.7%	0.0%	0.0%	33.3%	50.0%	(6)
<b>Female</b>									
Basic Medical Care	50.8%	16.4%	11.5%	6.6%	0.0%	8.2%	59.0%	8.2%	(61)
Dental Care	68.1%	2.2%	4.4%	4.4%	2.2%	5.5%	51.6%	6.6%	(91)
Mental Health Care	37.7%	12.6%	4.4%	2.5%	6.9%	4.4%	22.0%	45.3%	(159)
Medical Specialty Care	48.5%	15.5%	10.3%	5.2%	0.0%	5.2%	43.3%	15.5%	(97)
Medicine and Medicinal Supplies	67.9%	1.3%	2.6%	5.1%	1.3%	6.4%	42.3%	16.7%	(78)
<b>Total</b>									
Basic Medical Care	48.5%	14.7%	13.2%	7.4%	0.0%	7.4%	58.8%	8.8%	(68)
Dental Care	67.0%	2.0%	5.0%	5.0%	2.0%	5.0%	52.0%	8.0%	(100)
Mental Health Care	36.4%	12.1%	4.6%	2.9%	6.4%	4.0%	21.4%	46.8%	(173)
Medical Specialty Care	48.1%	15.1%	10.4%	5.7%	0.0%	4.7%	41.5%	17.9%	(106)
Medicine and Medicinal Supplies	66.7%	1.2%	3.6%	6.0%	1.2%	6.0%	41.7%	19.0%	(84)

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 Fairfax 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**

<b>“Other” Responses</b>	<b>Percent of “Other” Responses*</b>
<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 residents who reported adverse risk behaviors and outcomes. Being overweight and not exercising on a regular basis were the most frequently cited behaviors in the community.

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

Behaviors	Percent of Respondents	Total Respondents (N)	<i>The majority of respondents reported being overweight</i>
Overweight	51.4%	(694)	
No regular exercise	45.0%	(686)	
Former smoker	33.3%	(693)	
Children or grandchildren overweight	16.9%	(697)	
Current smoker/tobacco user	4.4%	(707)	

Source: Inova Community Survey, 2012.



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

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

Vaccine	Percent of Respondents by Age			
	Males 15-44	Females 15-44	Males 45+	Females 45+
Flu / influenza in the last year	80.0%	76.2%	88.2%	91.0%
Hepatitis A	60.0%	40.1%	21.1%	22.5%
Hepatitis B	60.0%	53.5%	26.3%	40.1%
Human papillomavirus (HPV) before the age of 26	13.3%	14.5%	-	-
Meningococcal	40.0%	22.7%	6.6%	4.0%
MMR (measles, mumps, rubella) if you were born after 1957	80.0%	67.4%	-	-
Pneumonia / pneumococcal	40.0%	12.2%	40.8%	32.4%
Tdap (tetanus, diphtheria, pertussis) every 10 years	73.3%	67.4%	36.8%	55.4%
Varicella (chicken pox) if you've never had chicken pox	20.0%	22.7%	11.8%	9.0%
Zoster (shingles) if you are age 60+	-	-	27.6%	21.5%

Males 15-44 (N = 15), females 15-44 (N = 172), males 45+ (N = 76), females 45+ (N = 377)

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 females aged 15-44 who were screened for high cholesterol compared unfavorably to other cohorts. Fewer than 40 percent of 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	-	-	-	84.8%
Colorectal cancer (colonoscopy) in the last 5 years	-	-	72.8%	65.7%
Cervical cancer (Pap test)	-	77.4%	-	57.4%
High cholesterol	91.7%	69.2%	88.9%	81.2%
High or low blood pressure	91.7%	79.9%	92.6%	85.0%
High or low blood sugar	66.7%	61.6%	77.8%	66.2%
Prostate cancer in the last year	-	-	66.7%	-
Sexually transmitted infections	25.0%	37.7%	12.3%	10.9%

Males 15-44 (N = 12), females 15-44 (N = 159), males 45+ (N = 81), females 45+ (N = 394)

Source: Inova Community Survey, 2012.

## Individuals Providing Community Input

Forty-five key stakeholders participated in the interview process. The 45 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
Dr. Gloria Addo-Ayensu	Health Director	Fairfax County Health Department	Through her work at the Fairfax County Health Department, Dr. Addo-Ayensu has specialized knowledge of the public health needs of Fairfax 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.
Debra Dever	Executive Director	Loudoun Community Health Center	Through her work at community health centers across the country, 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 specialized knowledge of the public health needs of Loudoun County residents.
Dr. Charles Konigsberg, Jr.	Board Vice President	Alexandria Neighborhood Health Services Inc.	Dr. Konigsberg has special expertise in public health through his career in health departments in four states; he is the former Health Director at the Alexandria City Health Department.

### 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 Fairfax community (**Exhibit 72**). This list excludes the public health experts identified in **Exhibit 72**.

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

Name	Title	Affiliation or Organization
Janet Clarke	Vice Chair	Loudoun County Board of Supervisors
Rosalyn Foroobar	Deputy Director of Health	Fairfax County Health Department
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 72**.

### Exhibit 73A: 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 Youth Teen Activities Directory for western Loudoun County. She also has experience working in Loudoun County Public Schools.
Rosalyn Foroobar	Deputy Director of Health	Fairfax County Health Department	Dr. Foroobar represents the low-income and uninsured residents receiving health services through the health department.
Brett Fuller	Pastor	Grace Covenant Church	Mr. Fuller represents the residents of Fairfax County that attend Grace Covenant Church.
Denise Garcia	ADA Compliance Administrator	Inova Health System	Ms. Garcia represents populations in Northern Virginia who require resources and facilities that are ADA compliant.
Jean Glossa	Medical Director	Community Health Care Network	Dr. Glossa represents the uninsured receiving needed care through Fairfax County's Community Health Care Network (CHCN).
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.

### Exhibit 73B: Community Leaders or Representatives Interviewed

Name	Title	Affiliation or Organization	Nature of Leadership Role
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.
Christina Stevens	Program Director	Community Health Care Network	Ms. Stevens represents the uninsured residents receiving services through the Fairfax County Community Health Care Network (CHCN).
Greg White	COO and Vice President, Programs	Reston Interfaith, Inc.	Mr. White represents residents who receive housing, childcare, food, or financial assistance through Reston Interfaith.
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
Carl Biggs	Secretary	Inova Health Care Services Board
Marlene Blum	Chairwoman	Fairfax County Health Care Advisory Board
Sharon Bulova	Chairman	Fairfax County Board of Supervisors
Luanne Gutermuth	Vice President of Human Resources & Organization Development	Washington Gas
Rose Chu	Mason District Rep.	Fairfax County Health Care Advisory Board
Ellyn Crawford	Hunter Mill District Rep.	Fairfax County Health Care Advisory Board
Dr. Vera Dvorak	Medical Director for Case Management	Inova Health System
Jack Ebeler	Member	Inova Health Care Services Board
Dr. Loring Flint	Executive Vice President & Chief Medical Officer	Inova Health System
William H. Gary, Sr.	Vice President	Northern Virginia Community College
Kate Hanley	Member	Inova Health Care Services Board
Dr. J. Martin Lebowitz	At-Large	Fairfax County Health Care Advisory Board
Peggy Maddox	Health Administration & Policy Chair/Professor, College of Health & Human Services	George Mason University
Nicole Paulk	VP, Strategic Planning/Innovation	Inova Health System
Lori Morris	Vice Chair	Inova Health Care Services Board
Dr. John Moynihan	First Vice President	Inova Fairfax Medical Campus
Dr. Robin Remsburg	Professor and Director, School of Nursing	George Mason University
Rosanne Rodilosso	Dranesville District Rep.	Fairfax County Health Care Advisory Board
David West	Lee District Rep.	Fairfax County Health Care Advisory Board
Dr. Timothy Yarboro	At-Large	Fairfax County Health Care Advisory Board
Ann Zuvekas	Braddock District Rep.	Fairfax County Health Care Advisory Board

## SOURCES

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- 111th U.S. Congress. (2010, March). Patient Protection and Affordable Care Act (PPACA).
- The 2012 Executive Budget Document. (2012). Retrieved August, 2012 from <http://dpb.virginia.gov/budget/buddoc12/index.cfm>.
- Centers for Medicare and Medicaid Services. (2012). CMS Impact File.
- Claritas, Inc. (2011). Demographic and Households Data.
- 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)
- Dignity Health. (n.d.). *Community Needs Index*. Retrieved 2012, from <http://cni.chw-interactive.org/>
- Fairfax County Department of Systems Management. (2000). *2000 Fairfax – Falls Church Community Assessment*. Retrieved 2011, from [http://www.fairfaxcounty.gov/demogrph/pdf/2000comm\\_assess.pdf](http://www.fairfaxcounty.gov/demogrph/pdf/2000comm_assess.pdf)
- Fairfax County Public Schools and Department of Neighborhood & Community Service. (September 2011). *School Year 2011-2012 Fairfax County Youth Survey*. Retrieved 2012, <http://www.fairfaxcounty.gov/demogrph/youthpdf.htm>
- Federal Bureau of Investigation. (2012). Uniform Crime Reports.
- Federal News Radio (2012). Retrieved in April 2012, from <http://www.federalnewsradio.com/?nid=&sid=2731380>
- George Mason University. (March 2012). *Recommendations to the Fairfax County Health Care Reform Implementation Task Force*. Retrieved May 2012, from <http://chpre.org/wp-content/uploads/2012/04/Final-GMU-Fairfax-County-FINAL-Report-4-3-12.pdf>
- Health Systems Agency of Northern Virginia. (2011). Discharge Data.
- Inova Health System. (2011). Discharge Data.
- Inova Health System. (2011). Emergency Department Data.
- Internal Revenue Service. (2012). Instructions for Schedule H (Form 990).
- Loudoun Community Health Center. (2012) Retrieved 2012, from <http://loudounchc.org/>
- Loudoun County Board of Supervisors. (March 2012). *Loudoun Lyme Disease Prevention and Awareness*.
- Loudoun County Health Department. (July 2009). *Loudoun County, Virginia Community Health Status Assessment*. Retrieved 2011, from <http://inter4.loudoun.gov/controls/specrio/resources/RenderContent.aspx?data=613306896ccb4d7391a0248c4b99bc00&tabid=340&fmpath=%2FHealth+Check>
- The Metropolitan Washington Council of Governments. (2012). Demographic Data.
- The Metropolitan Washington Council of Governments. (2012). Homeless in Metropolitan Washington: 2012 Count.

- The 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>
- 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>
- Partnership for a Healthier Fairfax. (September 2011). *Community Health Status Assessment Report*. Retrieved 2012, from <http://www.fairfaxcounty.gov/hd/mapp/pdf/comm-health-assessment.pdf>
- Prince William Area Coalition for Human Services. (May 2005). *2005 Hispanic Needs Assessment Report – Greater Prince William Area*. Retrieved 2011, from [http://www.pwchs.org/Docs/English\\_Report\\_Hispanic\\_Needs%20Assessment\\_%20V30.pdf](http://www.pwchs.org/Docs/English_Report_Hispanic_Needs%20Assessment_%20V30.pdf)
- Prince William Area Coalition for Human Services and Prince William United Way. (2011). *Greater Prince William County Community Needs Assessment*. Retrieved 2011, from [http://www.pwchs.org/Docs/2011\\_greater\\_prince\\_william\\_report.pdf](http://www.pwchs.org/Docs/2011_greater_prince_william_report.pdf)
- Virginia Department of Education. (2012). National School Lunch Program Data.
- Virginia Department of Health. (2008). Cancer Statistics in Virginia.
- 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>
- Virginia Department of Health, Office of Licensure and Certification. (2012). Directory of Inpatient Hospitals and Outpatient Surgical Centers in Virginia.
- Virginia Department of Health. (2012). TB Statistics by Virginia Region.
- Virginia Department of Health. (2012). Virginia Health Statistics.
- Virginia Department of Health. (2011). Virginia Surveillance Quarterly Report.
- Virginia Department of Social Services. (2012). SNAP and TANF Data.
- 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)
- Urgent Matters. (March 2004). *An Assessment of the Safety Net in Fairfax County, Virginia*. Retrieved 2012, from [http://urgentmatters.org/media/file/aboutProject\\_reports\\_Final\\_Fairfax.pdf](http://urgentmatters.org/media/file/aboutProject_reports_Final_Fairfax.pdf)
- U.S. Bureau of Labor Statistics. (n.d.). Retrieved 2012, from <http://www.bls.gov/>
- U.S. Census Bureau. (n.d.). Retrieved 2012, from <http://www.census.gov/>
- U.S. Centers for Disease Control and Prevention. (n.d.). *Behavioral Risk Factor Surveillance System*. Retrieved 2011, from <http://www.cdc.gov/brfss/>



- U.S. Centers for Disease Control and Prevention. (2009). The Power to Prevent, The Call to Control: At a Glance 2009. Retrieved August 2012, from <http://www.cdc.gov/chronicdisease/resources/publications/AAG/chronic.htm>
- U.S. Department of Agriculture. (n.d.). Retrieved 2012, from <http://www.ers.usda.gov/Data/FoodDesert/>
- U.S. Department of Health and Human Services. (n.d.). *Community Health Status Indicators Project*. Retrieved 2012, from <http://www.communityhealth.hhs.gov/homepage.aspx?j=1>
- U.S. Department of Housing and Urban Development. (2012). Section 8 Housing Data.
- 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>
- 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/maups/index.html>.
- U.S. Health Resources and Services Administration. (n.d.). Retrieved 2011, from <http://www.hrsa.gov/index.html>
- University of Wisconsin Public Health Institute and Robert Wood Johnson Foundation. (n.d.). *County Health Rankings: Mobilizing Action Toward Community Health*. Retrieved 2012, from <http://www.countyhealthrankings.org/>
- 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/HIVAIDS/ProfilesProject.aspx>.